



Official Report  
— of the —  
Pan-American Flight





Washington, D. C.,

November 10, 1927.

To: Chief of Air Corps.

Subject: Report of Pan-American Flight.

Herewith is transmitted the report of the Pan-American Flight made December 21, 1926 to May 2, 1927, inclusive. Chapters XIII, XIV and XV only are considered confidential.

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Major, Air Corps,  
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## CONTENTS

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Chapter		Page
I	Mission of the Pan-American Flight - Preparation for the Flight . . . . .	1
II	First Division - San Antonio, Texas, to France Field, Canal Zone . . . . .	26
III	Second Division - France Field, Canal Zone, to Valdivia, Chile . . . . .	50
IV	Third Division - Valdivia, Chile, to Rio de Janeiro, Brazil . . . . .	82
V	Fourth Division - Rio de Janeiro, Brazil, to Port of Spain, Trinidad . . . . .	109
VI	Fifth Division - Port of Spain, Trinidad, to St. Thomas, Virgin Islands . . . . .	127
VII	Sixth Division - St. Thomas, Virgin Islands, to Washington, D.C. . . . .	133
VIII	Publicity - Duties of the Adjutant . . . . .	145
IX	Engineering and Maintenance . . . . .	157
X	Supply . . . . .	223
XI	Photography - Meteorology - Communications . . . . .	232
XII	Finance . . . . .	243
XIII	Aviation in Latin America (Confidential) . . . . .	250
XIV	Political, Diplomatic and Social Aspects (Confidential) . . . . .	274
XV	Conclusions and Recommendations (Confidential). . . . .	304

INDEX

---

	Page
Mission of the Pan-American Flight . . . . .	1
Early preliminary work . . . . .	4
Training at Miller Field . . . . .	14
Work at San Antonio . . . . .	16
Preliminary staff work . . . . .	19
Advance Officers . . . . .	21
Summary of last minute events . . . . .	23
San Antonio to Point Isabel . . . . .	26
Point Isabel to Tampico . . . . .	28
Visit to Mexico City . . . . .	31
Tampico to Vera Cruz . . . . .	33
Vera Cruz to Minatitlan . . . . .	34
Minatitlan to Salina Cruz . . . . .	35
Salina Cruz to Guatemala City . . . . .	36
Guatemala City to San Salvador . . . . .	39
San Salvador to Amapala . . . . .	41
Visit to Tegucigalpa . . . . .	42
Amapala to Managua . . . . .	43
Managua to Puntarenas . . . . .	46
Visit to San Jose . . . . .	46
Puntarenas to David . . . . .	46
David to France Field . . . . .	47

	Page
Visit to Panama City . . . . .	48
France Field to Barranquilla . . . . .	50
Barranquilla to Barranca Bermeja . . . . .	53
Barranca Bermeja to Girardot . . . . .	54
Visit to Bogota . . . . .	54
Girardot to Barranca Bermeja . . . . .	55
Barranca Bermeja to Barranquilla . . . . .	56
Barranquilla to Cartagena . . . . .	57
Cartagena to France Field . . . . .	58
France Field to Buenaventura . . . . .	59
Buenaventura to Tumaco . . . . .	60
Tumaco to Guayaquil . . . . .	62
Guayaquil to Paita . . . . .	64
Paita to Chimbote . . . . .	65
Chimbote to Lima . . . . .	66
Lima to Pisco . . . . .	68
Pisco to Ilo . . . . .	69
Visit to La Paz, Bolivia . . . . .	70
Ilo to Mejillones . . . . .	73
Visit to Antofagasta . . . . .	75
Mejillones to Coquimbo . . . . .	75
Coquimbo to Santiago . . . . .	76

	Page
Santiago to Valparaiso . . . . .	78
Valparaiso to Talcahuana . . . . .	79
Talcahuana to Valdivia . . . . .	80
Valdivia to Puerto Belgrano . . . . .	82
Puerto Belgrano to Mar del Plata . . . . .	85
Mar del Plata to Buenos Aires . . . . .	86
The accident at Buenos Aires . . . . .	87
Buenos Aires to Corrientes . . . . .	94
Corrientes to Asuncion . . . . .	95
Asuncion to Santa Fe . . . . .	96
Santa Fe to Montevideo . . . . .	97
The lone flight of the San Antonio . . . . .	98
Montevideo to Rio Grande de Sul . . . . .	102
Rio Grande de Sul to Florianopolis . . . . .	103
Florianopolis to Santos . . . . .	104
Visit to Sao Paulo . . . . .	105
Santos to Rio de Janeiro . . . . .	106
The call on the President of Petropolis . . . . .	107
Rio de Janeiro to Victoria . . . . .	109
Victoria to Bahia . . . . .	110
Bahia to Porto de Pedras . . . . .	112
Porto de Pedras to Pernambuco . . . . .	113
Pernambuco to Natal . . . . .	114

	Page
Natal to Maranhao . . . . .	115
Maranhao to Para . . . . .	117
Para to Cayenne . . . . .	119
Cayenne to Paramaribo . . . . .	120
Paramaribo to Georgetown . . . . .	121
Georgetown to Port of Spain . . . . .	122
Port of Spain to Puerto Cabello . . . . .	123
Visit to Caracas . . . . .	124
Puerto Cabello to Port of Spain . . . . .	125
Port of Spain to St. George . . . . .	127
St. George to Kingstown . . . . .	128
Kingstown to Fort de France . . . . .	129
Fort de France to Pointe a Pitre . . . . .	130
Pointe a Pitre to St. Thomas . . . . .	131
St. Thomas to San Juan . . . . .	133
San Juan to Santo Domingo . . . . .	134
Santo Domingo to Port-au-Prince . . . . .	135
Port-au-Prince to Santiago . . . . .	137
Santiago to Havana . . . . .	138
Havana to Miami . . . . .	140
Miami to Jacksonville . . . . .	141
Jacksonville to Savannah . . . . .	142

	Page
Savannah to Wilmington . . . . .	142
Wilmington to Langley Field . . . . .	143
Langley Field to Bolling Field . . . . .	144
Preparation for publicity . . . . .	145
Publicity prior to departure . . . . .	147
The Daily Cable . . . . .	148
Publicity in Latin America . . . . .	150
Summary of comments on publicity . . . . .	151
Duties of the Adjutant prior to departure . . . . .	153
Method of keeping the files . . . . .	154
How messages were sent . . . . .	154
Records kept . . . . .	155
Summary of comments on Adjutant's duties . . . . .	155
Engineering and maintenance . . . . .	157
Changes in planes prior to departure . . . . .	158
Maintenance history of flight . . . . .	163
Troubles experienced and recommendations for changes . . .	193
Flying characteristics of the Amphibian . . . . .	220
General comments on supply . . . . .	223
The work of the Field Service Section . . . . .	224
The work of the Fairfield Air Intermediate Depot. . . . .	225
Supply bases . . . . .	226
Shipments . . . . .	228



	Page
Gasoline and oil . . . . .	229
Remarks on supply situation . . . . .	230
Photography . . . . .	232
Meteorology . . . . .	233
Communications . . . . .	239
Flight signals . . . . .	241
Current expenses . . . . .	243
General expenses . . . . .	247
Remarks on finance . . . . .	247
Aviation in -	
a. Mexico . . . . .	250
b. Guatemala . . . . .	252
c. Salvador . . . . .	253
d. Honduras . . . . .	254
e. Nicaragua . . . . .	254
f. Costa Rica . . . . .	254
g. Panama . . . . .	255
h. Colombia . . . . .	255
i. Ecuador . . . . .	257
j. Peru . . . . .	257
k. Bolivia . . . . .	258
l. Chile . . . . .	259
m. Argentina . . . . .	261

	Page
n. Uruguay . . . . .	263
o. Brazil . . . . .	263
p. British Guiana . . . . .	265
q. Venezuela . . . . .	265
r. Porto Rico . . . . .	266
s. Haiti . . . . .	266
t. Cuba . . . . .	266
Commercial Aviation . . . . .	267
Remarks on aviation in Latin America . . . . .	271
Comments on mission of the flight . . . . .	274
Assistance rendered by the State Department . . . . .	277
Diplomatic and social calls and functions . . . . .	278
Attitude of the countries visited . . . . .	291
General remarks . . . . .	303
Conclusions and recommendations regarding -	
a. The mission . . . . .	304
b. The route . . . . .	306
c. Advance Officers . . . . .	307
d. Flight organization and training . . . . .	308
e. The plane and motor . . . . .	311
f. The schedule . . . . .	313
g. The weather . . . . .	315
h. Supply . . . . .	316

	Page
i. Publicity . . . . .	317
j. Political, diplomatic and social relations .	319
k. Flying policies . . . . .	320
l. Finances . . . . .	322
m. Commercial aviation . . . . .	323
General comments on flight . . . . .	324

PHOTOGRAPHS

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	Page
Composite Group of flight personnel and route of Pan American Flight . . . . .	1
The Loening Amphibian . . . . .	1
Group at luncheon given by the Secretary of State prior to departure of flight . . . . .	5 ✓
Route of Pan-American Flight . . . . .	7
Sample of strip map used by flight . . . . .	10
Advance Officers of Pan American Flight . . . . .	21
Route of the First Division . . . . .	26
Planes at pier at Point Isabel . . . . .	28
Embassy personnel in Mexico City . . . . .	32
Planes at Guatemala City Airdrome . . . . .	37
Forced landing of NEW YORK . . . . .	39
The President of Honduras and other officials in Tegucigalpa . . . . .	43
The NEW YORK in the harbor at France Field . . . . .	48
Route of the Second Division . . . . .	50
Flying along the coast of Panama . . . . .	52
Refueling at Bermeja Barranca . . . . .	54
The DETROIT moored to the bank at Girardot . . . . .	55
At the SCADTA hngar at Girardot . . . . .	56
The Magdalena River at Barranquilla . . . . .	57

	Page
Planes moored to the beach at Cartagena . . . . .	58
Planes on the beach at Paita . . . . .	64
Flight personnel ready for servicing and maintenance work . . . . .	65
The flight personnel made guests of Arequipa . . . . .	71
Planes on the beach at Mejillones . . . . .	74
The NEW YORK at Valparaiso . . . . .	79
Route of the Third Division . . . . .	82
Taxiing out of the water at Mar del Plata . . . . .	86
The DETROIT . . . . .	88
Captain G. F. Woolsey and 1st Lieut. J. W. Benton . .	92
The SAN ANTONIO at Montevideo . . . . .	98
The ST. LOUIS at Montevideo . . . . .	102
Route of the Fourth Division . . . . .	109
On the beach at Victoria . . . . .	110
Luncheon at Victoria . . . . .	111
Stuck in the mud at Port of Spain . . . . .	123
Planes on the beach at Puerto Cabello . . . . .	124
At Casa de Espana, Caracas . . . . .	125
Route of the Fifth Division . . . . .	127
Refueling in the British West Indies . . . . .	128
On the beach at Kingstown . . . . .	129
Local officials at Port de France . . . . .	130

	Page
Route of the Sixth Division . . . . .	133
Taxying out of the water at Port-au-Prince . . . . .	136
The Mayor of Port-au-Prince presents a bouquet . . . . .	137
An observation balloon with the flags of the Pan- American countries . . . . .	144
President Coolidge and the Pan-American flyers at Belling Field . . . . .	145 ✓
Publicity directive of the War Department . . . . .	146
Samples of publicity at San Antonio . . . . .	148
Samples of publicity in Latin America . . . . .	151
Pilots report . . . . .	155
Diary form . . . . .	156
Maintenance work under difficulties . . . . .	164
An Amphibian taxying ashore . . . . .	179
Mileage and flying time chart . . . . .	193
The inverted Liberty motor . . . . .	216
Plans, mileage and time . . . . .	223
Miscellaneous supplies and tools carried in the planes .	224
Page extracted from supply list . . . . .	226
The insignia of the Pan-American Flight . . . . .	233
The beach at Anapala . . . . .	254
The Army flying field at Las Palmas . . . . .	258

	Page
Naval Air Station at Rio de Janeiro . . . . .	265
The area provided at Port de France for use by the flight . . . . .	266
The site of the old Marine Seaplane Station at Port-au- Prince . . . . .	267
On the beach at Cartagena . . . . .	282
The reception committee at Bogota . . . . .	283
The President of Peru visiting Las Palmas Flying Field . .	284
The visit to the Army Flying School at Montevideo . . . . .	286
An official call in Caracas . . . . .	287
Placing a wreath on the tomb of Bolivar . . . . .	288
At the military college in Caracas . . . . .	289
President Borno of Haiti inspects the planes . . . . .	290

A composite photograph of the route of the Flight, the personnel and the planes. Several hundred copies of this photograph were taken with the Flight and proved very valuable for disposition for publicity purposes.





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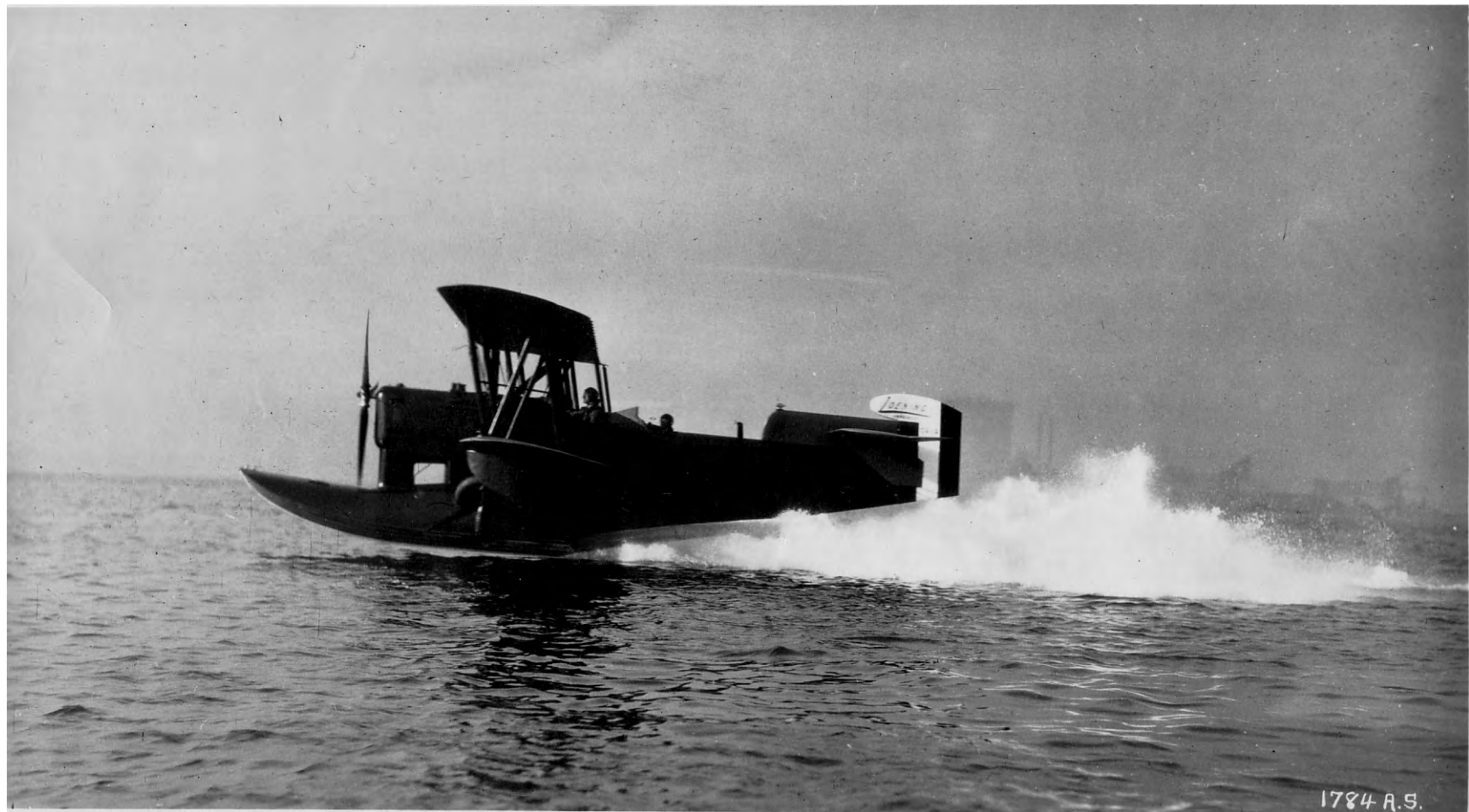


LIEUT. J. W. BENTON



LIEUT. E. G. WHITEHEAD

The Loening Amphibian, used on the Pan-American Flight,  
about to leave the water.



1784 A.S.

## DESCRIPTION OF THE LOENING AMPHIBIAN

The Loening COA-1 used by the Pan-American Flight is an amphibian airplane, operating equally well on land or on water. When used as a water plane or in flight the two wheels of the landing gear may be retracted into recesses in the sides of the hull by means of a crank located in the pilot's cockpit.

The hull is built of duralumin upon a wooden frame. It is divided into five water-tight compartments, each being connected by means of a selective system to a bilge pump in the rear cockpit. Plugs in the bottom of each compartment permit draining when the plane is on the ground. The fuselage is built on top of the hull and the wings, extending from the sides of the fuselage, are the size of those of an ordinary observation plane. Near the end of each wing is a pontoon to keep the plane balanced when at rest on the water. Navigation lights are provided for use at night.

A water cooled Liberty engine of 400 horsepower mounted upside down provides the motive power. This novel feature of the plane is necessary in order that the propeller may have sufficient swing without cutting the forward end of the hull. The propeller has three steel blades which may be set at any angle depending upon the performance desired. A sprinkler system for extinguishing fires is installed on the engine. The motor is encased in cowling which

helps to streamline the plane and protect the engine from spray. An electric and hand operated inertia starter is provided for cranking the motor.

Oil, carried in a tank inside the fuselage is cooled by passing through a spiral copper tube placed in the slip stream above the engine cowling. Gasoline is carried in two large tanks, - one with a capacity of 140 gallons is located in the hull just under the wings, the other with a capacity of 60 gallons is located in the hull between the front and rear cockpits. The latter tank is considered as an emergency supply of gasoline and generally contained fuel that was doped with from 25% to 50% of benzol. The total fuel capacity is sufficient for approximately ten hours of flight. A large capacity refueling pump in the rear cockpit is used to pump gasoline directly from drums or other containers into the tanks. This pump, by means of an adapter, may also be used as an emergency bilge pump.

The plane can be controlled from either the front or rear cockpit, the wheel control being supplied in front and a removable stick control in rear. It is normal however to fly the plane from the front cockpit, where the usual navigation and engine instruments are located. The plane is not only equipped with the card compass but has also the earth inductor compass.

An emergency five gallon water tank was provided in the Pan-American Flight planes. The water could be pumped into the cooling system of the motor or used for drinking purposes.

The plane is a very seaworthy craft. It carries a thirty pound collapsible anchor with three hundred feet of rope and is moored from a cleat fastened on the nose. The great amount of space in the cockpits and in the hull provides ample storage room for a large quantity of supplies and personal baggage.

The weight of the plane fully loaded, including all the supplies and baggage carried on the Pan-American Flight, <sup>was</sup> is nearly three tons. In spite of this, the flying characteristics <sup>were</sup> are very good. An average cruising speed of from eighty-five to ninety miles was maintained by the flight.

No plane was considered more suitable by the personnel of the flight for the mission to be performed.

## CHAPTER I.

### MISSION OF THE PAN AMERICAN FLIGHT

#### PREPARATION FOR THE FLIGHT

##### 1. Mission.

The mission of the Pan American Flight was as follows:-

- (a) To further friendly relations with the Latin American countries.
- (b) To encourage commercial aviation generally, and, in particular, to demonstrate the feasibility of commercial air routes through Central and South America.
- (c) To give valuable training to Air Corps personnel.
- (d) To give an extensive service test to the amphibian type of airplane and the inverted Liberty motor.

To assist in the accomplishment of (a) above, the President of the United States sent messages of good will with the flight to the Presidents of the Latin American countries. The following is a copy of one of the messages:-

"November 30, 1926.

My dear Mr. President:

I am happy to avail myself of the opportunity which presents itself by the visit of the American aviators to \_\_\_\_\_ to extend again to Your Excellency my cordial greetings and best wishes, and to give renewed expression to the friendship which I bear for Your Excellency and the cordial good will which I entertain for your country, in whose progress and welfare I take great interest.

I trust that Your Excellency will see in the visit of these American fliers another evidence of the ardent desire of the Government and people of the United States to promote good understanding and better acquaintance between the two Governments and peoples, an object which was the chief motive inspiring the undertaking of the voyage.

I have entrusted to Major Dargue, the Commander of the flight, the delivery of this letter to you, and I ask Your Excellency to receive him favorably for the purpose.

I am, my dear Mr. President,

Your sincere friend,

CALVIN COOLIDGE.

His Excellency

\_\_\_\_\_  
President of the Republic of \_\_\_\_\_."



The Department of Commerce and the Post Office Department furnished considerable information regarding commercial aviation and the operation of postal air lines. This was carried on the flight and assisted in the accomplishment of (b) above. The Pan American Flight was a pioneer venture connecting all the countries of the two American continents - it was the first flight to visit all of these countries and to completely circle Latin America. It was an opportunity to study routes and air conditions, locate landing places, and gather a wealth of information of great value to civil operation of aircraft. It was not only a demonstration of the practicability of a civil air route over the same area, but it tended to develop an "air-mindedness" among the Latin American people, in that the publicity obtained pointed out the necessity for and benefit to be derived from more rapid means of intercommunication. It also led a great number of people who had not before seriously considered air travel to think favorably on the subject.

The flight afforded an unparalleled opportunity to the personnel involved for training in airplane maintenance, engine maintenance, cross country flying and navigation over water. The experience to be gained from operating a flight of several planes when out off from home bases of supplies and maintenance is of very great value.

An unprecedented opportunity was provided for service testing two comparatively new but very important items of Air Corps equipment, namely, the amphibian airplane and the inverted Liberty engine. In

addition, the report of the flight and experiences of its personnel would provide valuable data on the subject of the maintenance of Air Corps equipment over long periods of continuous operation in the field away from Air Corps stations or organized supply and engineering bases.

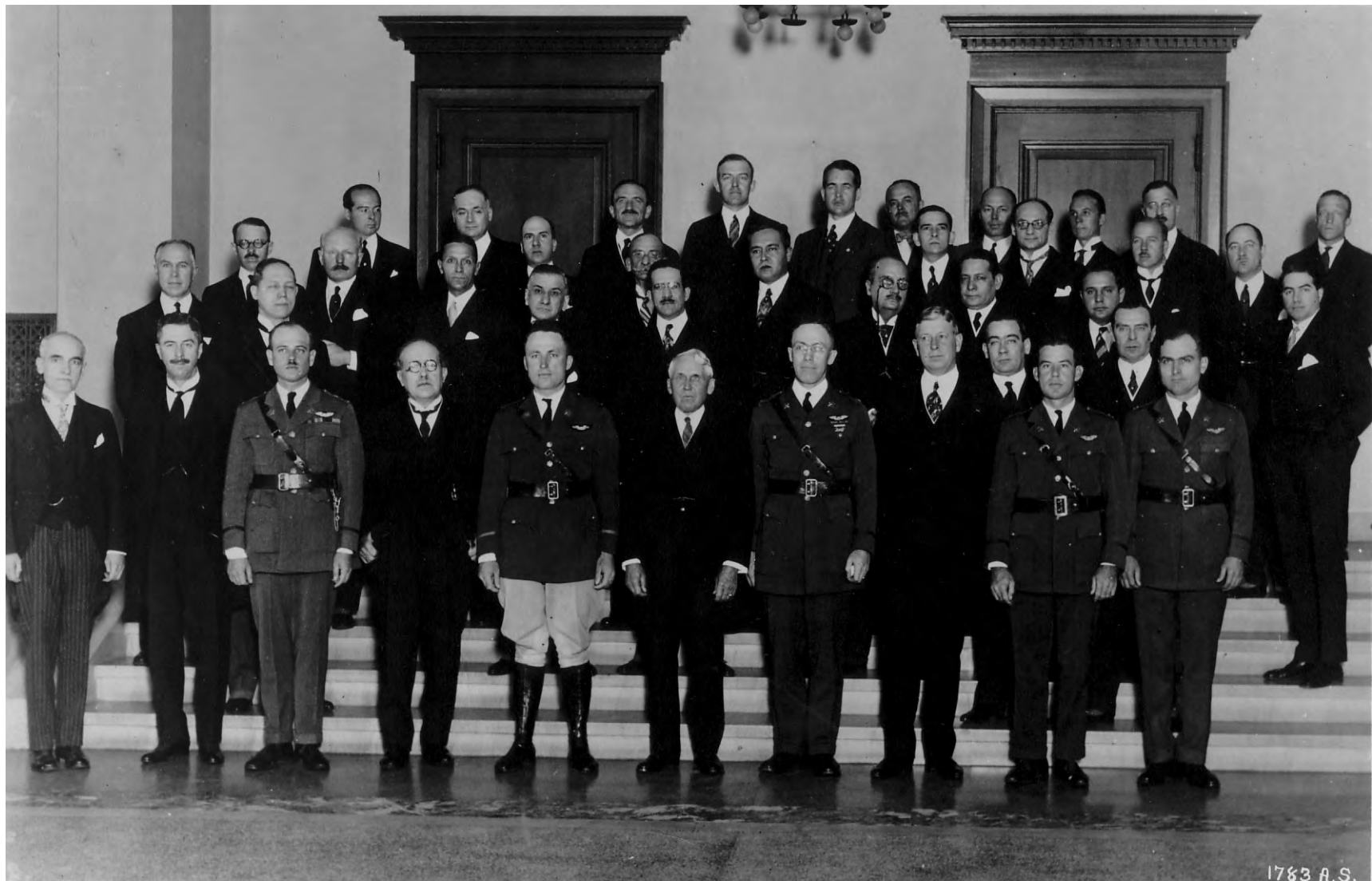
## 2. Early Preliminary Work.

The Chief of Air Corps, Major General Mason M. Patrick, several years ago conceived the idea of an airplane flight by the United States Army Air Corps around South America. On May 26, 1926, he recommended to the War Department that the Pan American Flight be made, completely encircling all of Latin America. The War Department approved the project on August 24, 1926.

Much of the preliminary work made necessary in drawing up the outline scheme of the undertaking, which was submitted to the War Department, was done by Captain Ross G. Hoyt of the Air Corps under the supervision of the War Plans Section of the Training and Operations Division, Office, Chief of Air Corps. The details necessary in connection with the flight before the planes took off were voluminous.

Conferences were held with the State Department and that branch of the Government set about securing permission for the passage of the flight from the twenty-three countries whose territories or colonies were to be visited. Special passports were secured for all the personnel of the flight and, in most cases, diplomatic visas were recorded on them by the representatives of the Latin American countries.

The Secretary of State, Hon. Frank B. Kellogg, gave a luncheon at the Pan American Union shortly before the departure of the Pan-American Flight. The Secretary of War, members of the flight, Pan American representatives in the United States and other officials attended.



On November 16, 1926, the Secretary of State gave a special luncheon in the Pan American Union Building. This was attended by the Secretary of War, the Director General of the Pan American Union, the diplomatic representatives of the Latin American countries, and of Great Britain, France and The Netherlands, and several members of the Pan American Flight.

The commanding officer of the flight, prior to departure, called in Washington upon the representatives of all the countries to be visited, and furnished them with sets of maps outlining the route of the flight and with photographs giving various views of the planes to be used. These calls proved exceedingly helpful, as it was evident when visiting many of the countries that several of the representatives had sent favorable reports ahead of our arrival in their respective countries. Furthermore, these calls resulted in the gathering of much information that aided in the successful accomplishment of the flight.

Frequent visits were made to the Pan American Union which was a most valuable source of information. The cooperation of the Director General, Dr. L. S. Rowe, was a great assistance to the flight in its preparatory work. He made available to us, at all times, the library, records and maps.

There was also the selection of the personnel; determination of the route to be followed, schedule for the flight had to be made up; maps had to be procured and properly marked; the equipment, including the plane and engine, had to be selected and prepared; supply bases and

points had to be selected and a determination made as to what supplies were required and these had to be shipped.

The Chief of Air Corps called upon each of the principal Air Corps field and station commanders to submit two names of pilots at their stations whom they deemed suitable for such a flight. The telegram sent to them directed consideration of "length of service in the Air Corps, cross country experience, and practical airplane engineering ability". When these names of Air Corps pilots were received in the Office of the Chief of Air Corps, a board of officers, headed by Brigadier General J.E. Fechet, Assistant Chief of Air Corps, took up the duty of elimination. This board submitted twenty-six names to the Chief of Air Corps, General Patrick, and from these he selected ten pilots for the five planes and two alternate pilots. The ten pilots selected were as follows:-

<u>Name</u>	<u>Rank</u>	<u>Station</u>
Dargue, H. A.	Major	Office, Chief of Air Corps, Wash., D.C.
McDaniel, A.B.	Capt.	Kelly Field, Texas.
Eaker, Ira C.	Capt.	Office, Chief of Air Corps, Wash., D.C.
Woolsey, C. F.	Capt.	McCook Field, Dayton, Ohio.
Thompson, B. S.	1st Lt.	Aberdeen, Maryland.
Weddington, L. D.	1st Lt.	Ft. Sam Houston, Texas.
Robinson, C. McK.	1st Lt.	Ft. Crockett, Texas.
Fairchild, Muir S.	1st Lt.	Langley Field, Virginia.
Whitehead, E. C.	1st Lt.	Wright Field, Fairfield, Ohio.
Benton, John W.	1st Lt.	Crissy Field, California.

A map showing the route of the Pan-American Flight.

# U. S. ARMY PAN-AMERICAN FLIGHT





In the determination of the route to be followed, it was necessary to consider the geographical and climatological characteristics of each of the countries; the availability of suitable landing places; the desirability of making certain stops, such as at the capital cities; the necessity of visiting every Latin American country; the local communications systems; and a number of minor points, in some cases peculiar to certain sections of possible routes.

The schedule was made up by the Training and Operations Division and submitted to the Chief of Air Corps for approval. Its final approval was made by the Secretary of War in passing upon the whole project. As originally laid out, it included approximately eighty stops. The larger cities of each country were carefully considered in determining the stops, but necessity for refueling was also a determining factor. It was desirable to make fairly long flights and cover a convenient distance each flight day. Some exceptions to this general rule occurred by reason of the fact that it was necessary for the flight to stop at least once in each country, preferably at the capital or at some point within easy reach of the capital, where landing facilities were available. This made the distances short through the Central American countries and, in some cases, in the West Indies.

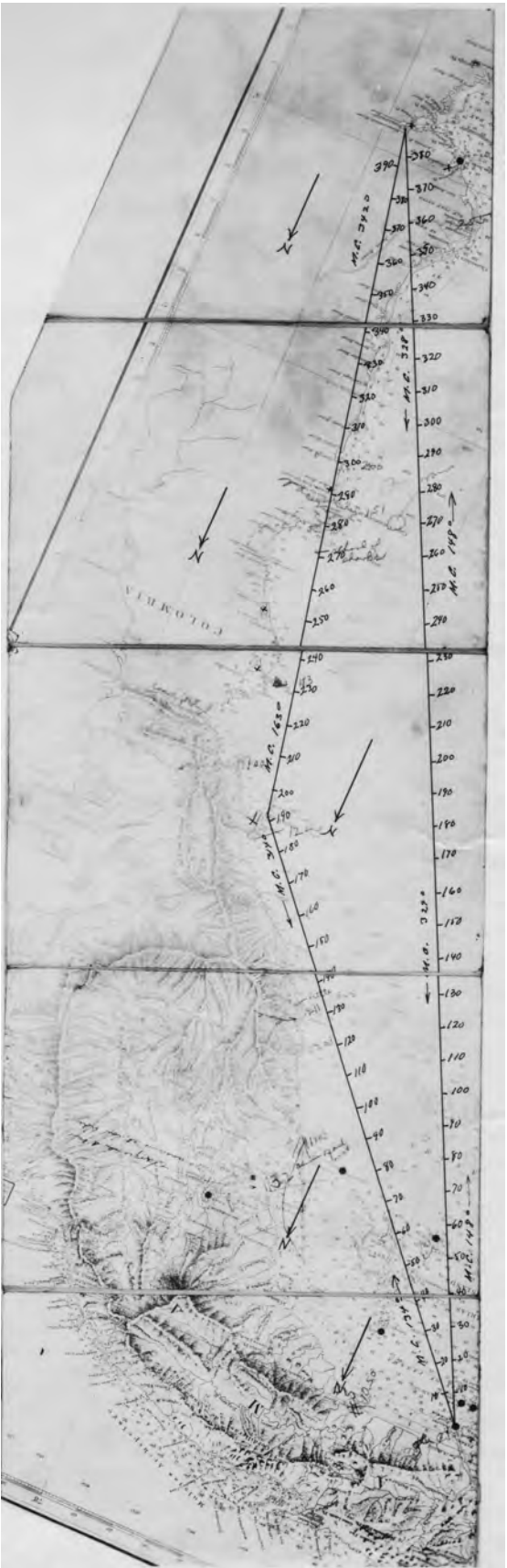
The schedule was planned so as to permit delay days at the capital cities and at supply bases, in order to accomplish, primarily, the first part of our mission, and to allow time for careful checking

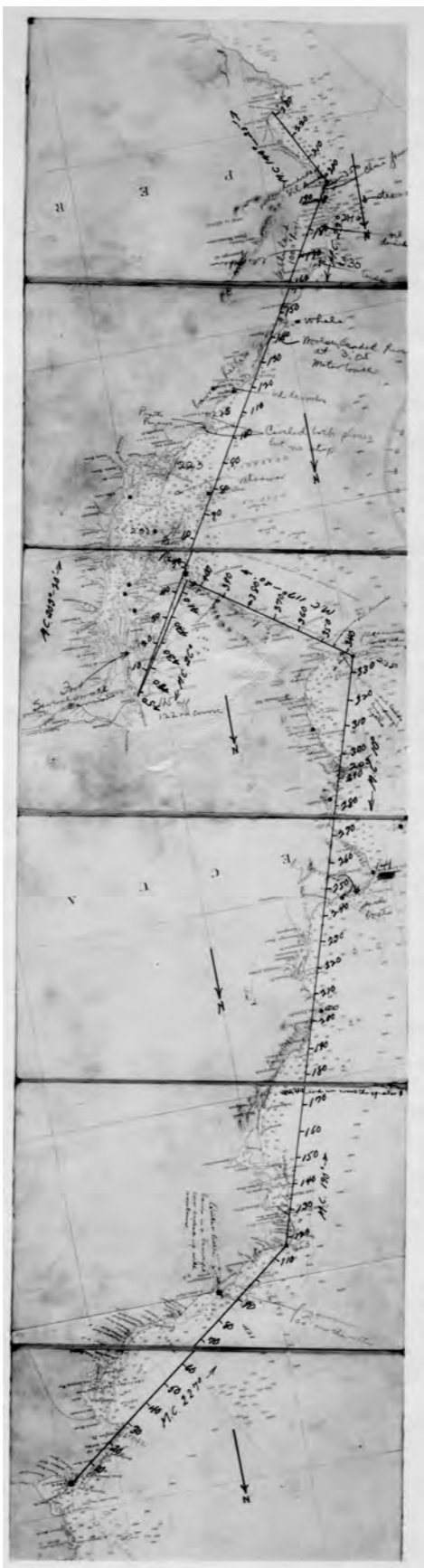
of equipment, renewal of supplies carried in the planes, and for such maintenance work as might be necessary. Furthermore, these delay days provided for unforeseen delays that might occur en route. There were 56 flight days and 77 delay days on the original schedule. This total time of 133 days made the schedule a very strenuous one. The following is the schedule actually carried out by the flight:-

Station	Flight Days	Delay Days	Total Elapsed Days	Arrival		Departure	
				1926	1926	1926	1926
<b>FIRST DIVISION</b>							
San Antonio, Texas	1	-	1	-		Dec. 21	
Point Isabel, Texas	1	-	2	Dec. 21	"	"	22
Tampico & Mexico City, Mexico	1	7	10	"	22	"	30
Vera Cruz, Mexico	1	-	11	"	30	"	31
Minatitlan, Mexico	1	-	12	"	31	Jan. 1	
1927							
Salina Cruz, Mexico	1	-	13	Jan. 1		Jan. 2	
Guatemala City, Guatemala	1	8	22	"	2	"	11
San Salvador, Salvador	1	1	24	"	11	"	13
Amapala & Tegucigalpa, Honduras	1	1	26	"	13	"	15
Managua, Nicaragua	-	-	26	"	15	"	15
Puntarenas & San Jose, Costa Rica	1	2	29	"	15	"	18
David, Panama	-	-	29	"	18	"	18
France Field, Panama, C.Z.	1	4	34	"	18	"	23
<b>SECOND DIVISION</b>							
Barranquilla, Colombia	1	-	35	"	23	"	24
Barranca Bermeja, Colombia	-	-	35	"	24	"	24
Girardot & Bogota, Colombia	1	1	37	"	24	"	26
Barranca Bermeja, Colombia	-	-	37	"	26	"	26
Barranquilla, Colombia	-	-	37	"	26	"	26
Cartagena, Colombia	1	-	38	"	26	"	27
France Field, Panama, C.Z.	1	1	40	"	27	"	29
Buenaventura, Colombia	1	-	41	"	29	"	30
Tunaco, Colombia	1	1	43	"	30	Feb. 1	
Guayaquil, Ecuador	1	-	44	Feb. 1		"	2
Paita, Peru	1	-	45	"	2	"	3
Chimbote, Peru	-	-	45	"	3	"	3
Lima, Peru	1	2	48	"	3	"	6
Pisco, Peru	1	-	49	"	6	"	7
Ilo, Peru & La Paz, Bolivia	1	9	59	"	7	"	17
Majillones, Chile	1	-	60	"	17	"	18

Station	Flight Days	Delay Days	Total Elapsed Days	1927	
				Arrival	Departure
<u>SECOND DIVISION - (Contd.)</u>					
Coquimbo, Chile	-	-	60	Feb. 18	Feb. 18
Santiago, Chile	1	3	64	" 18	" 22
Valparaiso, Chile	1	-	65	" 22	" 23
Talcahuano, Chile	-	-	65	" 23	" 23
Valdivia, Chile	1	-	66	" 23	" 24
<u>THIRD DIVISION</u>					
Puerto Belgrano, Argentina	1	-	67	" 24	" 25
Mar del Plata, Argentina	1	-	68	" 25	" 26
Buenos Aires, Argentina	1	3	72	" 26	Mar. 2
Corrientes, Argentina	-	-	72	Mar. 2	" 2
Asuncion, Paraguay	1	1	74	" 2	" 4
Santa Fe, Argentina	-	-	74	" 4	" 4
Montevideo, Uruguay	1	3	78	" 4	" 8
Rio Grande do Sul, Brazil	1	-	79	" 8	" 9
Florianopolis, Brazil	-	-	79	" 9	" 9
Santos & Sao Paulo, Brazil	1	-	80	" 9	" 10
Rio de Janeiro, Brazil	1	7	88	" 10	" 18
<u>FOURTH DIVISION</u>					
Victoria, Brazil	-	-	88	" 18	" 18
Bahia, Brazil	1	-	89	" 18	" 19
Posto do Pedras, Brazil	1	-	90	" 19	" 20
Pernambuco, Brazil	-	-	90	" 20	" 20
Natal, Brazil	1	-	91	" 20	" 21
Maranhao, Brazil	-	-	91	" 21	" 21
Para, Brazil	1	3	95	" 21	" 25
Cayenne, French Guiana	1	-	96	" 25	" 26
Paramaribo, Dutch Guiana	1	-	97	" 26	" 27
Georgetown, British Guiana	1	-	98	" 27	" 28
Port of Spain, Trinidad (Gr.Br.)	1	1	100	" 28	" 30
Puerto Cabello & Caracas, Venezuela	1	4	105	" 30	April 4
Port of Spain, Trinidad (Gr.Br.)	1	2	108	April 4	" 7
<u>FIFTH DIVISION</u>					
St. George, Grenada (Gr.Br.)	1	-	109	" 7	" 8
Kingstown, St. Vincent (Gr.Br.)	1	-	110	" 8	" 9
Port de Franco, Martinique (Fr.)	1	-	111	" 9	" 10
Pointe a Pitre, Guadeloupe (Fr.)	1	-	112	" 10	" 11

A sample of the strip maps employed in the Flight in navigating from one stop to another.





Station	Flight Days	Delay Days	Total Elapsed Days	Arrival		Departure	
				1927	1927	1927	1927
<b>SIXTH DIVISION</b>							
St. Thomas, Virgin Islands (USA)	1	-	115	April 11	April 12	April 12	April 12
San Juan, Porto Rico (USA)	1	1	116	" 12	" 14	" 14	" 14
Santo Domingo, Dominican Republic	1	1	117	" 14	" 16	" 16	" 16
Port-au-Prince, Haiti	1	1	119	" 16	" 18	" 18	" 18
Santiago de Cuba, Cuba	1	-	120	" 18	" 19	" 19	" 19
Havana, Cuba	1	3	124	" 19	" 23	" 23	" 23
Miami, Florida	1	1	126	" 23	" 25	" 25	" 25
Jacksonville, Florida	1	-	127	" 25	" 26	" 26	" 26
Savannah, Georgia	1	1	129	" 26	" 28	" 28	" 28
Wilmington, North Carolina	1	-	130	" 28	" 29	" 29	" 29
Langley Field, Hampton, Val	1	2	133	" 29	May 2	May 2	May 2
Bolling Field, D. C.	-	-	133	May 2			
Totals	59	74	133				

The general maps used in studying the larger phases of the flight were those published by the National Geographic Society entitled "The Countries of the Caribbean" and "South America". These were marked with the route to be followed and the distance between stops. The detailed maps used were principally hydrographic charts. These showed the coast lines with depths of water, islands near the coasts and, occasionally features of the terrain adjacent to the coast with scattered notes giving the character of the country to a few miles back from the shore line. For those parts of the route carrying the flight to interior points, special maps had to be secured. Twelve sets of all of these detailed maps were carefully prepared with the straight line distances between points marked off in ten mile intervals, alternate routes were plotted, magnetic courses indicated, the water areas appropriately colored, and the maps mounted on linen so that they might be folded for convenient use in the air. Ten sets were for the pilots, one set divided

between the advance officers, and one set for office file. The preparation of these maps alone kept two draftsmen busy for several weeks.

The Chief of Air Corps selected the Loening OA-1A as the plane to be used for the flight. A rush order for six of these planes was given to the Loening Aeronautical Engineering Corporation, 31st Street and East River, New York City. The Loening amphibian was selected because of its characteristic of being able to land with equal ease on land or water. The plane has a hull which makes it possible to land without difficulty on the surface of the water and it also has two wheels which can be lowered into position by means of a hand operated crank in the front cockpit, allowing the plane to land upon the surface of the ground. When the amphibian is used as a water plane, the wheels are retracted by means of the crank into receptacles in the sides of the hull. Usually, when in flight the wheels are kept in this retracted position since they then offer less head resistance and the speed obtained is from three to five miles greater.

The power plant in this plane is the inverted Liberty engine. The engine is installed in the inverted position in order to give clearance above the hull for the propeller without increasing the total head resistance of the plane. This novel power plant installation probably called for more comment and more inspection on the part of the peoples visited than any other one feature of the equipment. The war-time built Liberty engine was changed into the inverted type by the Allison Engineering Corporation, Indianapolis, Indiana. The planes were denuded



of absolutely all military equipment - not even cameras were carried. The flight was made primarily in the interests of international amity and to use planes upon which military equipment was mounted might have been looked upon as incompatible with the purposes of the flight.

A further discussion of the plane and the engine may be found in Chapter IX - Engineering and Maintenance.

The experience gained from the World Flight convinced those in authority in the Air Corps that one of the features which required most careful attention was the selection and disposition of supplies. This work was intrusted largely to the Field Service Section of the Materiel Division at Dayton, Ohio. A full discussion of this subject is contained in Chapter X - Supply. It may be well stated, however, at this point that the experiences gained from the Pan American Flight further brought out the point that the careful selection and proper location of supplies is one of the essentials of the preliminary ground work if a great undertaking of this character is to be successful.

The problem of fuel for the flight was solved by letting a contract to the American Oil Company of Baltimore, Md., to supply specified quantities at each of the stops to be made. In all, the contract called for approximately 5,000 gallons of oil and 50,000 gallons of gasoline and bensol. It will be noted that the oil required was ten per centum of the gasoline and bensol requirements. The quantities shipped to each stop, however, conformed to the sizes of the standard containers. The gasoline requirements were based upon an average speed of 80 miles per hour with a consumption of 30 gallons per hour, and then

allowing 25 per centum extra for leakage, loss and wastage. A 25 per centum to 50 per centum bensol mixture was carried in the smaller of the two fuel tanks, to be used when taking off or in emergencies. Sufficient bensol was placed at each supply base to "dope" the necessary amount of gasoline to carry through to the next supply base. Allowances of fuel were also made for training purposes and for testing new motors upon installation. The departure of the flight from San Antonio was delayed five days to permit fuel deliveries in Central America, but this did not prove to be sufficient time, and fuel had to be shipped from the Canal Zone to cover this section of the route. Much credit is due, however, to the untiring efforts of the American Oil Company in carrying out the terms of their contract and in supplying a uniform high grade gasoline, bensol and oil for use by the flight.

The administrative work in preparation for the flight was very heavy, but as soon as the news was released that five Army amphibian planes were to encircle South America this work was more than doubled. Requests came for National Guard and Reserve Officers to be members of the flight, one man wanted to go along as mail clerk, a woman sought to accompany the flight to take care of the mending that might be required, another person desired to be an advance agent to care for commissaires and supplies, there were numerous requests to carry mail, there was notice of a special kite to be used in distress, an emergency ration peculiarly suited to our needs, etc., etc. All these required replies and took much time.

### 3. Training at Miller Field.

The first article of the amphibian contract was received and flight tested by Captain C. F. Woolsey, who had early been designated as the Engineering Officer for the flight, and flown by him to Miller Field. There those pilots of the flight who were stationed in the northern and eastern portion of the United States were ordered to spend the first ten days in November in flying and maintenance training. Miller Field was selected because of its proximity to the Loening plant and the availability of water landing facilities. It was anticipated that some engineering and maintenance features might be changed on the remaining five planes as a result of this flying of the first article. It was also desired to have the advice of the Loening engineers on maintenance and engineering problems as they developed during the ten days flying of this plane by the seven pilots there assembled.

Captain Woolsey had been on duty at the Loening Aeronautical Engineering plant for approximately one month during the work on this amphibian contract. The Loening engineers stated that his services were invaluable to them in the final fabrication of the planes.

While this plane was being flight tested at Miller Field, the Chief of Air Corps used it in a flight from New York City to Plattsburgh Barracks, New York, and return. This was the longest flight which this model of the amphibian had made at that time. The amphibian characteristic of the plane was employed on this flight since it landed in Lake Champlain and was taxied up on the beach to

remain overnight. In the morning, the plane was taxied down into the lake again and flown from it, and upon return to New York a land landing was made. This flight also developed the fact that the inertia starter would give some difficulty in operating in cold weather, due to heavy grease rendering it ineffective.

During the training period at Miller Field, each of the pilots practised taking off and landing with the plane lightly loaded and heavily loaded. Smooth water and rough water take-offs were also practised. Maintenance and engineering features and characteristics were studied. At this time, the plane was landed on the landing field at Mitchel Field with the wheels in the up position and with little damage. The plane slid along on its keel and eventually came to a stop with only slight damage to the left wing. This was the first demonstration of the fact that this particular type of plane could be landed with safety to the pilot personnel in a very short space when the wheels are in the up position.

The training at Miller Field was of great value as it gave valuable instruction to the pilots and developed in the plane certain changes that were desirable. Furthermore, it proved the ruggedness, suitability and seaworthiness of the plane selected for the flight. Later, this same plane was flown by Captain McDaniel and Captain Woolsey from New York to San Antonio with considerable further benefit to the flight. On the day of arrival at San Antonio it covered over 900 miles in a non-stop flight.

#### 4. Work at San Antonio.

By November 26th, the ten pilots who were to participate in the flight assembled at the San Antonio Air Intermediate Depot, Duncan Field, San Antonio, Texas, for the final work incident to the preparation for the flight. The planes were shipped by the Loening Aeronautical Engineering Corporation to Duncan Field. Here they were set up by the pilot personnel and the civilian mechanics connected with the San Antonio Air Intermediate Depot. This last month's work at the depot in connection with these planes and preparation for the flight was invaluable to the personnel. This work assisted the pilots materially in fitting them to properly maintain their planes and engines during the four and one-half months of the flight. In addition to setting up and flight testing the planes, the following are some of the many details which had to be taken care of in that brief space:-

- a. Selection of supplies to be carried in the planes.
- b. Selection of tools to be carried.
- c. Determination of personal effects to be carried.
- d. Development of signals.
- e. Study of weather and flight conditions throughout the route.
- f. Study of the Advance Officer's reports on the First Division.
- g. Final preparation of maps.

- h. Details incident to the personnel such as wills, insurance, mailing list, uniforms, etc.
- i. Studies of the countries to be visited and details incident thereto, such as calls of courtesy to be made, customs duties, language, habits, customs and history.
- j. Study and work on accessory items of equipment.
- k. Teaming of pilots.
- l. Assignment of personnel to planes.
- m. Assignment of duties to personnel.

The desire to carry many supplies and tools conflicted with the necessity for limiting loads and the problem of selection became, eventually, one of elimination of a number of the many items that were set aside. The final loads of supplies and tools weighed approximately 250 pounds for each plane. Personal effects and miscellaneous equipment, such as ropes, sea anchor, hull repair kit, refuelling hose, funnels, life preservers, airafts, etc., added another 250 pounds.

A signal system was developed, principally, to cover emergencies. It consisted of signals given either by the motions of the plane, arm signals, or Very pistol signals. Special distress and landing signals were also provided.

The study of weather and flight conditions, the advance officer reports and maps, and the numerous administrative details early dictated the necessity for working evenings as well as days. During all this period of final preparation at Duncan Field, correspondence became very heavy, callers and reporters demanded much time, and the weather interfered considerably with the work on the planes and their testing.

The Chief of Air Corps left the pairing of pilots to the flight commander. This was one of the principal preliminary duties intrusted to him and it required very careful consideration. After devoting much study to the pilots, their individual characteristics, qualifications and capabilities, the flight commander announced the teams and assignment of planes as follows:-

<u>Pilots</u>	<u>Alternate Pilots</u>	<u>Planes</u>	<u>Number</u>
Major Bargas	Lieut. Whitehead	NEW YORK	1
Capt. McDaniel	Lieut. Robinson	SAN ANTONIO	2
Capt. Baker	Lieut. Fairchild	SAN FRANCISCO	3
Capt. Woolsey	Lieut. Benton	DETROIT	4
Lieut. Thompson	Lieut. Weddington	ST. LOUIS	5

This selection proved a particularly fortunate one and it was well that it was made early, for no sooner had the teams been selected and the planes assigned to them than the two individuals began to work together as a unit, assign duties among themselves and, in addition, became more personal friends. At the conclusion of this flight, as a result of all the experiences that had been encountered and all of the personal incidents that had happened, the flight commander found that he would not have made a single change in the teams.

8. Preliminary staff work.

In addition to duties as pilots of the planes, there were a number of other functions to be performed. The principal of these were assigned to the pilots by the flight commander as follows:-

Captain McDaniel	- Executive and Finance.
Captain Baker	- Adjutant and Press Relations.
Captain Woolsey	- Engineering and Maintenance.
Lieut. Thompson	- Communications and Meteorology.
Lieut. Weddington	- Photography.
Lieut. Robinson	- Supply
Lieut. Fairchild	- Asst. Engineering Officer.
Lieut. Whitehead	- Asst. Engineering Officer.
Lieut. Benton	- Asst. Supply Officer.

In addition to supervising the final preparation of the planes and the work of his assistants, it was necessary for the commander of the flight to attend luncheons, banquets, meetings at the Chamber of Commerce, etc., and to make several addresses. It was also necessary for him to do work on his plane in getting it ready, as well as to handle most of the purely administrative work.

The Finance Officer was required to study the finance system which would be employed by him on the flight, hold conferences with the Finance Officer for whom he was agent, secure and receipt for the money and prepare the necessary forms to be carried.



The Adjutant and Officer in Charge of Press Relations received members of the press, secured photographs which were to be taken and distributed to the press in the countries visited, determined the kind and number of War Department forms which were necessary, prepared to keep the official diary of the flight and assisted the Commanding Officer of the flight in the administrative work.

The Engineering Officer spent practically his whole time supervising the work of setting up the planes and making adjustments. He initiated changes that appeared necessary and actually did a great deal of the mechanical work himself. He also assisted in making up the supply list of items to be carried in each plane, especially of those items where only one or two might be required for all five planes.

The Communications and Meteorological Officer was busy making a study of the weather which could be expected in each country visited, flying conditions, and the best means of procuring weather information. He also worked on the signal system to be used.

The Photographic Officer had spent considerable time in assembling a small and compact photographic apparatus, both for motion picture and still camera work. A decision by the War Department as a result of conferences with the State Department, largely relieved him of his duty, however, as the flight commander was informed that no photographic apparatus of any kind would be taken. The Photographic Officer then set about making plans to secure from the camera men who met the flight at the various stops, negatives and extra copies of such photographs as could be procured on landings

The advance officers of the Pan-American Flight. They visited the proposed stops in the various divisions and made arrangements for the stay of the flight as well as secured advanced publicity.

ADVANCE OFFICERS



LIEUT. S. C. SKEMP



CAPT. W. P. HAYES



LIEUT. B. T. BURT



LIEUT. W. B. SOUZA



LIEUT. M. B. ASP



LIEUT. I. G. MOORMAN

and other incidents connected with the flight. He also made and supervised the making of many photos of the work at Duncan Field.

The Supply Officer spent a large portion of each day issuing supplies and carefully checking all items. Many articles had to be discarded because of unsuitability or bulk. Several articles had to be procured locally. He also had the responsibility for the supplies which were shipped to the various points in advance of the flight, and had to assemble the necessary War Department blank forms to properly account for these. He was required to see that all planes were completely supplied with the items each had to carry, and also to follow up to see that all supplies, including fuel, reached the supply bases on time.

#### 6. Advance Officers.

The work of the advance officers is one of the most important parts of the preparation for a flight of this character. In the original scheme for the flight as approved by the War Department, the whole route had been divided into six divisions, as follows:-

First Division - San Antonio, Texas, to France Field,  
Canal Zone.

Second Division - Cartagena, Colombia, to Valdivia, Chile.

Third Division - Neuquen, Argentina, to Rio de Janeiro,  
Brasil.

Fourth Division - Victoria, Brasil, to Port of Spain,  
Trinidad.

Fifth Division - St. George, Island of Granada, to Pointe a Pitre, Island of Guadeloupe.

Sixth Division - St. Thomas, Virgin Islands, to Washington, D.C.

For each of these divisions, Advance Officers were selected, as follows:-

First Division - 1st Lieut. Byron T. Burt, Jr., A.C.

Second Division - 1st Lieut. Melvin B. Asp, A.C.

Third Division - 1st Lieut. Samuel C. Skemp, A.C.

Fourth Division - 1st Lieut. William B. Sousa, A.C.

Fifth Division - Captain W. P. Hayes, A.C.

Sixth Division - 1st Lieut. Ivan G. Moorman, A.C.

The flight commander, in conjunction with the War Plans Section of the Training and Operations Division, Office, Chief of Air Corps, prepared very specific instructions as to the duties of the Advance Officers prior to their departure. In general, it was the duty of the Advance Officer to precede the flight for the purpose of inspecting and locating adequate landing facilities, and to inform the flight commander of his selection far enough in advance to allow the flight to take advantage of his observations prior to arrival at a given stop. In addition, he had the duty of meeting the officials of the country and paving the way for the diplomatic mission of the flight to be carried out. He also had a finance responsibility in that he had to select an agent to represent the flight in the receiving of supplies and the superintending of whatever work had to be done on landing facilities and during the visit of the flight.

The reports from the first and sixth divisions reached the flight before its departure from the United States; the other reports were received en route. Much credit is due the advance officers for arrangements made and information forwarded to the flight commander. These advance officers were handicapped in the performance of their work by lack of adequate transportation facilities in many cases, working in foreign countries many times with people who knew little about the requirements of the flight, but mostly by lack of experience themselves with the amphibian type of airplane. In spite of these handicaps, their work contributed much to the success of the flight.

7. Summary of last minute events.

During the last few days, the members of the flight were feverishly engaged in last minute touches to plans and engine, in going over supply and equipment lists and in closing personal business prior to departure. The citizens of San Antonio gave several public functions at which the members of the flight were guests. At an impressive ceremony, the planes were christened after five of the principal cities of the United States, selected because of their prominence and geographic location. The Chief of Air Corps made a farewell address to the members of the flight on this occasion in the presence of a large gathering of civilians, as well as representatives from several of the Latin American countries.

The flight had planned to leave on the 15th of December. However, just prior to that date, advices were received from the War Department that the gasoline and oil had not been placed in Central America, since the American Oil Company had found transportation conditions too slow to permit of carrying out their schedule, and the day of departure was changed by the War Department to December 20th. The flight could have left on the 15th. However, the five extra days allowed by the change of schedule were well spent in further testing of plane and engine, and final preparations for the long journey. The 18th and 19th brought heavy rains in the San Antonio section of Texas. The field at the Air Depot became literally a sea of mud.

The morning of the 20th broke with heavy rains and the condition of the field clearly indicated that it was not practicable for the planes to take off as they were loaded. The greater portion of that day was spent in moving the planes to Kelly Field where a concrete runway was available from which the planes could take off in any weather. The field was so muddy that the planes had to be moved over by man power. It took about fifty men two hours to move each plane the short distance of a little over a mile, such was the condition of the intervening airdrome. The planes were located for the take-off next morning and all final preparations made for departure.

The morale of the personnel was good; all were in excellent health. The planes and engines had gone through from ten to twelve

hours flight testing each and everything was in readiness for a successful flight, thanks to the wonderful cooperation and assistance rendered by the personnel at the San Antonio Air Intermediate Depot. This personnel, which is largely civilian, worked long hours on their own time, many of them continuing all night in completing the planes and engines for their take-off. The mechanics, and particularly the superintendents and foremen, remained on the job practically continually for the last few days and nights without extra compensation. This demonstrated a wonderful morale on their part and will never be forgotten by the members of the Pan American Flight.

The morning of the 21st dawned clear and bright and by 8:00 A.M. the preparations for the take-off were well under way.



A map showing the route of the First Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown.



## CHAPTER II.

## FIRST DIVISION

or

San Antonio, Texas - France Field, C.Z.

1. San Antonio, Texas, - Point Isabel, Texas.

Date: December 21, 1926.                      Time of departure: 10:50 A.M.  
 Distance: 260 miles                              Time of landing: 1:45 P.M.  
 Weather: Excellent                              Elapsed time: 2 hrs. 55 min.  
 Route: San Antonio - Floresville - Beeville - Corpus Christi -  
           along Madre Lagoon to Point Isabel.  
 Landing Facilities: Landed in the lagoon which forms the harbor at  
                           Point Isabel, taxied to and tied up to dock.

The take-off at San Antonio occurred from the concrete runway at Kelly Field, due to the heavy mud which prevailed on the flying field. The take-off will long be remembered by all of the personnel since it really began a flight of four and one-half months, many of the incidents of which will never be forgotten. The take-off was without incident except for the SAN ANTONIO, which ran off the runway, swerved to the left, passed very near some newspaper and camera men but eventually got off without damage to the equipment or to the bystanders. After the five planes took off in order, they pulled into close formation and followed General Patrick who was flying in the test article of the amphibian contract, familiarly known as the "dog

ship", circled over Kelly Field, thence to the city of San Antonio, and then to Brooks Field. Shortly after leaving Brooks Field, General Patrick flew up alongside, waved the flight goodbye, and turned back to Brooks Field. The flight was accompanied a short distance by formations from Kelly Field and Brooks Field. These turned back near Beeville.

The flight to Point Isabel was uneventful. Immediately after landing, the planes were lashed to the dock, a train bearing the gasoline came out on the railroad tracks running along the dock, long hose was used and the gasoline was pumped from the railroad cars down into the tanks of the planes. After refueling, the planes were taken across the Madre Lagoon to Padre Island, and there were taxied up on shore with the exception of the ST. LOUIS which broke a landing gear fitting in attempting to taxi out of the water. Lieutenant Thompson, the pilot, Lieutenant Weddington and Captain Woolsey remained with the plane and, during the night, when the tide came in, they succeeded in floating it, putting the wheels down into position, tying them there and taxiing ashore. The remainder of the personnel, as soon as the ships were tied down for the night, were taken by boat back across the Madre Lagoon to Point Isabel, thence by railroad to Brownsville, where they attended a banquet and dance given by the citizens of the town.

The Pan-American Flight planes tied to pier at Point Isabel, Texas, the first stop after leaving San Antonio.



2. Point Isabel, Texas - Tampico, Mexico

Date: December 22, 1926. Time of departure: 2:30 P.M.  
 Distance: 260 miles Time of landing: 6:10 P.M.  
 Weather: Fog, haze and low clouds Elapsed time: 3 hrs. 40 min.  
 for the first 50 miles,  
 then clear with strong  
 head winds.

Route: Across the Rio Grande to the Gulf - down the coast to  
 Laguna de la Madre Austral - thence along the narrow  
 strip separating the lagoon from the ocean to Rio Soto  
 la Marina down the coast to Tampico.

Landing Facilities: Landed on the civil airport on the property  
 of the Huasteca Petroleum Company, a field  
 very level and smooth, made from a fill by  
 pumping sediment from the river. Its sur-  
 face was dry but the weight of our planes  
 caused them to sink into it, and tractors,  
 shovels and men were necessary in moving them.

Departure from Point Isabel was delayed in order to await  
 the clearing of the fog which was very heavy and thick on the morning  
 of the 22nd, and in order to repair the fitting of the landing gear  
 cable of the ST. LOUIS. The time was spent by the remainder of the  
 personnel in cleaning and inspecting engines and planes.

The take-off was not difficult except for the fact that the  
 lagoon was very shallow and in taxiing from Padre Island to a position  
 for take-off, several of the planes struck the sand bars. During the  
 flight it very early became apparent that, due to a strong head wind  
 of approximately 30 to 35 miles per hour, the landing at Tampico would  
 be made at very nearly dark or after. Engine RPM-s were increased and

the flying speed built up to 95 miles an hour. The country flown over was absolutely barren and deserted and there were sand dunes along the shore with beaches which could in many cases be landed upon with safety. Off to the right for 10 or 15 miles inland was a flat, marshy area generally covered by low shrubs. Far to the interior could be seen the mountains. The wind made the sea quite choppy and a landing on the beach would probably have been preferable in most cases to landing in the water. Tampico was reached just at dark. A civil plane was up to escort us into the landing field. Our planes landed in order and without difficulty. However, a Mexican BEI which had been up to meet us and followed us in was not so fortunate and was crashed on the field, its pilot escaping injury but its mechanic sustaining a broken shoulder.

By 8 o'clock the planes were parked and left under a guard furnished by the Petroleum Company, and the personnel went to the home of Mr. Greene, the General Manager of the Company, to prepare for the banquet given by the American Legion at 10 o'clock. The banquet was a very large affair, followed by a dance which lasted until 1 o'clock. The reception, dinner and dance by the American Colony and the American Legion Post was spontaneous and enthusiastic indeed.

The commander of the flight made calls on the Mayor; on General Guillermo Nelson, Chief of Military Operations, State of Tamaulipas; Colonel Felipe Murguia; Bruno Lasserri, Captain of the Port; and Manuel Azuma, Collector of Customs.



The forenoon of the 23rd was spent in servicing, checking and cleaning the planes and engines. At 2:00 P.M., when the time came for departure, the SAN FRANCISCO was stuck in the mud. The other planes took off, the flight commander giving instructions to the pilots of the SAN FRANCISCO to get out of the mud by the use of tractors and shovels and take off as quickly as possible. Before the SAN FRANCISCO made its take-off the ST. LOUIS returned with a burned out engine, due to lack of oil pressure. The other planes did not land immediately but circled waiting for the ST. LOUIS for nearly an hour and looked at another landing field about two miles away. The SAN FRANCISCO got off, but immediately after take-off its pilot observed that the ammeter of the ignition system showed discharge and that the voltmeter was fluctuating. He turned the controls over to the alternate pilot in the rear seat in order to clean the points. This operation required from five to ten minutes. When it was completed and the pilot again locked up, the plane was flying along the coast and the other amphibians were not in sight. He turned back to the vicinity of the flying field but, being unable to observe the other planes, assumed that they had proceeded to Vera Cruz, and since there was no time to waste if Vera Cruz was to be reached before darkness, he turned to follow them. On arriving at Vera Cruz just at dark, he found that the other planes had not preceded him. A wire was received from the flight commander which made it clear that the other planes had remained at Tampico, and that the flight commander was going to proceed by train to Mexico City. He also directed the pilot of the SAN FRANCISCO to meet him there.

Storm signals were coming in at Vera Cruz. In order to secure the SAN FRANCISCO on the beach, railroad ties were buried several feet underground to serve as dead men and the ship was lashed to these. This precaution undoubtedly saved the plane, since within 24 hours a gale of 75 miles an hour was blowing.

At Tampico, hasty inspection developed the fact that the engine of the ST. LOUIS was damaged beyond repair. A wire was sent to the San Antonio Air Intermediate Depot to rush a new engine to Tampico by express. Major Dargue, accompanied by Captain McDaniel and Lieutenant Weddington, then proceeded by train to Mexico City. The remainder of the personnel remained to assist the pilot of the ST. LOUIS in changing engines. Captain Baker traveled from Vera Cruz to Mexico City and met the commander of the flight there on the morning of December 25th. On the 27th Captain Baker returned to Vera Cruz and Lieutenant Fairchild arrived in Mexico City.

Arriving in Mexico City at 6:00 A.M., December 25th, the four members of the flight were met by Lieut. Colonel Edward Davis, Military Attache, Major Thompson, Assistant Military Attache, and Lieut. Commander D. W. Hamilton, the Naval Attache. The forenoon was spent in making calls on Ambassador and Mrs. Sheffield and members of the Embassy staff. We had Christmas dinner at the American Embassy.

A visit to the embassy in Mexico City. Ambassador and Mrs. Sheffield and the embassy staff are shown.



On December 25th, at 6:00 A.M., we went to Balbuena Flying Field at the invitation of the Mexican Air Service to a breakfast party to be followed by exhibition flying on the part of the Mexican Air Service. On arrival at the field there was no evidence either of a breakfast or of any flying. The officer of the day at the air-drome met the party but knew nothing about any such engagement. The remainder of the day was spent in a luncheon at the Consul General's, a bull fight in the afternoon, a reception at the Mexico City Country Club in the late afternoon, and a reception at the American Club at 9:00 P.M.

On December 27th, at 7:30 A.M., we again went to Balbuena Flying Field and this time the Mexican authorities entertained with breakfast and gave a flying exhibition. We made an inspection of the shops of the Mexican Air Service, accompanied by General Amescua who was in charge. President Calles received us at 5:00 P.M., at which time the letter from President Coolidge was presented. The reception was very formal. President Calles stated that he would prepare a reply at a later date. Attended the American Ambassador's annual ball at 10:00 P.M.

On December 28th a call was made on the Secretary of War at 1:00 P.M., and the remainder of the day was occupied with drives to points of interest throughout the city. Left for Tampico at 9:00 P.M., spending the entire day of December 29th on the train.

Upon arrival at Tampico, it was found that the new engine had been installed in the ST. LOUIS, and that during the preceding days a "norther", reaching a velocity of approximately 70 miles an hour, had endangered the planes and had damaged the rudder of one of them.

8. Tampico, Mexico - Vera Cruz, Mexico.

Date:	December 30, 1926	Time of departure:	10:50 A.M.
Distance:	250 miles	Time of landing:	2:00 P.M.
Weather:	Local showers with strong head wind.	Elapsed time:	3 hrs. 10 min.
Route:	Along Laguna de Tamiahua, coming out on the coast at Tuxpan - thence down the coast to Vera Cruz.		
Landing Facilities:	Landed in the water of the bay at Vera Cruz and taxied up on the south shore which affords a good hard beach.		

The flight was uneventful except for strong, gusty head winds and a few local showers that were flown around. The lagoon afforded a good landing place until about the 150 mile station, thereafter the flight was along the coast line and there were generally good beaches which could be taxied out on. For a stretch of about 50 miles near the end of this leg of the flight the mountains come directly to the sea and beaches and sheltered coves are lacking. This leg of the flight was over country which was practically uninhabited and quite similar to the coast line from Point Isabel to Tampico.

At Vera Cruz the Mexican authorities, headed by General Gomez, the military commander in that section, met the flight on arrival, provided a large military guard and made every effort to be of assistance to the flight. In the evening the American Consul, Mr. John Q. Wood, entertained the flight at dinner.

4. Vera Cruz, Mexico - Minatitlan, Mexico.

Date:	December 31, 1926	Time of departure:	9:08 A.M.
Distance:	160 miles	Time of landing:	10:58 A.M.
Weather:	Occasional heavy rain squalls, low clouds, poor visibility.	Elapsed time:	1 hr. 50 min.
Route:	Down the coast to Laguna Alvorado - down the lagoon - thence out on the coast again to a point within sight of Puerto Mexico - thence inland to Minatitlan, flying generally along the Coatzacoalcos River.		
Landing Facilities:	An airdrone had been prepared by the flight agent, but since it appeared small and was of uncertain quality as viewed from the air, a landing was made in the river. After inspecting the landing field on foot, the planes were moved to the prepared field which proved to be a very good one, though very small.		

The coast line continued low with fairly good beaches and practically uninhabited but offered many places for safe landing of the amphibian planes. The banks of the river at Minatitlan are high and muddy and unsuitable to taxi out on.

We spent the afternoon in servicing, inspecting and cleaning the planes. In the evening the English Club gave a New Year's Eve dance to which the fliers were invited.

5. Minatitlan, Mexico - Salina Cruz, Mexico.

Date: January 1, 1927                      Time of departure: 11:23 A.M.  
 Distance: 150 miles                      Time of landing: 12:48 P.M.  
 Weather: A strong "norther" making      Elapsed time: 1 hr. 20 Min.  
           air rough and the sea very  
           rough.  
 Route: Followed the Coatzacoalcos River to the mountains - thence  
           along the railroad through mountain pass until Salina Cruz  
           was sighted - then direct to Salina Cruz.

Landing Facilities: Landed in the bay behind a breakwater.

All planes made a very successful take-off from the small field though using absolutely all of it and headed in loose formation toward the Pacific coast. The Continental Divide was crossed at 12:30. The country flown over was jungle valley and tree covered mountains with little opportunity for a landing in case of emergency except for part of the way in a narrow and crooked river.

The landing at Salina Cruz was made difficult by a 75 mile wind which was blowing. The landing area was small since the high waves made it necessary to land behind the breakwater. In order to keep the planes on the beach, it was necessary to build wind brakes, using railroad ties. The wind storm blowing at Salina Cruz made refueling and work on the engines difficult indeed.

Although Salina Cruz was our first supply base and we had expected to remain over a day to replenish our supplies and work on our



planes, the adverse weather prompted a decision to move on early the next day. So we worked until after dark and made preparations for an early start.

8, Salina Cruz, Mexico - Guatemala City, Guatemala.

Date: January 2, 1927 Time of departure: 7:25 A.M.  
 Distance: 415 miles Time of landing: 12:15 P.M.  
 Weather: Gale of 55 mile velocity Elapsed time: 4 hrs. 50 min.  
 blowing at take-off and  
 continually for 100 miles,  
 after which weather excellent.  
 Route: Along the coast to San Jose, Guatemala - thence along the  
 railroad through the mountain pass to Lake Amatitlan - then  
 direct to the landing field of Guatemala City.  
 Landing Facilities: Landed on the airfield of the Guatemalan Air Serv-  
 ice which is a field 5,000 feet above sea level on  
 the outskirts of Guatemala City. The field is fair-  
 ly good and ample for landing but rather short and  
 with too many obstructions for the take-off of heavy  
 planes at that altitude.

The take-off at Salina Cruz was made difficult by the strong wind which was blowing. The soft sand on the beach interfered with getting into the water. It was an hour after the NEW YORK took off before the SAN ANTONIO could be gotten off the beach and into the water. The area behind the breakwater was too small to take off from and it was necessary to taxi out into the open ocean. The sea was running rather high but all planes managed to get off. The storm continued for about 100 miles down the coast, making it necessary to crab at an angle of approximately 45° in order to follow the coast line. There-

The Pan-American Flight planes at Guatemala City.



after, however, the wind died down and flying conditions were good.

The coast line was fairly straight and afforded several beaches which were smooth but rather steep and narrow. Occasional lagoons and river mouths formed possible landing places. A coastal plain consisting of undeveloped lands and jungle backed up by distant mountains extended the entire length of this day's flight. Few signs of civilization were seen. Occasional Indian huts were seen with a few people and cattle. Shortly after crossing the Guatemalian border, the volcanoes - Fuego, Agua and Pacaya - formed interesting spectacles, Fuego being active. The coast line was followed to San Jose, Guatemala. The flight then turned inland and climbed 8,000 feet in going through the mountain pass.

On landing, the flight was met by the President, his entire Cabinet and all the high officials of the Government, accompanied by the American Minister, a guard of the Guatemalian Infantry and all of the Guatemalian Air Service with a large enthusiastic crowd of native population.

The 3rd and 4th of January were spent in work on the planes. Some interesting maintenance problems developed which are discussed fully under the chapter on Engineering and Maintenance. The evenings were spent in official calls on the President, the Secretary of War, the Minister of Foreign Affairs, and in attending a reception given by the American Club and a large formal dinner given by the Minister of War.

On the morning of the 5th at 9:30, the flight prepared to take off for San Salvador. The ST. LOUIS, SAN FRANCISCO and SAN ANTONIO, in turn, took off, cleared a large stone aqueduct which ran along the lower edge of the field and high trees growing immediately behind by only a few inches and awaited the take-off of the NEW YORK and DETROIT. The NEW YORK was unable to clear the aqueduct, however, due to a skipping engine and her pilot cut the switches and landed in a rough spot of ground at the foot of the aqueduct. The other planes returned to the airbase after seeing the NEW YORK'S forced landing. It was found that her landing mechanism had been wiped off and the hull had been damaged. After an inspection, it was decided to remove the landing gear entirely, seal up the hull, and prepare the plane to be flown as a water machine the remainder of the way to Panama. The period from the 5th to the 10th of January was spent in getting the NEW YORK in condition to continue the flight. All the personnel worked from daylight to dark in carrying out this plan. When repaired the plane was loaded on a flat car and taken to Lake Amatitlan and there unloaded in the water.

The officials of the Republic of Guatemala, particularly the Minister of War, the Commanding Officer of the Guatemalan Air Service and his pilots, were untiring in rendering assistance. Every possible courtesy and aid were afforded. The Republic of Guatemala left absolutely nothing undone to demonstrate their friendship for our personnel and our country.

The forced landing of the NEW YORK in a rough field adjacent to the airdrome at Guatemala City.



It was decided that the NEW YORK could be easily repaired in a few days and the whole flight felt a desire to keep all the planes together if possible, making up for delays of this character by shortening stops in other places or lengthening the daily flights. With five planes, however, it is almost an impossibility to carry out a policy of this sort and still keep up to schedule.

7. Guatemala City, Guatemala - San Salvador, Salvador.

Date:	January 11, 1927	Time of departure:	7:00 A.M.
Distance:	175 miles	Time of landing:	9:00 A.M.
Weather:	Strong winds and very bumpy, clear.	Elapsed time:	2 hours
Route:	From Guatemala City over Lake Amatitlan through the mountain pass to San Jose - along the coast to La Libertad, Salvador - thence over the mountains to Lake Ilopango.		
Landing Facilities:	Landed in Lake Ilopango. Was unable to taxi out on the beach with the wheels down on account of the soft mud but left the wheels up and moored to the beach.		

The experience with the take-off from Guatemala on the 5th had shown the inadvisability of attempting to take the full load off the air-drome at that altitude. Hence the gasoline supply was reduced to just sufficient to allow a safe margin to reach the next stop and the remaining fuel, together with all the supplies and the alternate pilots, was transferred overland by truck to San Salvador. Four of the planes took off from the landing field with the lightened load without difficulty,



flew over Lake Amatitlan and were joined by the NEW YORK which Major Dargue had succeeded in taking off from the lake, and the five flew to San Salvador.

There are no landing facilities on the route from Lake Amatitlan through the mountain pass to the coast. There are occasional beaches along the coast to La Libertad, Salvador, but from La Libertad over the mountains to Lake Ilopango there is nothing but mountains and no possibility for a forced landing. The terrain along the coast gradually changed from the low, swampy and jungle type to a more rugged and even mountainous character as Salvador was approached. Lake Ilopango afforded an excellent landing place. It is twelve miles from the capitol and is in a bowl of high mountains but is sufficient in area for landing and take-off. On this leg of the flight the air was rough and to our left the mountains were high. Isalco Volcano, just as we entered Salvador, made an interesting sight, since at 20 minute intervals it throws out a burst of black smoke. It forms an excellent landmark as it can be seen for many miles.

The 12th of January was spent in refueling the planes, replacing the baggage and getting everything in readiness for take-off on the 13th. At 4:00 P.M., the letter from President Coolidge was delivered to the President of El Salvador. He was much interested in aviation and had worked out a route of his own for the passage of planes between San Salvador and the United States. At 5 o'clock in the afternoon the personnel of the flight attended a reception at the American Legation, and at 8 o'clock a large dinner given by the Secretary of War. The Secretary of War was the President-elect of Salvador

and took office March 1st.

The flying field of the Salvadorian Air Corps was visited. It is a fairly good airrome but rather short and high for our planes as they were loaded. Their Air Corps had 12 planes on the field most of which were old. Only six seemed in commission to fly.

3. San Salvador, Salvador - Amapala, Honduras.

Date:	January 13, 1927	Time of departure:	7:15 A.M.
Distance:	130 miles	Time of landing:	9:30 A.M.
Weather:	Clear with strong gusty winds.	Elapsed time:	2 hrs. 15 min.
Route:	From Lake Ilopango to the coast just south of La Libertad - thence down the coast to the Gulf of Fonseca to a landing in the little bay behind Tigre Island on which Amapala is located.		
Landing Facilities:	Landed in the bay which is fairly well protected from ocean swells by the small mountainous island on which Amapala is located.		

We arose at 3:20 A.M. since we desired an early departure and Lake Ilopango is an hour's drive by automobile from the city. We took off at 7:15 A.M., flying out of the bowl in which the lake is located, circled over San Salvador, saw Volcano Salvador back of the town which a few years ago melted away on one side and did so much destruction and proceeded to the coast just south of La Libertad. The area from the lake to the coast affords no landing facilities. There are a few beaches between La Libertad and the Gulf of Fonseca which an amphibian might be able to use. The water on the day we flew, however, was fairly rough and a landing would have been difficult. The coast line is fairly rugged.

Immediately upon landing the NEW YORK and ST. LOUIS were serviced that they might continue their trip to Puntarenas, Costa Rica, since it was planned to have the ST. LOUIS accompany the NEW YORK into Panama without making any intermediate stops except those necessary for refueling, this in order that work might be started at once on the damaged landing gear and hull of the NEW YORK in order to have that plane continue with the flight from Panama southward. The servicing was unique at this stop, since the gasoline drums were rolled out into the water, the beach being too muddy to bring the planes up on it. The drums floating in the water beside the planes were held in the upright position while the gasoline was pumped out of them into the tanks. Captain Woolsey, accompanied by Lieutenant Whitehead, was selected to pilot the NEW YORK to Panama, and Major Dargue transferred from the NEW YORK to the DETROIT.

At 3:30 in the afternoon Major Dargue, accompanied by Captains McDaniel and Baker, left for Tegucigalpa, the capital of Honduras. They were accompanied from Amapala to San Lorenzo by General Williams, local commandant of troops. From San Lorenzo the party traveled overland to Tegucigalpa by mountain trails, the distance of approximately 80 miles requiring about six and one-half hours. They arrived in Tegucigalpa at 12:30 midnight. On the following day, the 14th, Major Dargue, Captain McDaniel and Captain Baker, in company with Mr. Summerlin, the American Minister, called on the President, the Minister of Foreign Affairs, and the Minister of War. A reception was given by the government officials

The President of Honduras, members of his cabinet, American Minister Mr. Summerlin, and members of the flight at the American Legation in Tegucigalpa.



in Tegucigalpa at the International Club at 11 o'clock. The President, members of his Cabinet, members of Congress, and other high officials attended, Congress taking a recess for the purpose. At 12:30 Mr. Summerlin gave a luncheon and at 2 o'clock the officers departed on the return trip to Amapala, reaching there at 10:00 P.M.

A flight from Amapala to Tegucigalpa was considered impracticable due to the inadequate landing facilities in the vicinity of the capital city. The city is located up in the mountains over a mile high and the intervening country between it and the coast is exceedingly high and rough. The small landing field was examined and it was found that the Advance Officer was correct in his estimate that the field was inadequate for an amphibian airplane at that altitude.

9. Amapala, Honduras - Managua, Nicaragua.

Date:	January 15, 1927	Time of departure:	7:30 A.M.
Distance:	140 miles	Time of landing:	10:05 A.M.
Weather:	Excellent	Elapsed time:	2 hrs. 35 min.
Route:	From Amapala to Pt. Coseguina - thence down the coast to 15 miles south of Corinto - thence inland to Lake Managua and along the shore to the city of Managua.		
Landing Facilities:	Landed in Lake Managua and taxied to a position in front of the central portion of the city, anchored and went ashore in small boats.		

Immediately after taking off the flight proceeded over Coseguina Volcano in order to get a view of its crater. At this point

the flight became separated. The NEW YORK proceeded inland on the direct route. The SAN ANTONIO and SAN FRANCISCO flew around the volcano since they could not get sufficient altitude before reaching the mountain and followed the coast line. The coast line between Pt. Coseguina and Corinto offers little facility for landing since it is mountainous with the rocks coming down into the sea. The harbor made by the river's mouth at Corinto offers a protected landing place. From Corinto to Lake Managua the country is fairly flat, being comprised generally of sugar plantations. From Momotombo Volcano at the northwestern end of Lake Managua to Managua along the shores of the lake, it is possible to make a water landing except when strong winds are blowing and the lake is probably too rough. In the Gulf of Fonseca near Coseguina Volcano the flight saw a U.S. destroyer on patrol duty and at Corinto we passed over two United States naval vessels lying in the harbor.

Upon arrival over Managua the city was circled and a landing was made in the lake in front of the town. Finding that there was no beach, the planes were anchored and a small Navy detachment took the personnel ashore in boats. We were met by the American Minister, Mr. Eberhardt, who took us to the legation. The commander of the Flight called on the President and delivered the letter from President Coolidge. After luncheon at the legation, the flight took off for Puntarenas.

10. Managua, Nicaragua - Puntarenas, Costa Rica.

Date: January 15, 1927                      Time of departure: 1:20 P.M.  
 Distance: 230 miles                              Time of landing: 3:50 P.M.  
 Weather: Strong gusty winds                      Elapsed time: 2 hrs. 30 min.  
 Route: Along the railroad from Managua to the shores of Lake Nicaragua just south of Grenada - down the lake to Sapoa - thence directly over the mountains to Salinas Bay - thence along the coast over the Gulf of Papagaya to Pt. Culebra - thence across the peninsula, following the river to Nicoya Gulf - down the gulf to Puntarenas, Costa Rica.

Landing Facilities: Landed in the small gulf behind the town separated from the ocean by the point of sand on which Puntarenas is located. There were no facilities for beaching the planes so they were anchored close in shore.

This was one of the roughest legs of the flight yet flown. It was particularly bumpy over the Gulf of Papagaya. We passed over a United States destroyer anchored in the little roadstead at Brito. En route down Lake Nicaragua another active volcano, Santiago, was pouring out very great volumes of partially discolored smoke.

That portion of the flight from Managua to the lower end of Lake Nicaragua affords landing facilities. From the lower end of Lake Nicaragua across the mountains to the coast there is no opportunity for a safe landing. The coast line from Brito south is precipitous with only a very few stretches of protected water. Puntarenas has a protected harbor where water landings can be made safely.



From Puntarenas the personnel of the flight with the exception of two officers, proceeded to San Jose, the capital, arriving there at 1:15 in the morning. The 16th was spent in diplomatic calls and functions. Called on the American Minister at 2:30; on the President at 3 o'clock and delivered the letter from President Coolidge; from 3:30 to 5:00 P.M. attended a reception at the home of the American Minister; from 5:00 to 7:00 P.M. a reception and dance at the Union Club; and at 7 o'clock the officials of Costa Rica gave a formal dinner to the flight personnel which was attended by the President and members of his Cabinet and all the high officials of the government. Returned by special train on the morning of the 17th, arriving at Puntarenas at 5:00 P.M.

11. Puntarenas, Costa Rica - David, Panama.

Date:	January 18, 1927	Time of departure:	7:30 A.M.
Distance:	240 miles	Time of landing:	10:30 A.M.
Weather:	Excellent	Elapsed time:	3 hours.
Route:	Followed the coast to Osa Peninsula - thence across it to the Gulf of Dulce to P. Burica - across the Point along the coast to Pedregal - thence to David.		
Landing Facilities:	Landed on the land field at David, a large and excellent airfield which has often been used by airplanes from France Field.		

Aside from the passage across the two peninsulas, the route

was good since many little harbors afforded opportunity for sheltered landing in case of possible forced landings. At David we were met by three planes from France Field. After refueling and a hasty luncheon tendered by the government officials, the flight took off accompanied by a formation from France Field for the Army airdrome at the Atlantic end of the Canal.

12.. David, Panama - France Field, Canal Zone.

Date: January 18, 1927                      Time of departure: 2:05 P.M.  
 Distance: 250 miles                              Time of landing: 5:35 P.M.  
 Weather: Clear with gusty winds.              Elapsed time: 3 hours 30 min.  
 Route: From David to the coast near Horecozitos - thence along the coast to Port Nuevo - thence inland to Aguadulce - thence along the coast to Chama Pt. - inland across the Point to the Bay of Panama - thence along the coast to Balboa and Panama City - along the Canal to Cristobal to a landing at France Field.  
 Landing Facilities: Landed in the prepared Army Air Corps airdrome at France Field.

The flight was uneventful until near Chama Pt. when formations of airplanes from France Field began to meet the flight. In all twenty-seven planes eventually joined our flight, following us on over Balboa and Panama City through the Canal to Cristobal to our landing place on France Field. The flight was met upon landing by General Martin, Department Commander, Governor Arosemena representing the President, and

The NEW YORK, the Flagplane of the Pan-American Flight, in  
the north harbor at France Field, Panama, Canal Zone.



the Commanding Officer and Air Corps personnel at France Field.

Upon arrival it was found that Captain Woolsey and Lieutenant Thompson in the NEW YORK and the ST. LOUIS had arrived on scheduled time in the afternoon of the second day after they had left our flight at Amapala, having stopped overnight for refueling at Puntarenas and having made a non-stop flight from Puntarenas to Panama.

On January 19th the flight commander flew from France Field to Panama City, accompanied by Colonel Fisher, the Commanding Officer at France Field, and made calls on General Martin, the American Minister - Dr. South, the Panamanian Minister of Foreign Affairs, and on the President of the Republic of Panama. On this date, from 5:00 to 7:00 P.M., the entire flight attended a reception given by Air Corps personnel of the Canal Zone at the Strangers' Club.

On January 20th all of the personnel devoted the entire day to work on the planes getting them in readiness for the remainder of the trip. The maintenance and engineering work done is explained in detail in Chapter IX - Engineering and Maintenance. The flight commander, however, at 10:00 A.M. of this date, called on Governor Arosemena, Governor of the State of Colon.

On January 21st three members of the flight, accompanying the flight leader, flew to Albrook Field on the Pacific end of the Canal Zone, proceeded to the Presidential Palace in Panama City and attended

a luncheon from 12:30 P.M. to 3:30 P.M., tendered by the President of Panama to the members of the flight. The other members of the flight continued with the work that was in progress on the planes at France Field.

On January 22nd work was completed on the planes and they were flown from the landing field to the harbor in front of the field, landed and taxied up on the concrete apron in front of the hangar line, where they were reserviced. This precaution was taken due to the fact that the prevailing wind condition made it necessary in taking off from the field to fly directly toward the hangar line. With the planes fully loaded the distance was none too great and it was considered safer to take off from the water.

The Air Corps personnel at France Field worked untiringly and did everything humanly possible to assist the flight and to place the planes in first class condition.

A map showing the route of the Second Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown.



*SECOND DIVISION  
Panama  
to  
Valdivia*



## CHAPTER III.

## SECOND DIVISION

OR

France Field, C.Z. - Valdivia, Chile.

1. France Field, Canal Zone - Barranquilla, Colombia.

Date:	January 23, 1927	Time of departure:	9:45 A.M.
Distance:	475 miles	Time of landing:	4:15 P.M.
Weather:	Clear but very rough with strong head winds.	Elapsed time:	8 hrs. 30 min.
Route:	Down the coast of Panama to Cape Tiburon - thence across the Gulf of Darien to the mainland of Colombia - thence along the Colombian coast to the mouth of the Magdalena River - up the Magdalena to Barranquilla.		
Landing Facilities:	In the water in the mouth of the Magdalena River and taxied up in the hangars of the SCADTA Company.		

The five planes taxied into the water and out in the little bay in front of the hangars at 8:30 A.M. Take-off conditions were not the best, since the water was quite rough and the wind was not blowing in the same direction the swells were running. It was necessary, therefore, to take off at about a 45° angle either to the wind or to the direction of the swell. This is a considerable handicap since, when fully loaded, it is very desirable to take an amphibian off directly

into the wind. It is also distinctly advisable to take off directly across whatever chop there is unless the swells are sufficiently wide apart to permit of a take-off in the trough. All the planes attempted to take off. However, the SAN ANTONIO damaged her hull to such an extent that while taxiing in she took enough water to sink and went down by the bow until she rested on the bottom of the bay. Fortunately, however, she had been gotten close to shore by this time. The NEW YORK also damaged her hull and it was considered advisable to leave her at France Field for repairs. At 9:45 A.M., therefore, the remaining three planes, the SAN FRANCISCO, DETROIT and ST. LOUIS, proceeded on toward Barranquilla, being accompanied for the first fifty miles by two photographic planes from France Field.

The trade winds blew very strong against us all the way. A couple of photographic DH-s from France Field accompanied us as far as Porto Cabello. We flew very low in order to reduce the opposition of the wind as much as possible. Flying along the coast of Panama is very picturesque, since the low, sandy, palm-studded islands are thickly populated by the San Blas Indians. In crossing the Gulf of Darien, the flight was out of sight of land for several minutes. The sea below was very rough. Shortly after crossing the gulf, the ST. LOUIS had a forced landing in the rough sea. After changing spark plugs and cleaning carburetor jets, they took off in a heavy sea and

Flying along the coast of Panama en route to Barranquilla, Colombia. Strong trade winds were blowing, as the condition of the water indicates.



joined the flight at Barranquilla. The propeller blades were bent from striking the water and the radiator was leaking. The SAN FRANCISCO and DETROIT proceeded after dropping a message to the ST. LOUIS and landed at Barranquilla at 4:15 P.M. with very little gasoline left. The ST. LOUIS arrived just at dark. The coast of Colombia offered few sheltered places for water landings, though the beaches in many places appeared to be ideal to taxi out on. The Caribbean Sea was too rough for safe landing due to the trade winds.

The SCADTA Company, a German company operating an air line up and down the Magdalena River, afforded us hangar space at Barranquilla and did everything possible to assist the flight. The water in the Magdalena River was very rough due to the strong winds.

A call was made on the Governor of the State by half of the flight personnel present and preparation made for an early departure up the Magdalena the next morning. The American Colony gave a reception and dance in the evening.

2. Barranquilla, Colombia - Barranca Bermeja, Colombia.

Date: January 24, 1927                      Time of departure: 8:20 A.M.  
 Distance: 300 miles                              Time of landing: 12:05 P.M.  
 Weather: Good                                      Elapsed time: 3 hrs. 45 min.  
 Route: Up the Magdalena River  
 Landing Facilities: Landed in the river and anchored to the shore.

The propeller blades on the ST. LOUIS had been straightened but the leak in the radiator was not discovered until after starting the motor for the trip up the river. Consequently, the ST. LOUIS was left at Barranquilla to have the radiator repaired and the SAN FRANCISCO and the DETROIT proceeded on up the Magdalena River.

Stop was made at Barranca Bermeja for refueling only. This point was selected because it was the site of an American oil colony. The oil company struck off a special distillation of gasoline for the flight. The general route of the river was followed. The banks on either side were jungle. The country is generally low and flat with mountains in the far distance. The river afforded an opportunity for landing by merely using the precaution of avoiding sand bars and floating driftwood. Occasional river boats were seen and a few scattered settlements bordered the river.

Refueling at Bermeja Barranca on the bank of the Magdalena River. An American oil company located only a few hundred yards from the scene struck off a special distillation of gasoline for the flight.







The DETROIT, moored to the bank of the Magdalena River, Girardot. It was necessary to run the motor at 1200 r.p.m. just to hold one's position in the river against the strong current. The planes were tied to the bank at a point where eddy currents helped to hold them.

In the left background is seen a Junker hydro-airplane with inclined track leading to hangar high up on the bank.



to Bogota, arriving there at 10:00 A.M. At the railroad station the party passed through a double line of police escort. The day was spent in making calls on the President, the Minister of War and the American Minister, and attending a luncheon given by the Minister of War and a reception given by the President. At 10:00 P.M. we departed on a special train for Girardot, arriving there at 7 o'clock in the morning. There being no sleeper on the train, the personnel got little or no sleep that night.

Lieutenant Benton remained with the planes which were left at Girardot while the others visited Bogota.

4. Girardot, Colombia - Barranca Bermeja, Colombia.

Date:	January 26, 1927	Time of departure:	9:00 A.M.
Distance:	275 miles	Time of landing:	12:00 Noon
Weather:	Cloudy with occasional showers	Elapsed time:	3 hours
Route:	Down the Magdalena River		
Landing Facilities:	Landed in the river and moored to the bank.		

The landing was again made here for refueling only. Americans in charge of the Tropical Oil Company told us that there had been a general shipping strike declared with considerable fighting while we were in Bogota. As we were moored to the bank refueling our planes, we

At the SCADTA headquarters at Girardot, Colombia.



noted many strikers on boats being taken down the river by the local authorities. About fifty were killed in the fighting.

The amphibians had no difficulty in landing or taking off in the river. The river is very muddy and has much floating debris. Servicing was done from gasoline drums and the gasoline was handed in buckets from the bank to the nose of the plane, then passed back to the funnels.

5. Barranca Bermeja, Colombia - Barranquilla, Colombia.

Date:	January 26, 1927	Time of departure:	1:10 P.M.
Distance:	300 miles	Time of landing:	4:45 P.M.
Weather:	Fair with cross winds	Elapsed time:	3 hrs. 35 min.
Route:	Down the Magdalena River		
Landing Facilities:	Landed in the Magdalena River in front of the SCADTA hangar, let down wheels and taxied up into the hangar for refueling.		

Upon arriving at Barranquilla, it was found that the ST. LOUIS was ready to depart and it was decided the three planes should proceed to Cartagena for the night.

The Magdalena River at Barranquilla showing the SCADTA hangar at the bend in the estuary. On account of the strong trade winds the flight had to land in rather rough water straight across the river.





6. Barranquilla, Colombia - Cartagena, Colombia.

Date: January 26, 1927                      Time of departure: 5:40 PM.

Distance: 75 miles                              Time of landing: 6:25 PM.

Weather: Fair with strong winds              Elapsed time: 45 min.

Route: Along the coast from the mouth of the Magdalena to  
Cartagena.

Landing Facilities: Landed in the protected harbor and moored the  
planes to the beach, being unable to taxi out  
on account of the soft mud.

All three planes took off but the ST. LOUIS landed again, apparently with engine trouble. The DETROIT followed it down in accord with prearranged schedule while the SAN FRANCISCO circled. As it was late the SAN FRANCISCO proceeded to Cartagena and reached there just before dark. Thirty minutes later the DETROIT came in. She had landed, discovered that the ST. LOUIS merely had minor engine trouble which they could repair themselves and had come on to join the SAN FRANCISCO at Cartagena. The ST. LOUIS remained overnight at Barranquilla and joined the other two planes early in the forenoon of January 27th.

The personnel of the flight spent the evening at a banquet given by the Governor of the Dept. of Atlantico followed by a reception and dance given by the American colony at the Andean Club. The forenoon of the 27th was spent in making a tour of this most interesting city. Cartagena still has the old wall which was built to protect it

Pan-American Flight planes moored to the beach at Cartagena,  
Colombia.



from the pirates. Back of the town is the citadel and monastery located on a high hill. This point, Morgan, the pirate, failed to take when he sacked the city.

7. Cartagena, Colombia - France Field, Canal Zone.

Date:	January 27, 1927	Time of departure:	12:10 P.M.
Distance:	400 miles	Time of landing:	4:30 P.M.
Weather:	Cloudy with occasional rain showers	Elapsed time:	4 hrs. 20 min.
Route:	Along the coast of Colombia to the Gulf of Darien - across the Gulf of Darien to Cape Tiburon - across the coast of Panama from Cape Tiburon to France Field.		
Landing Facilities:	Landed in the prepared Army Air Corps airdrome at France Field.		

The three planes took off shortly after noon and proceeded over the same route which had been previously followed by the flight, arriving at France Field at 4:30 P.M.

The 28th of January was spent in working on the planes and engines in preparation for the flight down the west coast of South America. It was found that the NEW YORK had been repaired and the dog ship, the first article of the amphibian contract, which had been shipped from San Antonio to France Field, was made ready to continue with the flight as the new SAN ANTONIO.

8. France Field, Canal Zone - Buenaventura, Colombia.

Date: January 29, 1927                      Time of departure: 9:50 A.M.  
 Distance: 425 miles                              Time of landing: 3:50 P.M.  
 Weather: Showers                                Elapsed time: 5 hrs. 40 min.  
 Route: Through the Canal to Panama City - along the coast of  
 Panama to the coast of Colombia - along the coast of  
 Colombia to Buenaventura.

Landing Facilities: Buenaventura affords a good protected harbor.  
 Landing was made in the water and the planes  
 were moored to buoys.

The five planes flew formation over the Canal Zone, circling over Panama City, and proceeded down the coast of Panama, being accompanied by an escort of planes from France Field for the first 50 miles. At about the 100 mile mark, the ST. LOUIS broke a landing wire and turned back. As had been previously agreed, the DETROIT turned back to accompany her. These two planes returned to France Field, repaired the difficulties with the ST. LOUIS which are described under the engineering report, and rejoined the flight on the second day thereafter at Tumaco, Colombia. The three remaining planes proceeded on down the coast of Colombia to Buenaventura.

The coast of Panama and Colombia over this route for the first 200 miles was mountainous and heavily wooded right down to the sea. Thereafter, the country became flat and mangrove swamps extended to the water's edge, there being no beaches. A forced landing might have

been made in the mouths of some of the small rivers coming out of the swamps.

A delegation from Cali, Colombia, came down to Buenaventura and gave a large dinner to the members of the flight on the evening of the 29th. The trip to Cali which had been planned was abandoned on account of a railroad strike.

9. Buenaventura, Colombia - Tumaco, Colombia.

Date:	January 30, 1927	Time of departure:	3:05 P.M.
Distance:	200 miles	Time of landing:	5:30 P.M.
Weather:	Good	Elapsed time:	2 hrs. 25 min.
Route:	Along the coast line.		

Landing Facilities: Landed in a protected harbor on the shore of which the village of Tumaco was built; unable to taxi out on the beach but pulled the planes in as near shore as possible with the wheels up. At low tide they were high and dry.

A false start was made from Buenaventura for after getting about fifteen miles out the SAN FRANCISCO developed a leak in the radiator and quickly retraced its path to the harbor from which we had departed. All planes returned and landed for a short time until the SAN FRANCISCO was again ready to depart.

The country flown over between Buenaventura and Tumaco along the coast was heavily timbered, largely of mangrove, making a dismal

swampy expanse. The Pacific has heavy swells and only the river mouths, which generally were filled with sand bars, would afford any possibility of safe landing in event of trouble. These would be of little use if any damage were done to the plane which could not be repaired by its personnel, for there are no roads or railroads in this section and communication with the outside world would be impossible except by boat. The whole coast line along here is practically uninhabited. The flight flew low and the only evidence of habitation at all was one hut and a few cattle.

The landing at Tumaco was the first time that airplanes had ever been seen at this little city with the result that the whole population flocked to the beach to view our ships.

Shortly after landing, it began to rain very hard. The planes were left under guard with instructions to push them out into the water as the tide began to recede in order to keep them afloat. This, however, the guard failed to do and when we returned to the planes at daylight on the morning of January 31st, we found them as high on the beach as it was possible to get them, with the result that our departure was delayed a day.

The day was spent in going over the planes and engines checking and cleaning. When the engine of the SAN ANTONIO was run up for test it developed a peculiar metallic sound. Careful examination



brought out the fact that the main thrust bearing was defective. It was apparent that it would be dangerous to attempt to continue the flight with this engine. It was decided, therefore, to leave the SAN ANTONIO behind to await the shipment of an engine from Panama. Telegraphic request was sent to Panama for a new motor to be shipped by special boat. In the afternoon the ST. LOUIS and DETROIT arrived from Buenaventura and rejoined the flight.

10. Tumaco, Colombia - Guayaquil, Ecuador.

Date:	February 1, 1927	Time of departure:	9:50 A.M.
Distance:	475 miles	Time of landing:	8:55 P.M.
Weather:	Very heavy rains during a large portion of the flight	Elapsed time:	6 hrs. 5 min.
Route:	Along the coast to Pta. Galera - across Pta. Galera inland - thence along the coast of Ecuador to the Gulf of Guayaquil - thence over the Guayaquil River to the city.		
Landing Facilities:	Landed in the river which was very swift and full of floating islands and much debris, and tied up to piles which had been driven in the center of the stream.		

On this leg of the flight we passed into the equatorial rain belt and crossed the equator. For over 100 miles it rained so hard that the planes could not keep in sight of each other. The DETROIT made a landing in a small estuary after passing through the heavy rain and the personnel signalled that they could remedy their trouble and for the remainder of the flight to continue.

For the first 200 miles of this trip, the character of the country was little changed, heavily wooded, with no opportunity for forced landing except in small river mouths. In many cases the mountains extended to the water's edge. The last 200 miles the character of the country wholly changed. The mountains which came down to the water's edge were largely barren of any vegetation whatever. We were approaching the rainless coast of South America.

The landing in the river at Guayaquil was made only after watching for a clear area large enough to get into, and then the boats that dashed madly about gave a great deal of worry to us. One boat innocently cut the NEW YORK loose in an effort to help and the swift current carried it crashing back into the SAN FRANCISCO. Fortunately, only the stabilizer of the NEW YORK was damaged.

The heat in Guayaquil was intense, the worst that had been encountered. The planes and engine became so hot that one could not hold on to them bare handed. It was necessary to dip the wrenches and tools in water before they could be held in working on the equipment.

The population of Guayaquil showed great interest in the planes and personnel and, upon going ashore, the crowds were so dense that it was impossible to make progress through the streets. Eventually the personnel reached the palace of the Governor and were re-

At Paita, Peru, the planes were beached in the back yard of the Hotel Pacifico in which the flight remained over night.



ceived most cordially. In the evening there was a large formal banquet. Torrential rains poured throughout the night.

The forenoon of February 2nd was spent in making official calls and in servicing the planes. The servicing was rendered somewhat difficult on account of the swift stream. It was necessary to bring gasoline alongside the planes in small boats and use the refuelling pumps.

11. Guayaquil, Ecuador - Paiza, Peru.

Date:	February 2, 1927	Time of departure:	1:00 P.M.
Distance:	250 miles	Time of landing:	4:15 P.M.
Weather:	Light showers at first - later excellent	Elapsed time:	3 hrs. 15 min.
Route:	Down the river to the Gulf of Guayaquil - thence along the coast of Peru over Tumbes to Paiza, rounding C. Blanco.		
Landing Facilities:	Landed in the bay at Paiza, which is fairly well protected, and taxied out on the beach.		

Shortly after leaving the Gulf of Guayaquil, the flight passed over Puerto Pizarro and Tumbes, circling both places since, in the original flight schedule, Tumbes was one of the refueling points.

The northern coast of Peru over which this flight carried us was barren and the population centered principally around the oil discoveries. At Point Parinas literally thousands of oil derricks were seen, particularly near Talara and Negritos.

Shortly after landing at Paita, Peru. The flight officers did all servicing and maintenance work and are shown about to start this task.



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About 140 miles from Guayaquil, the DETROIT landed in the open ocean on account of motor trouble. The engine was missing to such an extent that its pilot considered it advisable to land. Some plugs were changed, the carburetor jets drained, and the plane followed the flight, arriving at Paiza only a short time after the other planes. This was one of the few days that the Pacific was calm.

A banquet was given to the flight in the Hotel Pacifico in the evening.

12. Paiza, Peru - Chimbote, Peru.

Date: February 3, 1927 Time of departure: 8:30 A.M.

Distance: 325 miles Time of landing: 12:50 P.M.

Weather: Excellent Elapsed time: 4 hrs. 20 min.

Route: Along the coast.

Landing Facilities: Landed in the bay which is protected by an island in the mouth of the bay and taxied out on the beach. The beach was fairly steep but it was possible to get entirely out of the water.

This portion of the coast line was generally barren and deserted. We had encountered the "Rainless Coast of South America" where, we were informed, not a drop of rain has fallen for the last 34 years. There were barren hills, deserted plains, sand dunes and great stretches of sandy coast line where not a sign of life was seen. The few small cities were apparently at the locations of mineral and oil wealth. A few small streams



made from the melting snow of the distant Andes caused thin lines of green to point seaward.

The flight circled over Salaverry and Trujillo and dropped messages. At Salaverry, which we had marked as an emergency stop, a large crowd had gathered and were on the beach as we passed over. Automobiles raced up and down the beach to show us how good it was for landing but it was not too wide and the ocean was rough. A similar beach ran for miles south of Salaverry. On landing in Chimbote we found a Peruvian seaplane which had come up from Lima to meet us. The landing at Chimbote was for refueling only.

13. Chimbote, Peru - Lima, Peru.

Date:	February 3, 1927	Time of departure:	3:15 P.M.
Distance:	275 miles	Time of landing:	6:05 P.M.
Weather:	Good	Elapsed time:	2 hrs. 50 min.
Route:	Along the coast to Callao & thence inland to Lima, following the general direction of the railroad.		
Landing Facilities:	Landed on the military airdrome at Las Palmas about 10 miles south of Lima.		

The Peruvian seaplane with its two officers joined our formation on this leg of the flight.

On this stretch of the coast there was no vegetation whatever except for a few hundred yards on each side of the few rivers which came

down to the coast. A plain or low hills extended from the shore back for a few miles, then mountains rose to an altitude of several thousand feet. About 100 miles from Callao, a Curtiss Oriole airplane met us which was flown by Mr. Elmer Fawcett, an American who was engaged in commercial aviation at Lima.

The flight circled Barranca to permit the Peruvian seaplane to catch up with us and, upon arrival at Lima, circled the city, then landed on the military aviation field about 10 miles out where we were met by the American Minister, by Colonel Juan Leguia - the son of the President and Chief of their Air Corps - together with a large enthusiastic crowd. The Peruvian Air Corps removed their planes and put ours in their hangars and afforded us every aid and assistance. A reception was held in the club at the flying field shortly after the landing.

The night of February 3rd we were allowed to rest. On the 4th and 5th, practically the whole of each day was spent in working on the planes. The evenings were taken up with social and diplomatic functions. On the 4th a luncheon was given by the Air Service officers and was a real "get-together" occasion. In the evening a banquet was given by the Minister of War, after which the American Ambassador, Mr. Poindexter, entertained on the roof until 2:00 A.M.

On the 5th a call was made on the President at his office and on the members of his Cabinet.

14. Lima, Peru - Pisco, Peru.

Date:	February 6, 1927	Time of departure:	9:15 A.M.
Distance:	150 miles	Time of landing:	11:00 A.M.
Weather:	Fog and low clouds	Elapsed time:	1 hr. 45 min.
Route:	From Lima to the coast south of Callao - thence along the coast line to Pisco.		

Landing Facilities: Landed on a sandy plain near the coast just back of the town. It is sufficient in extent and good except for small stones and some soft sand.

This portion of the coast of Peru consists of sandy wastes with very high mountains rising only a few miles back from the coast. Considerable fog was encountered but it was low and we passed above it, seldom losing the shore line from sight. The landing at Pisco was intended to be of short duration for refueling only. At noon, when taxiing for take-off, the NEW YORK blew out a tire. It was necessary to buy an automobile tire for replacement and by the time the repair had been effected there was not sufficient daylight to continue to the next stop, hence the flight remained at Pisco overnight.

A Peruvian DH had preceded our flight to Pisco that morning in order to make all arrangements as this stop was not on the original schedule. We shipped fuel ahead from Lima to be used at Pisco.

15. Pisco, Peru - Ilo, Peru.

Date: February 7, 1927 Time of departure: 8:00 A.M.

Distance: 475 miles Time of landing: 1:50 P.M.

Weather: Clear with strong winds Elapsed time: 5 hrs. 50 min.

Route: From Pisco south along the bay to Pt. Huacas - thence down the coast past Lomas, Islay and Mollendo to Ilo.

Landing Facilities: Landed in the bay, went ashore and examined available landing facilities. Decided upon a road which ran back of the town, landed in this road and parked the planes in a flat area behind the town.

The coast continued to be practically barren except for the banks of small streams which came down to the coast at wide intervals. Mountains often rose directly out of the sea to an altitude of 7,000 or 8,000 feet. There were very few places which could be used for landing, since the swells of the Pacific break high upon the rocky cliffs. The ocean is not satisfactory for landing on account of these high swells. The flight had originally planned to land at Mollendo but the Advance Officer had warned that this was one of the roughest roadsteads in the world and that there were no landing facilities available. As the flight passed over Mollendo, it could be seen that the Advance Officer's estimate of the situation was correct for it would hardly have been possible for an amphibian, or any other plane for that matter, to land in the bay at Mollendo.

The harbor at Ilo is not good and there are no beaches whatever, - it is practically an open roadstead. Since the planes were to be left at Ilo for about ten days while the trip was made to La Paz, Bolivia, and return, it was decidedly advisable to get them out of the water. The surrounding hills and sandy plains were scoured for a suitable landing field. Late in the afternoon, it was determined to land in the road running across a sandy plain behind the town. The planes were moved to this point without difficulty. Lieutenant Weddington remained with the planes while the remaining personnel - namely, Major Dargue, Captains Baker and Woolsey, and Lieutenants Thompson, Whitehead, Denton, and Fairchild - took the trip to La Paz, the capital of Bolivia.

16. The Visit to La Paz, Bolivia.

On the morning of February 8th, the party departed in a small launch across the bay to Mollendo, arriving at that point at 4:30 after a long, slow and tiresome boat trip, tossing about in the swell of the Pacific with little food and water. Had lunch at 5:00 P.M. and departed on a special train for Arequipa, Peru, arriving at 11:20 P.M., where we were met by a large delegation of civil and military officials. It was necessary to delay the 9th and 10th waiting for a boat across Lake Titicaca.

At Arequipa, Peru, the flight personnel, by Act of the municipal governing body, were made "Distinguished Citizens of the City". The Mayor of the city is delivering an address of welcome.



On February 9th a call was made on the Mayor, the Prefecto, and the Commanding Officer of local troops. Thereafter, the personnel spent the day resting and working on their diaries and reports. At 5:00 P.M. a meeting of the townspeople was held and we were requested to attend. The Mayor presided and, during the welcoming ceremonies held in our honor, had the clerk read an act of the municipal governing body making us "Distinguished Citizens of the City of Arequipa".

On the evening of the 10th a reception and dance was held in one of the local clubs, and on the 11th the Prefecto gave a luncheon in a beautiful setting in a little town on the outskirts of Arequipa. That evening, at 8:45 P.M., the party boarded the train for Lake Titicaca. The night was spent in climbing over the Andes to an altitude of over 14,668 feet, over one of the highest railroads in the world.

At 6 o'clock on the morning of the 12th, we took a boat from Puno across the lake, arriving at 7:30 P.M. at Guaqui. Here the Bolivian military officers met us and gave us a reception. We departed at 8:10 P.M. in a special car for La-Paz, arriving at 12:30 in the morning. Despite the lateness of the hour, a huge throng, estimated at from three to five thousand people, met us and, headed by a band, escorted us to the La Paz Club where we were to stay. There was a demonstration in the plaza opposite the club which was answered by the fliers appearing on the balcony.



The 13th, the President of Bolivia declared as a public holiday in La Paz in honor of the visit of the flight. The morning was spent in official calls. There was a luncheon given by the American colony which the President and his wife attended. In the evening there was a large formal dinner given at the Circular Militar which the President and the members of his Cabinet attended. At the close of this dinner, the President announced that his government had awarded to the members of the flight their highest military order - namely, the Order of the Condor of the Andes.

Early on the morning of the 14th a visit was made to the aviation field where the students of the school gave a flying exhibition. This was unique since the flying field is approximately 13,500 feet high. The planes required a very long take-off and had to be landed with considerable speed, due to the high altitude. Although it was the middle of summer, the air at the field was freezing cold and we suffered with only our light clothing.

At two o'clock in the afternoon the party boarded the train to return to Lake Titicaca. At seven o'clock in the evening we took a boat across the lake. At 6:00 P.M. the next afternoon we arrived at Arequipa and took a special train to Mollendo, arriving at Mollendo at midnight.

We arose at 4:30 A.M. on the 18th and made the ten and one-half hour boat trip across the bay to Ilo, arriving at 4:30 P.M. The

remainder of the day was spent in getting the planes in readiness for the continuation of the flight southward in the morning.

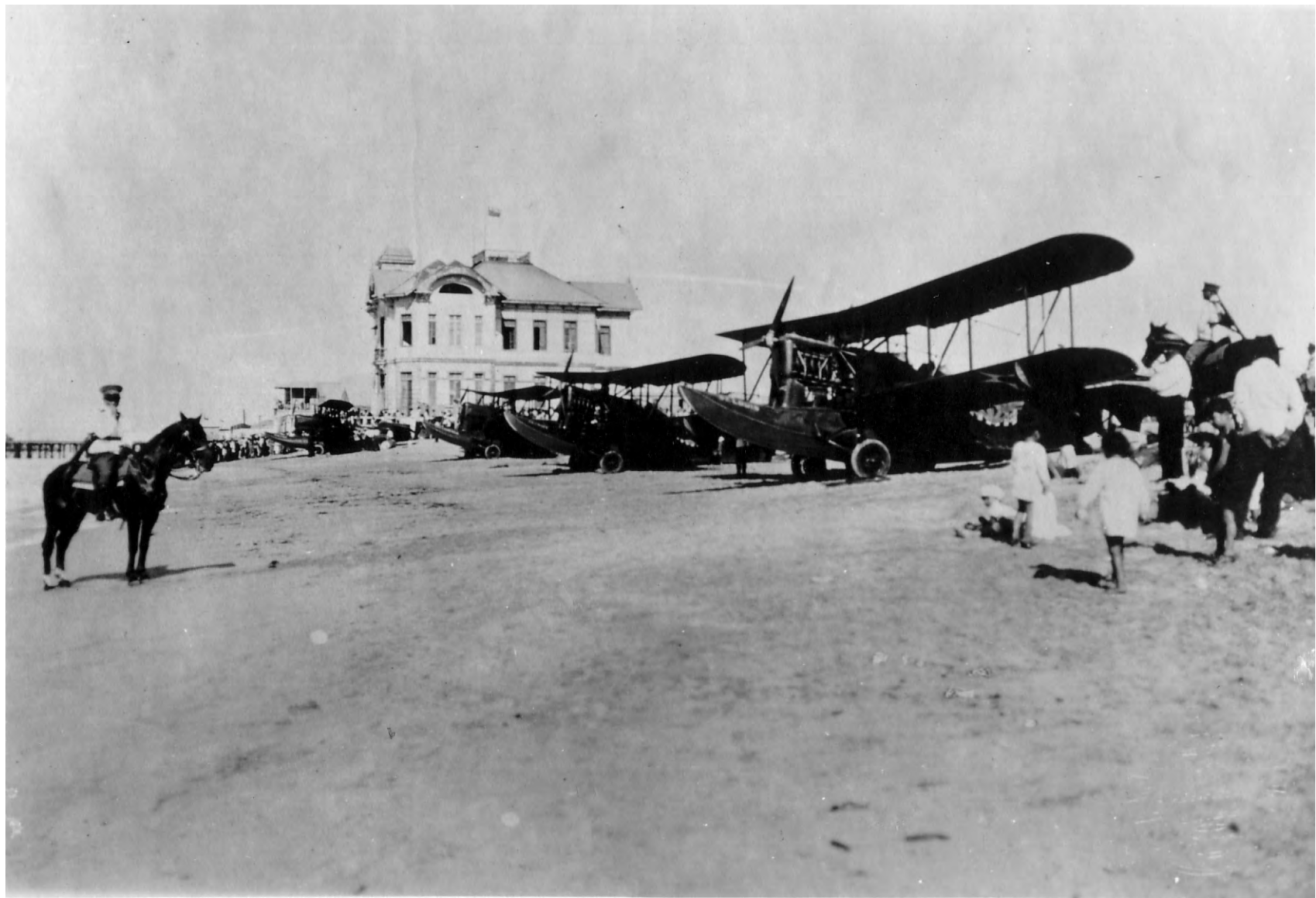
17. Ilo, Peru - Mejillones, Chile.

Date: February 17, 1927                      Time of departure: 9:45 A.M.  
 Distance: 430 miles                              Time of landing: 2:25 P.M.  
 Weather: Excellent                              Elapsed time: 4 hrs. 40 min.  
 Route: Along the coast line.  
 Landing Facilities: Landed in the bay and taxied out on the beach.

We took off at Ilo from the road where our planes had been landed, flew to the harbor and refueled from small boats. The swells were quite high in the harbor, making the take-off difficult. All the planes got off, however, at 9:45 A.M. The great numbers of sea lions in the water at this place bobbed their heads up repeatedly in our paths and furnished an obstacle that caused at least one plane some worry.

The country flown over was still barren except for the cultivated river valleys. The coast line was more forbidding, however, since the mountains rose precipitously out of the ocean to an altitude of 8,000 feet. At places only a few miles back, the foothills rose up to meet the Andes which could be seen off to the left, barren and snow-capped. Generally, however, a plateau from 3,000 to 6,000 feet high

The flight had an excellent beach for use at Mejillones,  
Chile.



intervened between the coastal cliffs and mountains and the principal range of the Andes. Along this plateau runs the longitudinal railroad of Chile with feeders running to the coastal cities.

This was an interesting day's journey since we passed over the disputed Tacna Arica strip. This strip seems perfectly barren and uninhabited so far as the eye can discern, except for the little port of Arica. Apparently its principal value is largely a sentimental one, although it has some mineral resources. We circled Arica and dropped a message.

In flying down this western coast, we had already discovered an interesting phenomenon, - whereas the smoke and storms on the ground indicated that the wind was against us, by climbing up a mile or more high we found a favoring wind. We had taken advantage of this condition along the coast of Peru and continued to get favoring winds up high all the way to Santiago. On this day the visibility was exceptionally good, - by actual check we could see at least 100 miles along the coast.

The flight flew in close formation over Iquique and circled over Tocopilla, since this place had been visited by our Advance Officer and the flight had been requested to land. Messages were also dropped in message bags at these points. Large crowds gathered in the streets and great interest was manifested in the appearance of the flight.

The American Consul from Antofagasta was present when the flight landed at Mejillones. A large crowd, including civil and military officials and military personnel, both on foot and mounted, assisted in guarding the planes. A special train was drawn up and an urgent request was made that the personnel go to Antofagasta, which is the largest seaport and town in northern Chile. In order to comply with this request, late in the afternoon Major Dargue, accompanied by Captain Woolsey and Lieutenant Fairchild, proceeded by train to Antofagasta. The remainder of the personnel remained with the planes in order to get them in condition for the next day's flight. The flight was entertained over night in the home of Mr. J. H. Stevenson at Mejillones.

18. Mejillones, Chile - Coquimbo, Chile.

Date:	February 18, 1927	Time of departure:	7:10 A.M.
Distance:	500 miles	Time of landing:	12:00 Noon
Weather:	About 100 miles of light fog, then clear with gusty winds.	Elapsed time:	4 hrs. 50 min.
Route:	Along the coast.		
Landing Facilities:	Landed in the bay and taxied out on an excellent beach.		

This portion of the coast is high, rocky and barren. There is little opportunity for emergency landings except in the ocean, there being few sheltered harbors. The flight passed over Antofagasta and

dropped a message, and also dropped a message while circling over Taital which at one time had been scheduled as a stop for the flight but which the Advance Officer had advised afforded no adequate facilities for landing.

The harbor at Coquimbo gave us an excellent landing place. We found the gasoline had been placed on the beach at a good point and we could taxi out of the water near it. We refueled in about thirty minutes. A large luncheon had been prepared by the citizens for us, and a great crowd gathered with many newspaper representatives and news photographers.

19. Coquimbo, Chile - Santiago, Chile.

Date:	February 18, 1927	Time of departure:	1:40 P.M.
Distance:	325 miles	Time of landing:	5:15 P.M.
Weather:	Clear with gusty winds.	Elapsed time:	3 hrs. 35 min.
Route:	Across Coquimbo Bay along the coast to Quintero Bay - thence over the mountains to Santiago.		
Landing Facilities:	Landed on the military airdrome of the Chilean Air Corps at El Bosque. A good airdrome.		

This was still a part of the rainless coast and it was almost entirely barren. Inland, there appeared to be nothing but mountains. On reaching Quinteros Bay just north of Valparaiso, where the Chilean Naval Air Station is located, the flight turned eastward, climbed to a height of 7,000 feet, passed over the mountains and reached Santiago.

We circled in formation over the city of Santiago, which made a beautiful spectacle down below in the valley at the foot of the mountains, and came down to a landing in the field of the Chilean Air Corps. We were struck by the size and magnificence of the capital city. The flight throughout the day was made at from six to seven thousand feet, since favorable winds were found at this altitude.

Immediately upon landing, a reception was given for us by the officers of the Chilean Air Corps at their club near the airdrome. We were met by the American Minister and several officials of the city of Santiago and the government of Chile.

The Chilean Air Corps found hangar space for two of our planes, although a number of theirs were left parked in the open. Two of our planes remained in the open but under guard furnished by the Chilean Air Corps.

On the 19th of February, calls were made on the American Ambassador, Mr. Collier, the Minister of Justice, Minister of Foreign Affairs, Minister of Marine, Minister of War, and Chief of Staff of the Army. Calls were also made on three of the principal newspapers. In the evening, the Ambassador gave a dinner at which were present the Pan American fliers and the principal officials of Chile, including Colonel Ibanez who has since become President. In addition to these calls, the personnel worked all day on changing engines in two of the planes and doing necessary maintenance work.



On February 20th the entire day was spent in work on the planes and engines, principally connected with the change of engines, and in the evening, the Military Attache, Colonel Hanson, gave a dinner at the Union Club to the members of the flight.

On the 21st of February work was continued on the planes except for a brief period at midday when the whole personnel attended a luncheon given by the Chilean Air Corps to the members of the flight. In the evening the personnel attended a reception at the Casino Militar.

At 10:30 A.M. on February 22nd, the commander of the flight presented the letter from President Coolidge to the President of Chile. At 2 o'clock in the afternoon, the President of Chile came to the flying field to see the planes and to witness the take-off for Valparaiso.

20. Santiago, Chile - Valparaiso, Chile.

Date:	February 22, 1927	Time of departure:	2:25 P.M.
Distance:	100 miles	Time of landing:	3:45 P.M.
Weather:	Clear - gusty winds.	Elapsed time:	1 hr. 20 min.
Route:	Generally along railroad.		
Landing Facilities:	Landed in the harbor and moored to buoys in the vicinity of Chilean destroyers.		

The NEW YORK, ST. LOUIS, and DETROIT took off for Valparaiso at 2:25 P.M. and followed generally the line of the railroad. Valpa-

The NEW YORK anchored in the harbor at Valparaiso.



raiso is the harbor for Santiago, and the citizens had made a very urgent request for the flight to visit there. The SAN FRANCISCO remained in Santiago the remainder of the afternoon to complete the change of a radiator. In the evening of the 22nd, the flight personnel attended a dinner given by the Americans in the club at Vina del Mar.

21. Valparaiso, Chile - Talcahuano, Chile.

Date:	February 23, 1927	Time of departure:	8:15 A.M.
Distance:	300 miles	Time of landing:	11:20 A.M.
Weather:	Low clouds and showers the last 50 miles.	Elapsed time:	3 hrs. 5 min.
Route:	Along the coast.		
Landing Facilities:	Landed in the harbor at Talcahuano and taxied up in front of the Chilean Naval Base, tying up to buoys.		

On this leg of the flight, the character of the country changed. The mountains were not so high and were generally further inland and covered with vegetation. The rivers were more frequent and there was much more sign of habitation and cultivation. The clouds were low and there were occasional showers inland. Beaches and small bays at intervals made it usually possible to make a safe landing.

At Talcahuano, after refueling from boats brought alongside,

the personnel went aboard a Chilean warship for lunch. Talcahuano had originally been selected as a supply base but the supplies were moved to Santiago so the stop was made for refueling only.

22. Talcahuano, Chile - Valdivia, Chile.

Date:	February 23, 1927	Time of departure:	2:45 P.M.
Distance:	250 miles	Time of landing:	6:15 P.M.
Weather:	Exceptionally hard rain for the first hour, then low clouds and frequent showers.	Elapsed time:	3 hrs. 30 min.
Route:	Inland to Concepcion - from Concepcion to the coast - thence around the Island of Santa Maria - along coast to the Valdivia River - thence up the river to Valdivia.		
Landing Facilities:	Landed in the river and taxied out on an island using a prepared runway.		

After taking off from Talcahuano, the flight proceeded overland to Concepcion about 15 miles away, thence out to the coast. Shortly after leaving Concepcion, a very hard rain began to fall. It grew so dark and the rain was so heavy that it was impossible at times for the planes to keep in sight of each other, although they were flying in formation about fifty feet apart. The flight came down to only a few feet above the water, so near in fact that it was necessary to fly around the rocks sticking up along the coast, and the spray from the heavy sea breaking on the rocks joined with the rain to make visibility and flying conditions poor.

At 4:20 P.M. the DETROIT turned inland and landed in Lake Llanquihue on account of motor trouble. The ST. LOUIS did not see the DETROIT go down and proceeded on to Valdivia. The NEW YORK and SAN FRANCISCO landed in the lake beside the DETROIT. In twenty-five minutes the DETROIT was ready to proceed and the three planes took off at 4:45 P.M., reaching Valdivia at 6:15 P.M., just at dark.

This leg of the route was over excellent country. The character of the coast of Chile had entirely changed. The country was flat with much vegetation. There were many farms and ranches. It resembled very much the eastern coast of Argentina which we were to see later, and was not unlike our own section of the country in Ohio and Illinois.

Valdivia is a German colony and the flight received a most cordial and enthusiastic welcome. In the evening an informal dinner was given by the local officials. Rain fell in heavy showers throughout the night. Our flight agent informed us he had not seen a day without rain for nine years.

A map showing the route of the Third Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown.



THIRD DIVISION  
Valdivia  
-to-  
Rio de Janeiro



CHAPTER IV  
THIRD DIVISION

or

Valdivia, Chile - Rio de Janeiro, Brazil.

1. Valdivia, Chile - Puerto Belgrano, Argentina.

Date: February 24, 1927 Time of departure: 9:15 A.M.

Distance: 650 miles Time of landing: 3:15 P.M.

Weather: Showers for the first 60 miles, then the clouds formed a complete blanket over the Andes as we climbed above them obstructing our visibility below. From the eastern side of the Andes to the Atlantic coast the weather was clear but very bumpy. The winds across the plains of northern Patagonia were strong and gusty. Elapsed time: 6 hours.

Route: Compass course over the Andes and across the plains of northern Patagonia to Bahia Blanca - thence across the bay to Puerto Belgrano.

Landing Facilities: From Valdivia to the middle of the Andes occasional lakes offered possible landing facilities. From the eastern side of the Andes for about 200 miles, there is a high plateau, barren and rocky, with little opportunity for making a safe landing. About 200 miles prior to reaching the Atlantic coast, the country becomes lower and flatter with scattered farms and in some parts very good terrain in case of forced landing.

The landing was made at Puerto Belgrano in a protected bay and the planes were taxied out on a ramp to a concrete apron forming part of the Argentine Naval Air Station.

The four planes took off fully loaded at 9:15 A.M. and turned east, planning a non-stop flight from the Pacific to the Atlantic. We left in the face of an approaching storm, it appearing clear to the east, but as we approached the foothills of the Andes, dark clouds with occasional rain squalls were encountered. The flight leader elected to climb over the clouds rather than attempt to go through the pass which seemed to be closed by the weather. The planes were climbed to an altitude of 12,000 feet before we could get over the clouds, and even at this altitude it was necessary to zigzag through the towering tops, steering always by compass. The planes repeatedly got separated in passing through and between clouds, and the motors were run at top speed to maintain the necessary altitude.

Three of the planes finally succeeded in passing over the Andes and proceeded by compass course across the high plateaus on over into the low lands, coming across the railroad and following it to Bahia Blanca, thence across the bay to Puerto Belgrano, the Argentine Naval Air Station. It was freezing cold over the Andes and as we were in summer clothing we descended to lower altitudes as soon as the clouds were left behind.

While circling over the top of the Andes, the SAN FRANCISCO developed motor trouble and was forced to descend. She came down through 7,500 feet of clouds, emerging over a small lake at about 4,500 feet altitude. After clearing up the skip in her motor by turning on the

benzol, she then followed the chain of lakes forming a pass through the Andes, came out on the eastern side of the mountains, flew across the plains of Patagonia, and arrived at Puerto Belgrano with an elapsed time of seven hours, landing one hour after the other planes of the flight.

The Advance Officer had located an emergency landing field 18 miles west of Neuquen near Senillosa and gasoline was spotted there. It was not found necessary, however, to refuel or stop en route.

The route followed by the SAN FRANCISCO through the pass in the mountains, following a chain of lakes connected by small streams, would afford a practicable one for civil air traffic and enable such planes to avoid the loss of time by the high climb over the Andes.

The planes were placed in the hangars of the Naval Air Station and every possible assistance was rendered in servicing, checking and doing the required maintenance work on them. We found a number of officers at this station who spoke English and had been trained to fly in the military schools in the United States. The station itself made a marked impression with its well kept appearance, its smart appearing personnel and the excellent condition of its equipment.

An informal dinner was held in the officers' mess and afterwards followed a reception and dance in the club.

The four planes had succeeded in crossing the continent of South America from the Pacific to the Atlantic, three of them making

the 650 miles they flew in six hours. The SAN FRANCISCO made a distance of over 700 miles in seven hours. The winds from the Andes east were quite strong and gusty, but favorable to our progress. Otherwise, the flight, after crossing the Andes, was uneventful and monotonous.

2. Puerto Belgrano, Argentina - Mar del Plata, Argentina.

Date:	February 25, 1927.	Time of departure:	11:25 A.M.
Distance:	500 miles	Time of landing:	2:20 P.M.
Weather:	Occasional showers with gusty winds.	Elapsed time:	2 hrs. 55 min.
Route:	Along the coast.		
Landing Facilities:	Landed in the bay at Mar del Plata and taxied out on a concrete ramp used by the Argentine Air Service.		

The route from Puerto Belgrano to Mar del Plata leads across some of the most fertile part of the Argentine cattle country. It is perfectly flat, grass covered with only occasional patches of trees, and contains many large farms and ranches. It seems an ideal place for the cattle industry. Good landing fields are abundant. There is a protected area behind a breakwater for landing seaplanes at Mar del Plata.

In taxiing out on the shore, the DETROIT broke a landing gear cable, causing the left side of the landing gear to fold up. The plane was backed down into the water, the left wheel put down in place and tied there, and the ship was then taxied out. It was not possible,

A Pan-American Flight plane taxiing out of the water at  
Mar del Plata, Argentina.



however, to repair the cable and fitting with the facilities available at Mar del Plata, and it was determined to wait until the plane arrived at Buenos Aires, one of our supply points, before this work was done.

The stop at Mar del Plata was made for the purpose of presenting the letter we carried from President Coolidge to the President of the Argentine Republic, the latter receiving the members of the flight on board the "Buenos Aires" which was moored inside the breakwater.

A very striking demonstration was given the flight at Mar del Plata. This is a watering place for Buenos Aires. It is the "Newport" and "Atlantic City" of Argentina. In the afternoon a luncheon was given at the Mar del Plata Club, and in the evening there was a large banquet and dance.

3. Mar del Plata, Argentina - Buenos Aires, Argentina.

Date:	February 26, 1927	Time of departure:	10:20 A.M.
Distance:	300 miles	Time of landing:	2:15 P.M.
Weather:	Occasional showers with gusty winds.	Elapsed time:	3 hrs. 55 min.
Route:	Along the coast to the mouth of the Rio de la Plata River - thence up the Rio de la Plata to Buenos Aires.		
Landing Facilities:	Landed in the harbor at Buenos Aires, then took off in an hour and flew to the military field at Palermo which is a fairly good field.		

The planes taxied down the concrete ramp into the water and took off for Buenos Aires. This leg of the flight continued to carry us across wonderful ranch and farming country. We followed the coast generally, but inland as far as the eye could reach there was a flat grass-covered, farming area, which seemed absolutely unsurpassed in fertility and ideal for ranching. It closely resembles the country of northern Texas. One could land on it at any time with comparative safety. Except for occasional showers and gusty winds, the flight was uneventful.

We landed in the harbor at Buenos Aires, moored our planes to buoys, and were taken aboard an Argentine battleship, where we were given a reception by the Mayor and public officials. We then sent our baggage ashore to our hotel and prepared to fly our planes to the military field at Palomar.

The DETROIT was allowed to take off first, since it was necessary for her pilots to put the left wheel down in position manually and secure it there. With this done she could land on the field safely. The DETROIT then joined the other planes and the flight proceeded in perfect formation across the outskirts of Buenos Aires to Palomar, some ten miles out, where the field of the Argentine Army Air Service is located. After crossing over the field, the leader signalled to break up formation and the flight separated. In hardly more than a



The DETROIT, the No. 4 plane of the Pan-American Flight.



(12) 12-13-26 (PAN-AMERICAN FLIGHT)

minute thereafter the DETROIT and NEW YORK collided. Captain Woolsey and Lieutenant Benton, the personnel in the DETROIT, lost their lives. Major Dargue and Lieutenant Whitehead, the personnel in the NEW YORK, were saved by parachute.

The SAN FRANCISCO and ST. LOUIS hurriedly landed and the personnel rushed to the scene of the accident. Medical personnel and officers of the Argentine Air Service joined us immediately. A guard was posted and Lieutenant Fairchild was appointed Accident Investigating Officer. Lieutenant Whitehead was sent to the hospital with a skinned shin; Lieutenant Weddington was placed in charge of salvaging the wrecks; Lieutenant Thompson was placed in charge of the bodies of Captain Woolsey and Lieutenant Benton; and the commander of the flight, with Captain Baker, proceeded immediately to the city in order to get off reports to the War Department.

The following official report was sent by cable to the Chief of Air Corps shortly after the accident occurred:

BUENOS AIRES, FEBRUARY 26, 1927.

CHIEF OF AIR CORPS

WASHINGTON, D. C.

CAPTAIN BAKER FROM POSITION OF VANTAGE IN THE AIR WITNESSED  
COLLISION DETROIT AND NEW YORK FOLLOWING BRIEF DESCRIPTION  
AS HE SAW IT QUOTE HAD JUST FLOWN CLOSE FORMATION FOUR PLANES  
DIAMOND SHAPED OVER ARGENTINE LANDING FIELD BUENOS AIRES MAJOR

PILOTING NEW YORK ROCKED SHIP SIGNALLING BREAK UP FORMATION TO  
 LAND PERIOD WOOLSEY IN NUMBER THREE POSITION AND I IN NUMBER  
 TWO POSITION TURNED OUT SIMULTANEOUSLY WOOLSEY TO LEFT I TO  
 RIGHT NEW YORK CONTINUED ON AS DID ST LOUIS SLIGHTLY HIGHER  
 AND TO REAR PERIOD DETROIT TURNED UP AND AWAY FROM NEW YORK  
 SEVERAL HUNDRED FEET THEN TURNED BACK TO RIGHT AND WENT INTO  
 SLIGHT DIVE AT THIS INSTANT HE WAS ABOVE NEW YORK HENCE  
 PROBABLY DID NOT SEE IT PERIOD NEW YORK STARTED GENTLE GLIDING  
 TURN SLIGHTLY TO LEFT PREPARATORY TO LANDING DETROITS NOSE  
 STRUCK NEW YORKS LEFT WING SHIPS TELESCOPED AND BEGAN SPIN AS  
 ONE PLANE PERIOD VERY SOON ONE PARACHUTE OPENED AT ALTITUDE  
 PROBABLY A THOUSAND FEET SECOND CHUTE OPENED ABOUT FIVE HUNDRED  
 FEET ONLY TWO JUMPED IN CHUTES ANOTHER BODY FELL FREE JUST  
 BEFORE PLANES STRUCK GROUND PERIOD COLLISION OCCURRED AT  
 ABOUT FOURTEEN HUNDRED FEET PERIOD I THOUGHT NEW YORK WAS  
 PLANE MOST DAMAGED AND FROM MY POSITION IN AIR THOUGHT TWO WHO  
 ESCAPED WERE DETROITS CREW PERIOD ON LANDING FOUND MAJOR DARGUE  
 AND LIEUTENANT WHITEHEAD HAD BEEN SAVED BY PARACHUTES LIEUTENANT  
 BENTON FELL FREE WITHOUT CHUTE AND CAPTAIN WOOLSEY REMAINED IN  
 FRONT COCKPIT OF DETROIT PERIOD DETROIT BURNED NEW YORK DID NOT  
 UNQUOTE FURTHER DETAILS FOLLOW AFTER INVESTIGATION PERIOD  
 MAJOR DARGUE LIEUTENANT WHITEHEAD UNINJURED CAPTAIN WOOLSEY  
 LIEUTENANT BENTON KILLED INSTANTLY / I PLAN RESUMING FLIGHT TO

ASCUNCIÓN MARCH FIRST AND SENDING WEDDINGTON AND WHITEHEAD TO  
 PANAMA TO SECURE SPARE PLANE AND REJOINING FLIGHT IN VENEZUELA  
 PERIOD I WILL CONTINUE FLIGHT IN ST LOUIS AS RESULT VISITS  
 THIRTEEN REPUBLICS THUS FAR CONVINCED GREAT GOOD TO BE  
 ACCOMPLISHED BY CONCLUSION REMAINDER SCHEDULE STRONGLY RECOMMEND  
 NOTHING BE ALLOWED INTERFERE PERIOD EXPECT SAN ANTONIO TO REJOIN  
 FLIGHT IN NEXT FEW DAYS

DARGUE

The next day the Accident Investigating Officer completed his  
 work and the Chief of Air Corps was advised on the morning of the 28th  
 by cable as follows:-

FEBRUARY 28, 1927

CHIEF OF AIR CORPS

WASHINGTON, D. C.

ACCIDENT INVESTIGATION INDICATES CABLE ALREADY SENT STATES  
 DETAILS CORRECTLY STOP BOTH NEW YORK AND DETROIT COMPLETELY  
 DEMOLISHED STOP CRASH IN AIR NOT VIOLENT ENOUGH TO RENDER  
 OCCUPANTS OF EITHER PLANE UNCONSCIOUS STOP FUNERAL SERVICES  
 MONDAY MORNING AND BODIES LEAVE SAME DAY ON LAMPART AND HOLT  
 STEAMER VAUBAN ADDRESSED QUARTERMASTER NEW YORK STOP ARGENTINE  
 GOVERNMENT AND MILITARY AUTHORITIES HAVE SPARED NO EXPENSE IN  
 MOST COMPLETE ARRANGEMENTS AND FLORAL OFFERINGS

DARGUE

Information was also sent to the Chief of Air Corps stating that the two deceased officers were not wearing their parachutes at the time of the accident.

The conclusions of the board that investigated the accident show that the accident was unavoidable since neither pilot saw the other plane in time to avoid the collision, and that Captain C. F. Woolsey and Lieutenant J. W. Benton were killed in line of duty, not the result of their own misconduct.

The 27th was spent in investigating the accident, salvaging the wrecks, and working on the SAN FRANCISCO and ST. LOUIS in order to prepare them for their departure. In the evening, we visited the Military Club where the bodies of Captain Woolsey and Lieutenant Benton were lying in state. The military personnel of the Argentine Army and Navy had taken complete charge, doing everything humanly possible. These people could not have done more had Captain Woolsey and Lieutenant Benton been two of the favorite fliers of their own country. Colonel Cassinelli, in command of the Palermo Flying Field, and his officers were particularly solicitous. They rendered invaluable aid and assistance and helped us greatly.

At 9:30 on the morning of the 28th we went to the Military Club where President Alvear of the Argentine Republic appeared at 9:45, and from which the funeral procession started at 10:00 A.M. The President, the principal officials of Argentina, a military escort, and a

The DETROIT and her crew, Captain C. F. Woolsey and 1st Lieutenant J. W. Benton.





great crowd of people participated in the funeral services until the bodies were placed on the boat for return to the United States. President Alvear was particularly attentive to see that nothing was left undone.

Captain Woolsey and Lieutenant Benton had contributed much to the success of the flight thus far, they had endeared themselves to us by their genial mood and considerate ways, they were two wonderful flying officers, Captain Woolsey was our engineering officer in whom we all had implicit faith and confidence. These men had now "gone west", giving their lives in the service of their country on a good will mission that more cordial relations might exist between the nations of Latin America and our own great republic. Their glorious example of character and courage is an inspiration to those of us who came to know them so well.

The hundreds of messages of condolence we received helped but none stands out more prominently than those received from our own President; the Secretary of War, Mr. Davis; the Assistant Secretary of War, Mr. Davison; and our own Chief, General Patrick. These, especially, were a source of great encouragement and an assurance of the confidence of our superiors.

The flight remained over March 1st, in order to attend the funeral of the Chief of the Argentine Naval Air Service who had died

the day previous while attending the funeral of Captain Woolsey and Lieutenant Benton.

In the afternoon, the SAN FRANCISCO and ST. LOUIS were moved from Palomar to the harbor, where they were refueled and prepared for the flight to Asuncion, Paraguay.

The flight commander had wired the Chief of Air Corps indicating it as his opinion that the flight should continue and stating that the SAN ANTONIO, which was proceeding down the west coast of South America, was expected to join the flight within a few days. The Chief of Air Corps replied that the flight would certainly continue and that the flight commander should use his own judgment as to planes and personnel.

Lieutenants Weddington and Whitehead were ordered by the flight commander to proceed by rail and boat to the Canal Zone, procure the spare amphibian at France Field, and proceed by air to rejoin the flight at Puerto Cabello, Venezuela.

There is no doubt that during the period of a few days immediately following the accident the remaining personnel of the flight went through the most severe mental strain of the whole trip, and were greatly depressed over the loss of their companions. But our flight was only half done - our mission uncompleted. Heavyhearted, we carried on.

4. Buenos Aires, Argentina - Corrientes, Argentina.

Date: March 2, 1927                      Time of departure: 6:20 A.M.  
 Distance: 585 miles                      Time of landing: 1:30 P.M.  
 Weather: Occasional showers,              Elapsed time: 7 hrs. 10 min.  
           otherwise good.  
 Route: Up the Parana River.  
 Landing Facilities: It was possible to land at any time in the Parana  
                          River.

An early start was made from Buenos Aires, in order to make the entire flight to Asuncion in one day. The leader and Lieutenant Thompson, flying in the ST. LOUIS, were accompanied by Captain Baker and Lieutenant Fairchild in the SAN FRANCISCO. This leg of the route carried us far into the interior. For the first 200 miles the left bank of the Parana River has many farms and is excellent ranching country. The right bank is generally low and timbered and becomes practically jungle. From Santa Fe on north, the country is little inhabited, is low and marshy, heavily timbered and amounts to what is practically a jungle.

The Parana River is a muddy though navigable stream. It has several mouths, separated generally by a delta formation. It was a little difficult at times to follow the main course of this river, due to its many ramifications and the poor maps we had.

The landing at Corrientes was made for refueling only.

5. Corrientes, Argentina - Asuncion, Paraguay.

Date:	March 2, 1927	Time of departure:	3:00 P.M.
Distance:	190 miles	Time of landing:	5:00 P.M.
Weather:	Good	Elapsed time:	2 hours.
Route:	Up the Parana and Paraguay River.		

Landing Facilities: At Asuncion landed in the Paraguay River and taxied out on the hard river bank.

The country from Corrientes to Asuncion was much the same as that already passed over in flying up the river. It was sparsely inhabited, and seemed to be used for ranching purposes only. The river, however, continued to afford a good landing place for a seaplane or amphibian.

Upon landing in Asuncion, a large crowd assembled and surrounded the planes as they taxied out on the bank of the river. The American Minister and the principal officials of Paraguay met the flight. Only very few planes have ever been seen by the people in this section, and our planes with the ability to land in the water and come out on the shore were novel indeed. This flight from Buenos Aires to Paraguay made a long trip for one day but it is entirely practicable as a one day hop.

In the evening the American Minister, Mr. Kreeck, had a small dinner party at the legation with a few of the government officials, after which the diplomatic corps was invited in to meet the flight.

On the morning of the 3rd the members of the flight called on the President and members of his Cabinet. A luncheon was given by the Minister of War at 12 noon at the Union Club. At 6:00 P.M. the flight reviewed the local Boy Scout organization. At 7:00 P.M. the American Minister gave a dinner, following which a large number of people came to the legation to meet the members of the flight.

As time permitted during the day the planes were refueled and checked. The heat was terrific and made any great exertion impossible.

6. Asuncion, Paraguay - Santa Fe, Argentina.

Date:	March 4, 1927	Time of departure:	6:00 A.M.
Distance:	500 miles	Time of landing:	11:30 A.M.
Weather:	Occasional showers.	Elapsed time:	5 hrs. 30 min.
Route:	Down the Paraguay and Parana Rivers.		
Landing Facilities:	Landed in the river which is crooked and restricted at this point. It is not an ideal landing place.		

Stop was made at Santa Fe for refueling only. It was not possible to taxi out on the beach as had been anticipated, so gasoline was thrown overboard in drums from a boat, floated up beside the planes and pumped into the tanks.

7. Santa Fe, Argentina - Montevideo, Uruguay.

Date: March 4, 1927                      Time of departure: 2:00 P.M.  
 Distance: 575 miles                      Time of landing: 6:20 P.M.  
 Weather: Good                      Elapsed time: 4 hrs. 20 min.  
 Route: The Parana River was followed to the La Plata - thence  
 along the left bank of the Plata to Montevideo.  
 Landing Facilities: Landing at Montevideo was made in the harbor  
 behind the breakwater.

The take-off from Santa Fe was difficult. After coming up on the step, the planes had to change direction before taking off. Immediately after take-off, it was necessary to dodge boats and climb over a high bridge. The river was quite restricted and the wind was gusty. In the upper stretches of the river there was not a great deal of shipping but below Santa Fe steamers were always in sight.

The southern part of Uruguay over which we flew was much the same as the flat ranch country of the Argentine. Many farms and herds of cattle were in evidence and the great stretches of level fields afforded good places for emergency landings.

The Advance Officer had planned that we should land in the bay at Pocitos Beach, but it is exposed to the open ocean and is many times very rough. A large enthusiastic crowd had gathered at Pocitos Beach. We landed just at dark at Montevideo and were immediately rushed across town by automobiles to where the crowd awaited our coming.

The SAN ANTONIO, the No. 2 plane of the Pan-American Flight, on the beach at Montevideo, Uruguay.





We were then officially welcomed to Uruguay by the reception committee.

On the morning of the 5th of March, calls were made on the President, the Minister of War, and the Mayor of the city. A dinner was given in the evening by the American Minister, Mr. U. Grant-Smith.

Late in the afternoon the SAN ANTONIO arrived. This was the first time this plane had been with the flight since it was left at Tumaco, Colombia, on February 1st.

#### THE LONE FLIGHT OF THE "SAN ANTONIO".

As mentioned in Chapter III, it was a defective thrust bearing which prevented the SAN ANTONIO from leaving Tumaco with the remainder of the flight. Telegraphic request had been made on the commanding officer of France Field to send one of the spare motors by special boat to Tumaco. It was thought that possibly an Army mine planter might make this short trip, but it was learned later that, although one mine planter lay idle at its dock for several days, it was proposed to use these boats in connection with routine work in the Panama Canal Department.

The engine finally arrived on February 15th and was installed during the 16th and 17th and a test made on this latter date. The lone flight of the SAN ANTONIO down the west coast of South America, across the Andes, and up the east coast to Montevideo started on February 18th.

The SAN ANTONIO made all the stops that the flight itself had made except at Guayaquil, Pisco, Santiago, Valparaiso, Mar del Plata, and the trip up the Parana and Paraguay Rivers to Asuncion. It made a stop at Senillosa, Argentine Republic, approximately half way from the Pacific to the Atlantic coast, as on this leg of the flight it was not as fortunate as the other four planes to have favoring winds, - on the contrary, the strong winds made the flying time of the SAN ANTONIO on this leg of the trip two and one-half hours longer. The stop at Senillosa was made for refueling and is of particular interest because it was necessary to select an unknown emergency landing field in a desert waste where the terrain generally was wholly unsuitable for use by airplanes. The skill exhibited by the pilots of the SAN ANTONIO, first in getting into a very restricted place which had not previously been prepared, and then taking the plane out of a dry creek bed to which it was moved, and upon which work had to be done to make it at all suitable, is particularly worthy of mention.

In crossing the Andes, the SAN ANTONIO followed the pass through the mountains which had previously been the route of the SAN FRANCISCO. The pilots reported that it was necessary to get an altitude in excess of five thousand feet to get through this pass.

The crew of the SAN ANTONIO deserves great credit for pushing through over five thousand miles of the route alone. There is no doubt that several planes in a flight give each other a certain degree

of moral support, but in the case of the SAN ANTONIO this helpful factor was entirely lacking and the lone flight had to be made along a coast line generally barren and rugged, and upon which the great swells of the Pacific broke with considerable fury. Fog and rains were encountered and on at least one leg a couple of hundred miles were flown in the clouds entirely out of sight of land. There was not that safety factor in case of forced landing wherein the other planes may give aid. Furthermore, the lack of communications over practically this entire route might have proven a serious matter had the SAN ANTONIO been forced to land and needed assistance.

It might appear that the remaining planes of the flight should have waited for the new engine to be put in the SAN ANTONIO, or possibly for one plane of the flight to remain with the SAN ANTONIO, but under the policies which guided the progress of this expedition, it was necessary to push on as rapidly as possible to keep up to schedule, even if it finally became necessary for a delayed plane to fall out of the flight. It was felt, in addition, that the SAN ANTONIO could easily catch up with the other members of the flight on account of the delays that were anticipated, - a three days' stop in Lima, a ten days' stop in Ilo in order to visit La Paz, Bolivia, a four days' stop in Santiago, etc.

Had one of the mine planters at the Panama Canal been dispatched with the motor which was ready the same day that the telegram was sent and

received, there is no doubt the SAN ANTONIO would have caught up with the flight at Ilo, even counting the additional change of motor that was made in this plane at Lima.

When the SAN ANTONIO arrived at Montevideo, it was the first time that this plane had been with the flight for one month and five days. They were indeed welcome.

Pocitos Beach and the bay adjoining were inspected during the day of March 5th. They appeared ideal for use as the water was calm and the beach hard and gently sloping. It was decided to fly the planes to this spot in compliance with the desire of the local authorities, as this was the "show place" of the city.

On March 6th, the planes were flown from the harbor behind the breakwater to Pocitos Beach where a landing was made in very rough water, the wind having picked up during the night. The remainder of the day was spent in working on the planes. At 8:00 P.M. a reception was given by the American colony.

On March 7th, the water was too rough for safe take-off from the bay at Pocitos Beach. An attempt was made to taxi the planes around a point of land to a protected stretch of water. The SAN ANTONIO and the ST. LOUIS succeeded but the SAN FRANCISCO lost her engine, due to flooding by the water, and came very near being thrown up on a rocky coast by the high waves before the distributor heads could be cleaned

and the engine again started. However, her crew was eventually able to get her back on the Pocitos Beach. The remainder of the day was spent in working on the planes. In the late afternoon the flight commander called on the American Minister and in the evening the reception committee gave a dinner.

8. Montevideo, Uruguay - Rio Grande do Sul, Brazil.

Date:	March 8, 1927	Time of departure:	10:00 A.M.
Distance:	350 miles	Time of landing:	3:15 P.M.
Weather:	Occasional showers with strong winds	Elapsed time:	5 hrs. 15 min.
Route:	Along the coast to Lagoa Mangueira - thence up the lagoon and the coast to Rio Grande do Sul.		
Landing Facilities:	Landed in the shallow estuary back of Rio Grande do Sul. It was not possible to taxi out on the bank as had been planned, due to soft mud.		

The SAN FRANCISCO taxied around to join the other two planes before the take-off and struck her keel shoe on some unmarked submerged rocks, which delayed the departure of the flight until temporary repairs could be effected.

Strong and gusty head winds prevailed all the way to Rio Grande do Sul. The wind was blowing so hard that great sand and dust storms prevailed. Lagoons along the shore offered excellent landing facilities for the greater part of the trip. We crossed into Brazil at 1:05 P.M.

The ST. LOUIS, the No. 5 plane of the Pan-American Flight,  
on the beach at Montevideo, Uruguay.



The country was generally flat and sparsely inhabited with large farms and ranches until crossing into Brazil where great stretches of sandy coastal plain were encountered in which there were practically no inhabitants.

The water was so shallow and the bottom so soft where we landed that we were unable to get the planes closer than 400 yards from shore. Natives rolled the gasoline drums down the bank of the estuary into the water and brought them out beside the planes. They were placed upright and held in that position while the gasoline was pumped into the tanks. We had planned to stop only long enough to refuel and then go on to Porto Alegre, but it took so long to get the gasoline and oil to the planes and pump it in the tanks that darkness prevented departure until next morning.

9. Rio Grande do Sul, Brazil - Florianopolis, Brazil.

Date:	March 9, 1927	Time of departure:	7:35 A.M.
Distance:	410 miles	Time of landing:	12:45 P.M.
Weather:	Clear with strong head winds.	Elapsed time:	5 hrs. 10 min.
Route:	Along Lagoa dos Patos to a point opposite Porto Alegre - thence along the coast to Florianopolis.		
Landing Facilities:	Landed in protected bay. Good water landing place. Taxied out on the steep beach.		



Lagoons and sheltered harbors were plentiful along this leg of the flight and gave excellent places in which to land. The country began to get more hilly and mountainous north of the Lagoa dos Patos and a few miles after rounding Cape Sta. Martha Grande the mountains increased in size and began right at the shore line.

Landing was made at Florianopolis in front of the seaplane hangar of the Brazilian Naval Air Service. The stop was made here for refueling only.

10. Florianopolis, Brazil - Santos, Brazil.

Date:	March 9, 1927	Time of departure:	2:25 P.M.
Distance:	325 miles	Time of landing:	6:20 P.M.
Weather:	Occasional showers	Elapsed time:	3 hrs. 55 min.
Route:	Along the coast.		
Landing Facilities:	Landed in a protected harbor at Santos and taxied out on a good wide, hard beach. Landing facilities were excellent. It would be entirely possible to land land planes on the beach which is flat and hard		

On this leg of the flight, the mountains came right down to the coast. Since the water was fairly rough, there was little opportunity for a good forced landing except in the sheltered bays, river mouths, lagoons and estuaries of which there were a considerable number. Several good beaches were seen.

One hundred and eighty miles from Santos at Guaratuba, the

SAN FRANCISCO was forced to land with a clogged gasoline line to the front carburetor. When the trouble occurred, the SAN FRANCISCO was about three miles at sea. The six remaining cylinders permitted the SAN FRANCISCO to taxi to shore. High seas were running and the plane was taking quite a beating on the beach when a great many natives appeared. Ropes were tied to her and she was dragged out on shore. Here the gasoline line was cleaned, but it was too late to continue on to Santos before dark. Her crew spent the night on the beach, which was made disagreeable by heavy rains, lack of shelter and lack of food and water.

The other two planes continued to Santos, made good landings just at dark, and taxied out on the beach. The SAN FRANCISCO could not take off in the bay at Guaratuba due to rough water, so a take-off was made from the beach and she joined the flight at 9:00 A.M. next morning at Santos.

It had been planned for the flight to land in the lake at Sao Paulo, some 50 miles inland. That was prevented, however, due to clouds and rains in the mountains; hence the landing at Santos which is on the coast.

Captain McDaniel accompanied the commanding officer of the flight by auto to Sao Paulo. We were met by the American consul who took us to a large dinner dance given in honor of the flight. The next morning calls were made on the President of the State of Sao Paulo, the mayor of the city, and the commander of the local troops.

At the latter call, a cavalry drill, calisthenics, and other demonstrations were carried out. The excellent execution of drills and the calisthenics, which bordered on being professional, made a deep impression on us. An inspection of the hospital, which is thoroughly modern and absolutely immaculate, completed the program. We left for Santos at 11:00 A .M.

11. Santos, Brasil - Rio de Janeiro, Brazil.

Date:	March 10, 1927	Time of departure:	2:15 P.M.
Distance:	245 miles	Time of landing:	4:55 P.M.
Weather:	Local showers but generally good flying conditions.	Elapsed time:	2 hrs. 40 min
Route:	Along the coast inside the Island de Sebastiao.		
Landing Facilities:	Landed in protected harbor at Rio de Janeiro and later on Naval flying field at Ilha do Governador.		

The shore line on this leg of the flight, while irregular and mountainous, offered many suitable places for landing in sheltered bays, small harbors, lakes, in the lee of islands, or even in the ocean when calm near the many good beaches.

We landed in the harbor at Rio opposite the President's pier, tying up to buoys and then went ashore to a reception. In an hour we were back at the planes and flew them to the Naval Air Station 8 miles away at the inner side of the harbor, where they were moored out overnight in front of the hangars.

On March 11th, the planes were moved from the bay and landed on the field at the Naval Air Station. They were moved into the hangars where work was started on the change of engines. The flight commander called on the mayor of the city, the Ministers of the President's Cabinet, the Chief of Army Staff, as well as on the American Ambassador and the head of the American Naval Mission to Brazil.

On March 12th, work was continued all day in changing the three engines in the three planes. The old motors were actually gotten out and the new ones set in place on this day.

On the 13th, the personnel went by train to Petropolis, the summer residence of the President up in the mountains. The American Ambassador gave a luncheon, and a call was made at 6:00 P.M. on the President of Brazil, at which time the letter from President Coolidge was presented. The personnel returned to Rio de Janeiro in the evening.

On the 14th of March, the entire day was spent in working on the planes and in administrative work.

The forenoon of the 15th was spent on the planes and engines, and at 5:30 in the afternoon, a reception was given by the American colony at the Country Club. The members of the flight were made honorary members of the Brazilian Aero Club in the evening.

On the 16th and 17th, the work on the planes was completed and local test flights were made to get the new engines broken in and in readiness for the departure from Rio.

Throughout the stay in Rio the heat was intense and thunder storms and heavy rains were a daily occurrence, gradually increasing in intensity until our last night when it appeared as if the climax of the rainy season had arrived.

A map showing the route of the Fourth Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown.



FOURTH DIVISION  
Rio de Janeiro  
-to-  
Port of Spain

## CHAPTER V.

## FOURTH DIVISION

or

Rio de Janeiro, Brazil - Port of Spain, Trinidad.

1. Rio de Janeiro, Brazil - Victoria, Brazil.

Date:	March 18, 1927	Time of departure:	6:25 A.M.
Distance:	300 miles	Time of landing:	9:55 A.M.
Weather:	Heavy rains and thunder storms	Elapsed time:	3 hrs. 30 min.
Route:	Along the coast.		

Landing Facilities: Landed in the bay at Victoria which affords fairly well sheltered water landing facilities.

This portion of the coast of Brazil is mountainous and heavily timbered a great portion of the way with many lakes and lagoons close to shore giving good landing facilities in event of trouble. It rained so hard for more than an hour that the planes could scarcely keep in sight of each other, although flying in very close formation. In order to keep the beach in sight, the flight was made only a few feet above the water, flying around the rocks and islands sticking up along the shore.

This appeared to be the rainy season for Brazil. The mornings were generally fair although on this particular day the rain fell in



The planes lying on the beach at Victoria, Brazil, where a stop was made for refueling. In this case the sand was too soft to taxi out of the water upon it.



torrents as we left the harbor at Rio. Late in the morning and surely by noon rain squalls would appear all about. Flying along the coast these were easy to dodge though occasionally one would assume such large proportions we would have to go through it.

The stop at Victoria was made for refueling only, though we were met by the city officials who had prepared a morning banquet for us in the town hall. A table was moved to the beach where we were served as we got an opportunity to take a bite. We did not feel we could take the time to delay for the banquet in the town hall. This is a typical example of the genuinely friendly and cordial spirit of these people.

## 2 . Victoria, Brazil - Bahia, Brazil.

Date:	March 18, 1927	Time of departure:	11:50 A.M.
Distance:	550 miles	Time of landing:	6:30 P.M.
Weather:	Strong winds and rain	Elapsed time:	6 hrs. 40 min.
Route:	Along the coast		
Landing Facilities:	Landed in the bay at Bahia and anchored the planes out over night. The following morning they were taxied out on the beach.		

After leaving Victoria about 50 miles behind, the country became less rugged, the mountains receded from the shore, the coast line was dotted with beaches and, occasionally, there were lakes, rivers or harbors in which landings might be made. The country generally was

An informal luncheon given to the flight spread on the beach at Victoria, Brazil. The personnel had only about an hour to refuel the planes and take luncheon. Realizing the situation the military garrison of Victoria brought the luncheon down to the beach, set up a table and spread it within a few feet of the planes.



covered with trees and much jungle growth back from the shore, while along the shore an almost continuous belt of coconut palms extended for hundreds of miles. The sea was not sufficiently calm to land except in case of emergency.

The flight pushed on to Bahia though it was seen in the latter part of the afternoon that the landing would probably have to be made after dark. The harbor chart showed an immense expanse of water and the safety of a night landing in a strange place was well considered before passing Castelhanos Point and pushing the last 50 miles in the dark across an open sea that was none too smooth. A compass course brought our ship to the southern point of land forming the harbor. The harbor lights assisted in making a perfect landing in the protected bay.

The SAN FRANCISCO stopped during this leg of the flight in a little estuary on the coast near Villa Vicoso, 160 miles north of Victoria, to repair a broken lead to the right distributor head. The flight continued upon signal from the personnel of the SAN FRANCISCO. After making the necessary repairs, the plane took off again but landed on account of darkness at Rio do Contas, about 100 miles south of Bahia. Here the night was spent, the plane joining the flight at Bahia at nine o'clock the next morning.

3. Bahia, Brazil - Porto do Pedras, Brazil.

Date:	March 19, 1927	Time of departure:	1:00 P.M.
Distance:	350 miles	Time of landing:	5:50 P.M.
Weather:	Strong quartering head winds	Elapsed time:	4 hrs. 50 min.
Route:	Along the coast.		
Landing Facilities:	Landed at Porto do Pedras on account of darkness. Landed between sundown and dark in an estuary which afforded a good landing place.		

Low hills, a sparsely inhabited coast line, undeveloped country and sandy beaches, indicate the character of the country. Coral reefs extended along a large portion of this coast, sometimes two or three miles from shore, making a protected area in which to land. The wind was blowing so hard that the sea outside the coral reefs was very rough. The flight travelled only a few feet above the water along the coast.

Porto do Pedras was not a scheduled landing place, but it was picked out between sundown and dark since, on account of the strong winds, had the flight continued it would not have arrived at Pernambuco until long after darkness, and the landing place at Pernambuco was very restricted for a night landing.

Although the people of Porto do Pedras had not expected the flight to land, they all turned out to give us a wonderful welcome and make us comfortable while we were there. Porto do Pedras is a very

small fishing village, but nothing was left undone in aiding the flight personnel. Here it was found that the President of Brazil had notified the Governors of all the states to do everything possible in helping the flight along its passage up the coast. Each of the little towns telegraphed on ahead as the flight passed over. This gave the flight personnel a very comfortable feeling, since it was realized that should any plane go down, it would be easy to tell where it had had its forced landing on account of these telegraphic reports which the Brazilian coast villages made.

Our planes were anchored out in the little harbor all night and we were given the best rooms in the humble home of the Chief of Police. Fireworks were lavishly shot into the air and the occasion generally made one of holiday festivity.

4. Porto do Pedras, Brazil - Pernambuco, Brazil.

Date:	March 20, 1927	Time of departure:	7:20 A.M.
Distance:	100 miles	Time of landing:	8:30 A.M.
Weather:	Good	Elapsed time:	1 hr. 10 min.
Route:	Along the coast.		

Landing Facilities: Landed in the river which is a fairly good landing place except that the rise and fall of tide causes difficulty. Since the tide here rises about 21 feet, a plane beached at high tide will be high and dry at low tide. Also the harbor is very restricted at low tide.



This hundred miles of coast line was of the same character as that south of Porto do Pedras, the coral reefs continuing to furnish excellent places for water landing behind them even in very stormy weather. The beaches also appeared good for amphibian use.

After landing at Pernambuco, the planes were moored near the shore in order to refuel, it being impossible to taxi out on the beach due to soft sand. The tide went down during the process of refueling and the planes were stuck on the beach with the wheels up. It was impossible to get them off again until the tide turned early in the afternoon. Seeing that this delay would not permit us to reach our proposed destination at Fortaleza at the end of the day, messages were sent ahead stating we would stop at Natal over night.

5. Pernambuco, Brazil - Natal, Brazil.

Date:	March 20, 1927	Time of departure:	2:10 P.M.
Distance:	190 miles	Time of landing:	4:10 PM.
Weather:	Good	Elapsed time:	2 hours.
Route:	Along the coast.		
Landing Facilities:	In an estuary at Natal. Unable to taxi out on soft sand beach and moored to buoys in the river.		

Just prior to departure of the flight from Pernambuco, De Pinedo landed in the harbor on his southward journey.

This portion of the flight carried us around the easternmost point of South America. A continuation of coral reefs with sandy beaches

and many small inlets provided good places to land in case of need. Small barrios were thinly scattered along the coast. The back country has the appearance of a jungle.

In the evening the Governor of the state entertained the flight at a banquet in his home.

6. Natal, Brazil - Maranhao, Brazil.

Date: March 21, 1927                      Time of departure: 5:15 A.M.

Distance: 725 miles                      Time of landing: 1:25 P.M.

Weather: Low clouds and hard rain, mostly in numerous local showers.                      Elapsed time: 8 hrs. 10 min.

Route: Along the coast to Bahia de S. Jose - thence along the Is. de Sao Luiz to Maranhao.

Landing Facilities: Landed in the small bay and taxied out on the beach. The bay is small with shallow points and makes a poor landing place, particularly on account of the 22 ft. tide.

The take-off was made just at dawn. The SAN ANTONIO was unable to get off the water and, because of the long flight scheduled for this day the flight leader decided not to delay but let the SAN ANTONIO follow later. The ST. LOUIS and SAN FRANCISCO, therefore, proceeded northwestward up the coast of Brazil to Maranhao. Low clouds and occasional hard rain squalls caused the two planes to become separated at Fortaleza. They got together again at Camocim.

For long stretches along this coast there are practically no habitations. There are many suitable places to land water planes and beaches upon which to taxi out. The country, for the most part, appears like a jungle with its belt of coconut palms along the coast. For 75 miles before reaching Maranhao the shore line became very muddy and the water extending far out to sea was muddy. It was evident the tides caused a great shifting of mud bars and made navigation dangerous. Our maps became more inaccurate and finally we depended more on our compasses than on the looks of the terrain. Civilization ceased except in scattered spots and then the people seemed to be cut off from the rest of the world.

The winds now began to assist us, as we were getting into the belt of the trades, coming mostly from the East. Prior to rounding the eastern nose of South America, the breezes had generally opposed our progress.

The landing was made at Maranhao for refueling only. This is a treacherous harbor, due to the strong and high tides and the shifting sands. We taxied up on the beach directly over a ragged submerged coral formation that, due to the receding tide, showed itself above water half an hour after we had been ashore.

The SAN ANTONIO reached Maranhao later in the afternoon, and not enough daylight remained for it to continue on to Para.

7. Maranhao, Brazil - Para, Brazil.

Date: March 21, 1927                      Time of departure: 2:35 P.M.  
 Distance: 425 miles                      Time of landing: 6:30 P.M.  
 Weather: Occasional showers.              Elapsed time: 3 hrs. 55 min.  
 Route: Along the coast to the Para River - thence up the Para  
 River to Para.

Landing Facilities: Landed in the Para River and taxied out on a  
 marine railway in the shipyards at Para.

This day's flight carried the planes over the most desolate region thus far. The maps which the flight carried contained a warning that this portion of the coast of Brazil was little known to navigators. The reason for this was made evident as the flight passed over. There is a rise and fall of tide of approximately 22 feet. This is a very flat country, the swamps grow down to the water's edge and the land cannot be seen through the trees. As the tide rises and falls, the coast line moves back and forth over a distance of many miles.

The water continued muddy out to sea as far as the eye could reach. Treacherous mud bars were constantly in evidence. The coast line was almost entirely mud as if it were the remains of some great delta. Parts of the coast did not at all correspond with the maps. Much of the flying was accomplished by following a compass course.

This section of the route is practically uninhabited. Distances in excess of 200 miles were flown without any sign of life whatever.

The landing was made at Para just at dark at practically the same time De Pinedo arrived. The SAN FRANCISCO and ST. LOUIS had made the 1150 miles from Natal to Para on this date in 12 hours and 8 minutes. This was the longest distance and the most time flown on any one day during the whole flight.

It was low tide when we landed and considerable difficulty was experienced in getting the planes through the soft mud at the foot of the marine runway when taking them ashore for our three day stop.

The 22nd, 23rd and 24th were spent in working on the planes and engines, since this was a supply point and the equipment had undergone a severe test in the four day flight from Rio de Janeiro to Para, a distance of over 2,600 miles, nearly half of which had been covered in one day.

Calls were made on the Governor of the state and on the Mayor of the city. A call was also made on Marquis de Pinedo and much flight information exchanged. The Governor and the Mayor joined in giving banquets to the visiting aviators from the United States and Italy.

Throughout the stay in Para the mornings were pleasant but very warm, and heavy rains, sometimes thunder storms, would occur in the afternoons and during the night.

Para is a thriving city and the seaport for all the products coming out of the Amazon River valley. Many boats were at the docks and much cargo being handled.

The SAN ANTONIO rejoined the flight here, having made the flight from Natal to Para in two days, remaining overnight at Maranhao

due to the late start from Natal.

8. Para, Brazil - Cayenne, French Guiana.

Date:	March 25, 1927	Time of departure:	7:45 A.M.
Distance:	565 miles	Time of landing:	2:30 P.M.
Weather:	Local showers.	Elapsed time:	6 hrs. 45 min.
Route:	Across the mouths of the Amazon to Pta. Grossa and thence along the coast to Cayenne.		
Landing Facilities:	Landed in the river at Cayenne and taxied out on the bank.		

This was a very interesting leg of the flight since it carried us once more north of the equator and across the mouths of the Amazon. Something of the size of this great stream was brought home to us when it took us nearly three hours to cross its many mouths. This section of the route is very much like that we had covered between Maranhao and Para, in that the coast is flat, there are no beaches, and the interior is nothing but jungle. The coast line is largely without definition and again most of our flying was accomplished by following a compass course. Not a sign of a ship was seen. Habitation is sparse indeed, since over 100 miles was flown on several occasions without any sign of life, not even a fishing village. It will be remembered that this is the section where the flights of Hinton and Duggan came to disaster, and where recently was found the wreckage of an airplane be-

lieved to belong to the Frenchman who attempted the flight from Africa without pontoons.

A group of French officials greeted us at the beach opposite Cayenne. We called on the French Colonial Governor, and were later entertained at dinner by the French officers on duty at the hospital.

Cayenne is located on a beautiful little harbor surrounded by wooded hills. The outlying country appears to be little developed.

9. Cayenne, French Guiana - Paramaribo, Dutch Guiana.

Date: March 26, 1927                      Time of departure: 10:20 A.M.

Distance: 230 miles                      Time of landing: 12:45 P.M.

Weather: Occasional showers.              Elapsed time: 2 hrs. 25 min.

Route: Along the coast.

Landing Facilities: Landed in the river. It was impossible to taxi out on the banks and the planes were anchored. Anchorage was made difficult by the swift current and deep water.

The coast continued practically without habitation and in many places it was jungle and swamp as far inland as we could see. Most of the land was heavily wooded.

We landed in the river opposite the center of the city and our presence seemed to be the occasion for holiday festivities. A band played the national airs. The flight commander called on the Dutch Colonial Governor. During the afternoon the planes were refueled and checked.

In the evening the governor held a formal banquet attended by all the officials of the government and many military officers.

10. Paramaribo, Dutch Guiana - Georgetown, British Guiana.

Date:	March 27, 1927	Time of departure:	9:30 P.M.
Distance:	235 miles	Time of landing:	12:05 A.M.
Weather:	Occasional showers.	Elapsed time:	2 hrs. 35 min.
Route:	Along the coast.		
Landing Facilities:	Landed in the Demerara River. Taxied out on a ramp belonging to a British commercial aviation company.		

The coast line from Paramaribo to Georgetown is less timbered and more thickly inhabited than sections recently flown over. For 50 miles before reaching Georgetown, the coastal plain of this colony has been developed and there are many flourishing villages. Suitable emergency fields began to appear for use in landings. Although the water was calm and good for landing, there are very few sheltered places in case of storm.

The American Consul and British officials met the flight as the planes taxied up the wooden runway out of the river to the small hangar of a commercial aviation company.





12. Port of Spain, Trinidad - Puerto Cabello, Venezuela.

Date: March 30, 1927                      Time of departure: 10:00 A.M.  
 Distance: 475 miles.                      Time of landing: 2:50 P.M.  
 Weather: Cloudy with strong              Elapsed time: 4 hrs. 50 min.  
           favoring winds.  
 Route: From Port of Spain across the Dragons Mouth to the mainland  
           of Venezuela - thence along the coast to Puerto Cabello.  
 Landing Facilities: Landed in small protected bay at Puerto Cabello  
                           and taxied out on the beach.

For nearly 175 miles along the north coast of Venezuela mountains stuck up right out of the sea. They were generally covered with clouds and in rain at many places. Practically no sheltered places for landing were seen. About 30 miles past the entrance to the Gulf of Cariaco the coast became low and sandy with few habitations. After passing Cape Codera, the mountains again started at the water's edge and no suitable places for seaplane operations were seen until Puerto Cabello. At La Guaira, at first selected for our landing, there is only a small breakwater protecting a limited area of water but largely open to the sea. The Caribbean was too rough to land on or take off from when we flew this leg of the trip.

As soon as the planes were ashore, they were pulled into a small parking area and the necessary work done on them in order to leave them for two or three days while making the trip inland to Caracas.

One of the planes stuck in shallow water and soft mud in attempting to taxi ashore at Port of Spain, Trinidad. Much difficulty was experienced at this stop getting the planes out of the water for the necessary maintenance work upon them and then returning them to the water for the take-off. Port of Spain was a major supply base.



The Pan-American Flight planes on the beach at Puerto Cabello, Venezuela.



*La Aviación <sup>Norte</sup> Americana  
en Pto-Cabello.*

The planes were not flown to Caracas on the advice of the Advance Officer, due to the high mountains intervening which are practically continually covered by clouds, and due to the fact that there is no suitable landing field at Caracas.

On March 31st, the flight personnel proceeded by automobile to Caracas. Half way en route, the American Military Attache met the flight and accompanied it to the capital city. The fliers were taken to Casa de Espana for lodging. Immediately afterward a very large luncheon was given at the War College, attended by the principal officials and a great part of the military personnel. In the evening, the American Minister gave a dinner followed by a dance.

On April 1st, calls were made on the principal officials of the government, and the entire flight personnel went to the tomb of Simon Bolivar, the national liberator of Venezuela, and placed a wreath at the foot of his tomb.

The flight personnel motored to Maracay on the morning of the 2nd and called on the President, delivering the letter from President Coolidge. We were informed officially that Venezuela had conferred upon us the Order of Bolivar, the Liberator - which is their highest military decoration. Later in the afternoon the party returned to Puerto Cabello and prepared for the take-off on the following day.

On the 3rd the Caribbean continued very rough. It was decided to move the planes to a dried lake bed and make a land take-off,

The Pan-American Flight and two members of the Venezuelan Committee which welcomed the personnel. This photograph was taken in La Casa de Espana, where the members of the Flight were quartered while in Caracas.





not attempting to take-off from the water. A runway was prepared and the planes were moved during the day. Everything was made ready for the departure on the 4th.

Attention is invited at this point to one of the outstanding accomplishments of the flight. A five days' delay in departing from San Antonio occurred to give time for delivery of fuel in Central America, another day's delay on account of weather and fourteen more days were lost en route for various reasons - a total of twenty days lost. When the flight left Port of Spain for Venezuela on March 30th all lost days had been made up and the departure was made according to the original schedule which set December 15th as the day to begin this long aerial tour.

13. Puerto Cabello, Venezuela - Port of Spain, Trinidad.

Date:	April 4, 1927	Time of departure:	5:55 A.M.
Distance:	475 miles	Time of landing:	12:25 P.M.
Weather:	Strong winds and showers.	Elapsed time	6 hrs. 30 min.
Route:	Along the coast of Venezuela - across the Dragons Mouth to Port of Spain.		
Landing Facilities:	Landed in the harbor in front of the city of Port of Spain and taxied out on a muddy shore.		

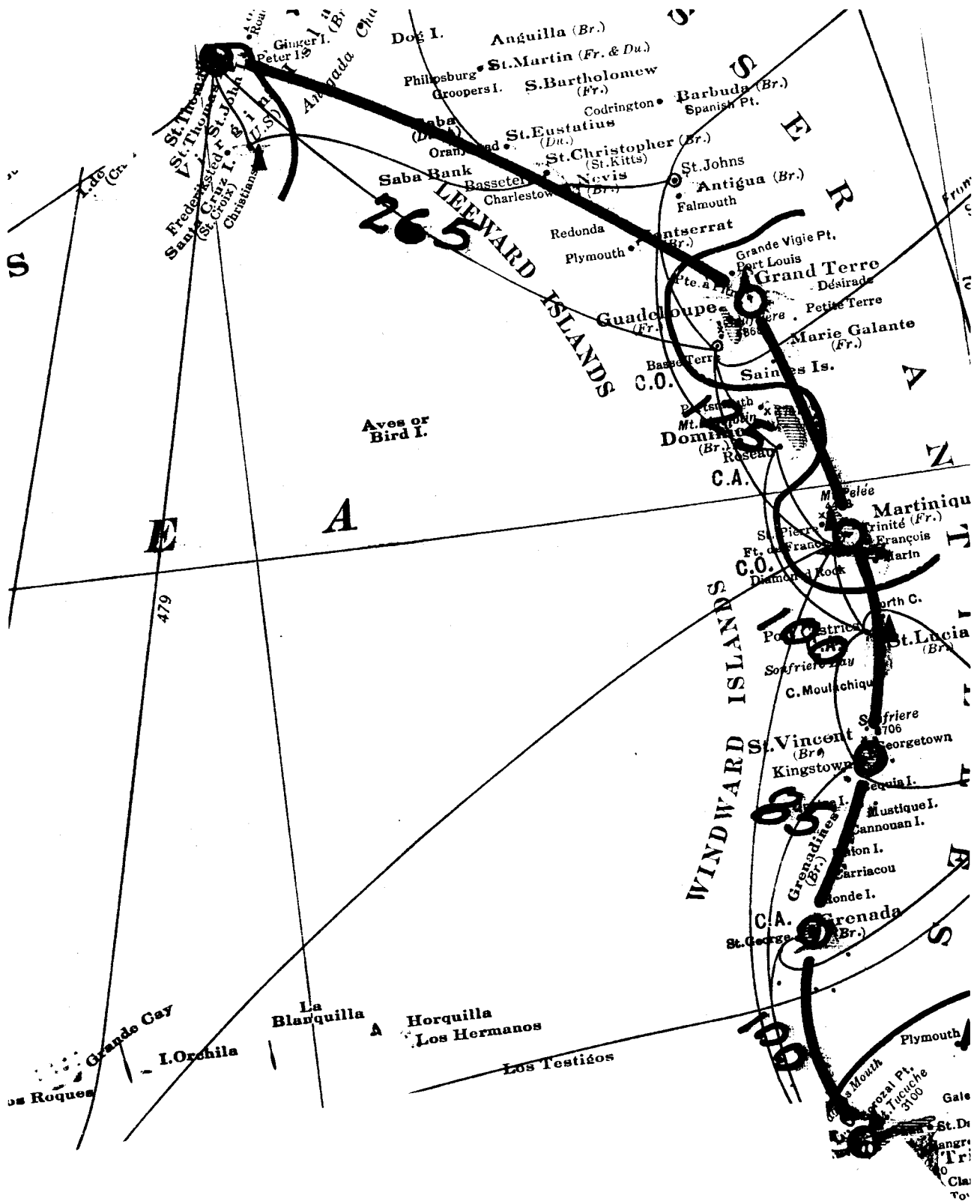
The return flight to Port of Spain was longer in time on account of the strong northeast trade winds which it was necessary to head into.

In crossing the Dragons Mouth, heavy rain storms were encountered. The tide was out when we landed so we left our planes at anchor until late in the afternoon when the higher water assisted in taxiing ashore.

The period from the afternoon of the 4th to the morning of the 7th of April was spent in preparing the planes for the hops through the West Indies to Havana. Port of Spain was a major supply base and no supplies, other than gasoline and oil, were available until arrival at Havana.

The evenings of this period were spent in social functions. Dinners were given by the American colony and the American Consul. The British Colonial Governor departed on leave and the flight commander attended the farewell at the dock. Also a visit was made to the asphalt lake.

A map showing the route of the Fifth Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown.



FIFTH DIVISION  
 Port of Spain  
 - 70 -  
 St. Thoms

## CHAPTER VI.

## FIFTH DIVISION

or

Port of Spain, Trinidad - St. Thomas, Virgin Islands.

1. Port of Spain, Trinidad - St. George, Is. of Grenada.

Date:	April 7, 1927	Time of departure:	9:00 A.M.
Distance:	100 miles	Time of landing:	10:30 A.M.
Weather:	Strong winds and occasional showers.	Elapsed time:	1 hr. 30 min.
Route:	Compass course over the Caribbean Sea direct for the Island of Grenada.		

**Landing Facilities:** Landed in the harbor at St. George and taxied up a steep beach across a temporarily constructed bridge into a public park of the city.

In making the 100 mile water hop from Port of Spain to Grenada, it was necessary to check the bearings rather accurately since a strong cross wind was blowing. After being out of sight of land for about 30 minutes, however, the Island of Grenada was sighted directly ahead and the flight was made without incident. The intervening water between Port of Spain and Grenada was very rough. A forced landing would have meant trouble. One steamer and two sailing vessels were sighted.

A large crowd of the local population were present to witness our arrival. The government and city officials greeted us. Police protection was perfect.

Refueling in the British West Indies.





A call was made on the government administrator and in the evening he had a banquet and dance at the government house in honor of the flight.

2. St. George, Is. of Grenada - Kingstown, Is. of St. Vincent.

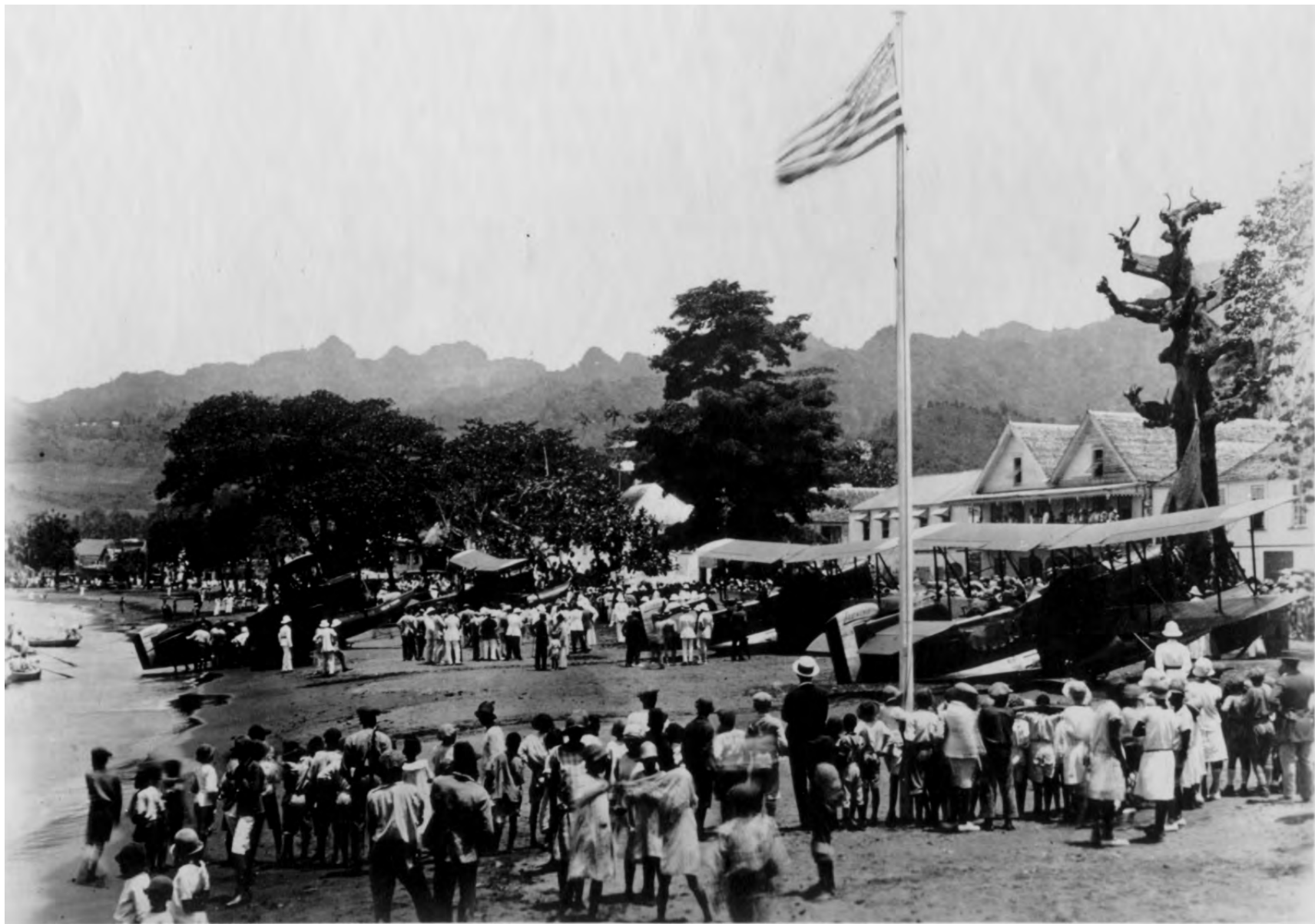
Date:	April 8, 1927	Time of departure:	9:55 A.M.
Distance:	90 miles	Time of landing:	11:00 A.M.
Weather:	Occasional showers	Elapsed time:	1 hr. 25 min.
Route:	Compass course over the Caribbean along the Grenadines to Kingstown.		

Landing Facilities: Landed in the harbor at Kingstown and taxied out on the beach.

On this leg of the flight, the planes were not out of sight of land, due to the large number of small islands intervening - 365 we were told. Many suitable places to land were seen in the lee of islands.

A great welcome was given the flight in Kingstown and again the police protection was perfect. A number of the representatives of the local government met us. We met the Governor in the afternoon and attended a dinner and dance given for the flight by him in the evening.

Pan-American Flight planes on the beach at Kingstown, St.  
Vincent.





The flight personnel and local officials at Fort de France just prior to the take-off for Guadeloupe.



4. Ft. de France, Martinique - Pointe a Pitre, Guadeloupe.

Date: April 10, 1927                      Time of departure: 9:55 A.M.  
 Distance: 125 miles                      Time of landing: 11:20 A.M.  
 Weather: Showers with strong              Elapsed time: 1 hr. 25 min.  
                                  gusty winds.  
 Route: Over water to the Island of Dominica - thence over water to  
                                  the Island of Guadeloupe - along the coast of this island to  
                                  Pointe a Pitre.  
 Landing Facilities: Landed in the bay at Pointe a Pitre and taxied up  
                                  into one of the streets of the city.

Land was not out of sight on this day's flight. Soon after leaving Fort de France we passed by Mt. Pelee which erupted several years ago doing great damage. In the lee of the islands we could generally see suitable places to land in case of emergency. The West Indies are mountainous and the peaks can be seen for great distances over the water.

Upon landing at Pointe a Pitre, we were met by several thousand natives and a delegation of the local officials, including the acting Governor and the Mayor of the city.

Considerable difficulty was experienced in getting the planes out of the water, due to the muddy nature of the incline into the water. A squad of French gendarmerie guarded the planes.

A call was made on the acting Governor. A luncheon, attended by all of the local officials, was given at the city hall. A wreath

was placed by the flight at the base of the soldiers monument. A reception was held in one of the local clubs, and in the evening the American Consul held a buffet supper and reception.

It rained very hard during practically the entire stay on this island.

5. Pointe a Pitre, Guadeloupe - St. Thomas, Virgin Islands.

Date:	April 11, 1927	Time of departure:	9:45 A.M.
Distance:	275 miles	Time of landing:	1:00 P.M.
Weather:	Excellent	Elapsed time:	3 hrs. 15 min.
Route:	From Pointe a Pitre across water, passing near the Islands of Montserrat, St. Christopher and Sabo - thence direct by compass to St. Thomas.		

Landing Facilities: Landed in the bay at St. Thomas. It is well protected and affords a good landing place. We were unable, however, to taxi out on the beach due to soft mud and sand, and moored the planes to buoys.

This flight of 275 miles was all over water. With the excellent visibility, the planes were out of sight of land only for about half an hour. Good opportunity for checking our course was provided by the islands until Sabo Island was reached, when a jump over open water of over 100 miles was made. When land came in sight St. Thomas was directly in front of us. The sea was quite rough. A forced landing would have been uninviting indeed. A gentle cross wind was blowing and the only opportunity of checking the drift was by the white caps and cloud shadows.



On arriving in St. Thomas, which was our first stop on the soil of a possession of the United States after leaving Panama, we found the Governor, Captain Evans, and several naval officers on the beach to welcome us and lend every possible assistance. A buffet luncheon was served at the home of Governor Evans and in the evening a dinner party was held at the hotel, followed by a dance at the Tennis Club. The stay at St. Thomas was a pleasant one indeed.

This 5th division might well have been included with the 8th division in the work of one Advance Officer and the flight had only five divisions. But due to poor transportation facilities and the lack of time, it appeared necessary to send out two officers to cover the whole of the West Indies.

A map showing the route of the Sixth Division of the Pan-American Flight. The numbers give straight line distances which differ slightly from the actual mileage flown. The map does not show that portion of the Sixth Division located in the United States.



*SIXTH DIVISION  
St. Thomas  
- to -  
Washington*

*Only that portion outside U. S.  
shown here.*

## CHAPTER VII.

## SIXTH DIVISION

OR

St. Thomas, Virgin Islands - Washington, D. C.

1. St. Thomas, Virgin Islands - San Juan, Porto Rico.

Date:	April 12, 1927	Time of departure:	9:45 A.M.
Distance:	80 miles	Time of landing:	10:45 A.M.
Weather:	Excellent	Elapsed time:	1 hour.

Route: Across the water to the coast of Porto Rico - thence along the coast of Porto Rico to San Juan.

Landing Facilities: Landed in an excellent harbor at San Juan and taxied out on a good hard beach.

We found several of the United States Army officers attached to the 65th Infantry out to meet us when we landed. One of them served as our flight agent and they did everything possible to make our stay a pleasant one.

On the afternoon of the 12th, we completed the servicing of our planes. In the evening we attended a banquet given by the Commanding Officer of the 65th Infantry and this was followed by a dance.

The morning of the 13th was spent in making official calls. In the afternoon we attended a meeting of a committee of the officials

of the city and the Porto Rican legislature, at which the commander of each of the four planes was presented with a loving cup with a greeting from the people of Porto Rico inscribed thereon.

2. San Juan, Porto Rico - Santo Domingo, Dominican Republic.

Date: April 14, 1927 Time of departure: 9:30 A.M.

Distance: 270 miles Time of landing: 12:30 P.M.

Weather: Partly cloudy. Elapsed time: 3 hours.

Route: Along the coast of Porto Rico to Mona Passage - across Mona Passage north of Mona Island - thence along the south coast of the Dominican Republic to Santo Domingo.

Landing Facilities: Were unable to land in the harbor on account of rough water. Landed in the river and taxied out into the harbor and up on a soft beach.

Except when making the jump of nearly 100 miles across Mona Passage, the water appeared suitable for landing most any place. Along Porto Rico and the Dominican Republic villages were in sight all the time. The landing in the Ozama River was in a particularly restricted place. Considerable difficulty was experienced in turning the planes around after they were taxied up on the beach. The planes were refueled and work completed on them before going to the hotel.

At 4:00 P.M. all the flight personnel called on the President of the Dominican Republic. In the evening the American colony gave a dinner and dance at the Country Club. In the afternoon of the 16th a delegation of the officials of the Dominican Republic took the flight

personnel to the Cathedral where rest the remains of Columbus, thence to other points of interest on this historic island.

The President and all the high officials were particularly apologetic for the lack of entertainment by the government, explaining that it was Holy Week.

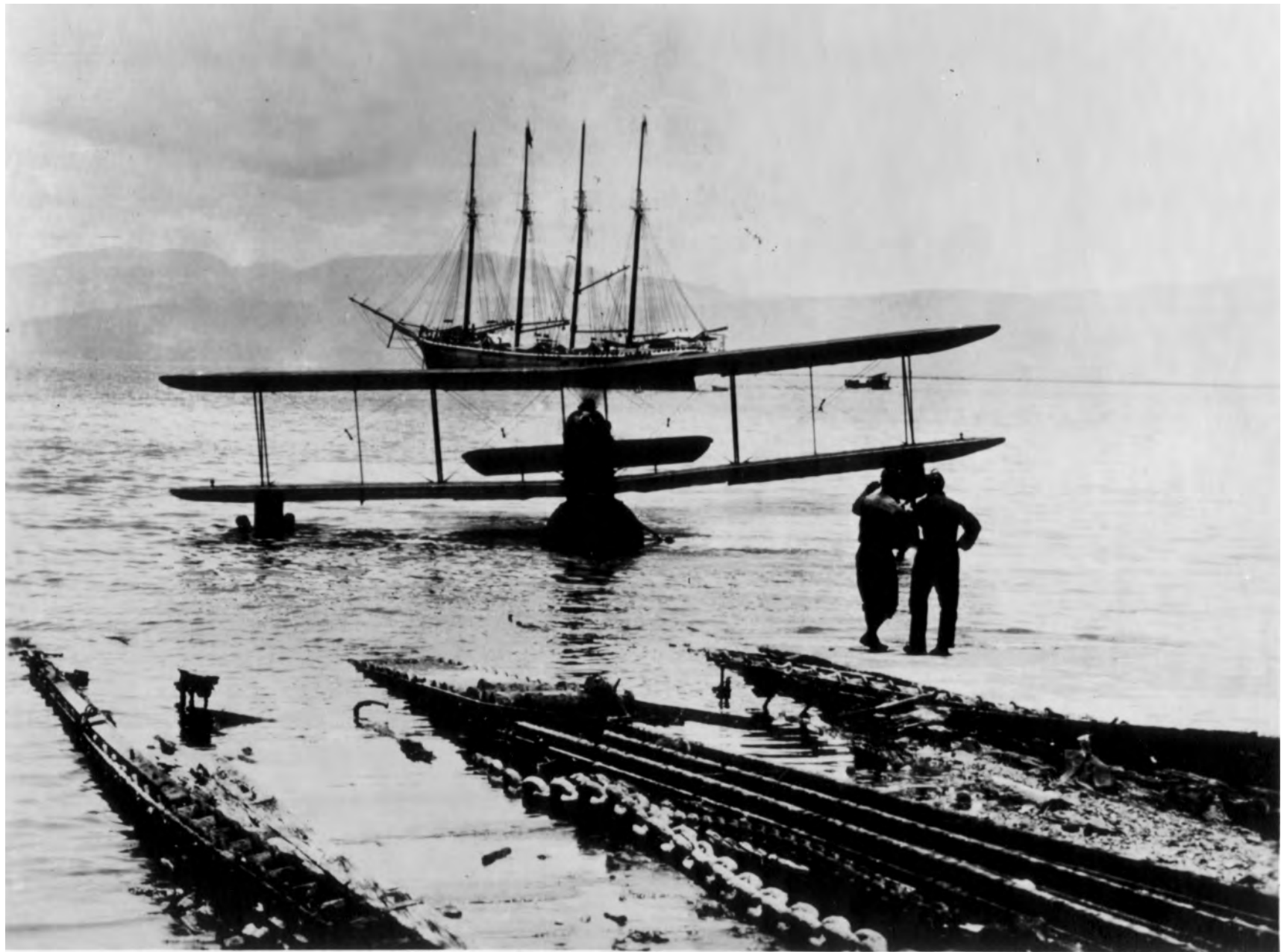
On the morning of the 16th, prior to leaving Santo Domingo, the commander of the flight took up the President of the Dominican Republic. This completed a very pleasant visit to the Dominican Republic. We had been received very cordially and the people seemed very enthusiastic about the fact that their President was given an airplane ride.

### 3. Santo Domingo, Dominican Republic - Port-au-Prince, Haiti.

Date:	April 16, 1927	Time of departure:	9:55 A.M.
Distance:	185 miles	Time of landing:	12:00 Noon.
Weather:	Strong and very gusty winds.	Elapsed time:	2 hrs. 5 min.
Route:	Along the coast of the Dominican Republic to Neiba Bay - thence directly across the island to Port-au-Prince.		
Landing Facilities:	Landed in the bay opposite the old Naval Air Station and taxied out on a concrete ramp.		

It had been originally planned to fly along the coast of the Dominican Republic around Cape Falso to a point on Haiti about Cape Jacmel, thence over the mountains to Port-au-Prince. On examining a map in Santo Domingo, it was found that there is a low plain extending from

Coming up the concrete ramp at Port-au-Prince, Haiti. The four masted schooner is the one used by Dr. Wm. Beebe in his under water explorations. An opportunity was afforded the flight personnel to "dive" and see the beauties of the ocean bed but the social program of the flight permitted only one member to take advantage of this privilege.





Neiba Bay between the mountain ranges to Port-au-Prince. In this plain are several shallow salt lakes. This offered a much better route for our amphibians than attempting to climb over the mountains. On this particular day we found the mountains covered with clouds which would have made the passage over difficult.

On arrival in the beautiful Port-au-Prince, we found the Marines had everything prepared for our coming. They furnished the guard for our planes and rendered every possible assistance. We taxied up the old concrete ramp at the now abandoned seaplane station. The afternoon of the 16th and the morning of the 17th were spent in servicing and working on our planes.

The American High Commissioner, the Mayor, a representative of the President, and a large number of Marine Corps officers were in the large crowd that greeted us. The High Commissioner gave a dinner in the evening of the 16th, after which there was a dance.

On the morning of the 17th the flight personnel called on the President of Haiti, at which time a review of the gendarmerie was held, followed by a large reception. The message from President Coolidge was presented at this time. The government authorities gave a luncheon, and at 5:00 P.M. the Minister of Foreign Affairs held a reception at his home in honor of the flight. The day was closed with a dinner party at the home of the American Charge d'Affairs.

An interesting incident occurred on the afternoon of the 17th.

The Mayor of Port-au-Prince, Haiti, presents a bouquet.  
Such offerings were made to the flight at many stops.



The Marine guard had been instructed by the Marine officers to allow no one to enter the quadrangle where the planes were being guarded unless accompanied by a member of the flight. On the afternoon of this date, the President, accompanied by several of his Cabinet officers, went to the landing area to examine the planes. Upon arriving there, the Marine guard refused to allow him to enter and he was not able to see the planes. On the following morning, however, the President was present to see the departure of the flight.

4. Port-au-Prince, Haiti - Santiago, Cuba.

Date:	April 18, 1927	Time of departure:	9:30 A.M.
Distance:	275 miles	Time of landing:	12:30 P.M.
Weather:	Very strong winds and very rough seas.	Elapsed time:	3 hours.
Route:	Through St. Marc Channel to a point opposite C. St. Marc - thence across the open water until about 10 miles off Cape Four - thence across the Windward Passage to the coast of Cuba about Banqueron - thence over Guantanamo Bay and along the coast of Cuba to Santiago.		
Landing Facilities:	Landed in protected harbor at Santiago and taxied out on the beach.		

The entire leg of this flight was over water. The wind was quite strong and the sea, after passing Cape Four, was the roughest we had yet experienced. Inside the Gonave Gulf landing in the water along the shore was ideal but there was little habitation in this section of Haiti. In crossing the Windward Passage, the wind picked up so much

that it was necessary to change our course 20 degrees. Visibility became very poor here also. The coast of Cuba is quite mountainous along the sections we traversed. Just off Guantanamo we passed alongside the Atlantic and Pacific fleet in battle formation. We counted nearly a hundred ships. It was a magnificent spectacle. We also flew over the naval base in Guantanamo Bay.

The landing in Santiago was made in a very gusty wind. We taxied out with difficulty at a place prepared for us. A great crowd met us, including the city officials, and a reception was held at once.

In the evening we attended a reception given by the Mayor and the city officials at the city hall, where the flight was presented with an emblem antedating Cuban Independence and which was worn by local civil officials. This was followed by a dance.

##### 5. Santiago, Cuba - Havana, Cuba.

Date:	April 18, 1927	Time of departure:	8:40 A.M.
Distance:	560 miles	Time of landing:	2:40 P.M.
Weather:	Hazy, strong gusty winds.	Elapsed time:	6 hours.
Route:	Along the coast of Cuba to Cape Cruz - thence across the water and along the chain of islands to the coast of Cuba at Trinidad - thence along the coast to C. Matahambre, over Broa Bay to Batabano - thence across Cuba to Havana.		
Landing Facilities:	landed in the harbor and moored to buoys, there being no suitable beach for our use.		

The coast was mountainous to Cape Cruz, then a short flight of 65 miles over water to a chain of coral islands. Good places to land were continually seen. Then the coast of Cuba was dotted with small villages and pretty coral formations. Boca Bay appeared slightly discolored with mud. At Batabano, we were met by a formation of three Cuban DH-s that escorted us to Havana.

Our Advance Officer had planned for us to land in a small estuary where we could taxi out on the beach. We found it, however, too restricted and the water was too rough due to the high winds which were blowing. This necessitated landing in the harbor and tying up to buoys.

In taxiing into the water from the beach at Santiago, the landing gear on the left side of the SAN FRANCISCO was broken off. It was necessary to get this plane out of the water in order to make repairs. A marine railway was used.

On the afternoon of the 19th, all the members of the flight called upon the President. The flight had originally planned to stop at Manzanillo and Cienfuegos but the President of Cuba was planning his departure on the 20th for a visit to the United States. In order to arrive prior to his departure and present the letter from President Coolidge, Manzanillo and Cienfuegos were left out of the schedule and a non-stop flight was made from Santiago to Havana.

The 20th was spent in working on the planes and in making of-

ficial calls. In the late afternoon the American Ambassador gave a reception at the Country Club where we met the diplomatic corps. On the 21st, the American Legion gave a large dinner and dance to the flight. Called on the Secretary of War and the Chief of Staff on the 22nd and attended a reception at the Military Club in the late afternoon.

6. Havana, Cuba - Miami, Florida.

Date:	April 23, 1927	Time of departure:	11:30 A.M.
Distance:	275 miles	Time of landing:	3:00 P.M.
Weather:	Cloudy; poor visibility; occasional showers.	Elapsed time:	3 hrs. 30 min.
Route:	From Havana to Key West - thence along the keys and the coast of Florida to Miami.		
Landing Facilities:	Landed in Biscayne Bay, and since there was no suitable beach, the planes were moored in a slipway between two docks.		

The 95 miles across the Straits of Florida were flown by a compass course, and the flight was out of sight of land during a large portion of the time. Several ships, however, were seen below.

Key West furnished the first sight of the mainland of the United States after crossing the Rio Grande going south. A period of 123 days had elapsed. About 50 miles out from Miami, we were met by a formation of nine U.S. Army planes lead by the Chief of Air Corps,

General Patrick. These escorted us into Miami.

On landing, we found a parade and a large number of enthusiastic citizens to welcome us. We were taken to the steps of the city hall where the Mayor, General Patrick and Major Dargue made brief talks. In the evening a formal dinner and dance was given at the Coral Gables Country Club. The following day was spent in servicing the planes and resting.

7. Miami, Florida - Jacksonville, Florida.

Date:	April 25, 1927	Time of departure:	9:25 A.M.
Distance:	350 miles	Time of landing:	1:55 P.M.
Weather:	Cloudy, occasional showers, gusty winds.	Elapsed time:	4 hrs. 30 min.
Route:	Along the coast to St. Augustine - thence across to the St. John River - thence up the river to Jacksonville.		
Landing Facilities:	Landed in the St. John River and moored to buoys, there being no beach available.		

The nine planes which had come down to meet the flight from Montgomery, Alabama, and from Bolling Field, accompanied us on this leg.

In the evening the citizens of Jacksonville, including the Mayor and Senator Fletcher, gave a dinner to the members of the flight. This was followed by a dance.



8. Jacksonville, Florida - Savannah, Georgia.

Date: April 26, 1927                      Time of departure: 9:30 A.M.  
 Distance: 135 miles                      Time of landing: 11:45 A.M.  
 Weather: Poor visibility,              Elapsed time: 2 hrs. 15 min.  
           strong head winds.  
 Route: Along the coast to the mouth of the Savannah River - thence  
           up the river to Savannah.  
 Landing Facilities: Landed in a branch of the Savannah River at Thunder-  
                           bolt and moored to buoys. No beach was available.

On the afternoon of the 26th, a luncheon was given by the citizens of Savannah. This was Confederate Decoration Day and the flight personnel joined the Mayor of the city in reviewing a parade at 4:00 P.M. The morning of the 27th was spent in servicing and working on the planes. A very large luncheon was given by the officials of the city at noon.

9. Savannah, Georgia - Wilmington, North Carolina.

Date: April 28, 1927                      Time of departure: 9:00 A.M.  
 Distance: 270 miles                      Time of landing: 1:15 P.M.  
 Weather: Poor visibility,              Elapsed time: 4 hrs. 15 min.  
           gusty winds.  
 Route: Along the coast to the Cape Fear River - thence up the river  
           to Wilmington.  
 Landing Facilities: Landed in the Cape Fear River.

The planes were moored to buoys in the river and there serviced. General Bowley, a number of officers from Camp Bragg, the Mayor and officials of Wilmington, and several citizens met the flight. A dinner was given in the evening by the officials of the city.

10. Wilmington, North Carolina - Langley Field, Virginia.

Date:	April 29, 1927	Time of departure:	8:55 A.M.
Distance:	350 miles	Time of landing:	1:25 P.M.
Weather:	Very poor visibility.	Elapsed time:	4 hrs. 30 min.
Route:	Along the coast and Pamlico Sound.		
Landing Facilities:	Landed on the Army Air Corps Airdrome.		

The visibility in Pamlico Sound on this leg of the flight was the poorest ever seen except in a storm. Smoke joined with the haze to limit vision to a few hundred feet. A large formation of planes met the flight at Cape Henry and acted as an escort to Langley Field.

Langley Field was the first regular Army airdrome the flight had touched since leaving France Field, Panama, on January 29th. The planes were immediately placed in hangars and a crew of selected mechanics, working under a competent engineering officer, began a careful inspection.

In the evening the officers of Langley Field gave a dinner and dance to the members of the flight.

An observation balloon, from which were suspended the flags of each of the countries visited by the Pan-American Flight, was sent aloft in connection with the ceremonies attending the completion of the flight at Washington, D. C., May 2, 1927.



The 30th of April and the 1st of May were spent in working on the planes and in securing some much needed rest. The excellent work done at Langley Field by the station personnel made the planes look like new and put them in the best possible condition.

11. Langley Field, Virginia - Bolling Field, Washington, D. C.

Date:	May 2, 1927	Time of departure:	3:15 P.M.
Distance:	140 miles	Time of landing:	5:00 P.M.
Weather:	Excellent.	Elapsed time:	1 hr. 45 min.
Route:	Slightly to the west of the airways route.		
Landing Facilities:	Landed on the airdrome of the Army Air Corps at Bolling Field.		

Upon landing at Bolling Field, the members of the flight were welcomed by several hundred officials and friends, including the President, the Secretary of State, the Secretary of War, the Secretary of the Navy, the Assistant Secretary of War, the Chief of Staff, the Chief of Air Corps, the Assistant Chief of Air Corps, and many others. Immediately after landing, the pilots were assembled and presented to the President, who awarded to them citations for the Distinguished Flying Cross.

The landing at Bolling Field marked the conclusion of the Pan American Flight.

President Coolidge greeted the flight personnel at Bolling Field upon completion of the flight. He awarded citations for the Distinguished Flying Cross to each of the flyers. The President is holding letters of good will delivered by the flight leader from the Presidents of the Latin-American countries.



## CHAPTER VIII.

## PUBLICITY - DUTIES OF THE ADJUTANT.

## PUBLICITY.

1. Preparations.

Captain Ira C. Baker was early designated by the Commander of the Flight to serve as officer in charge of press relations and publicity. A War Department directive required all publicity from the flight to emanate from the commanding officer thereof, or his designated representative and, consequently, all other officers of the flight were cautioned in this matter.

The work in connection with publicity was one of the most annoying and constantly harrowing details that had to be carried out, and great credit is due Captain Baker for his untiring effort to comply with the demands of all the press associations and news reporters and still follow the policies that were announced to guide him.

Prior to leaving Washington, conferences were held with the Press Relations Section in the G-2 Division of the War Department General Staff. A letter was written to each of the three news associations - namely, the Associated Press, the United Press, and the International News, in order to determine more accurately just what type of material they desired. A list of all the representatives of each of these three associations in Latin America was compiled



Prior to departing from Washington The Assistant Chief of Staff, G-2, issued a directive showing at which places Press releases would be filed and to which news associations such releases would be sent. The photographic chart on the opposite page contains this directive. The check marks indicate where the releases were filed as directed. At all places where releases were not filed it was impossible to do so on account of local conditions; either there were not any facilities for communication or the flight did not stop at all or it did not stop long enough to permit the filing of messages.



for use on the flight. Numerous photographs of the personnel of the flight and many copies of group photographs were assembled in order to have a supply for distribution as called for. Finally, the War Department directive was issued consolidating much of the information regarding publicity. A photo of this directive is made a part of this chapter. The check marks on this photo indicate the places where messages were actually sent.

Permission was secured from the War Department for the individual members of the flight to send information for publicity purposes to the Chambers of Commerce in the cities after which the planes were named. It was believed that the local interest of the city would cause the newspapers to follow carefully the progress of the flight and that the story would spread to points in the country surrounding these cities.

Captain Ross G. Hoyt, of the Office of the Chief of Air Corps, was designated to assist in the preparation of descriptive backgrounds for the data sent in regarding the progress of the flight, and to otherwise cooperate in publicity matters.

Many requests were received to permit representatives of the press and of the picture agencies to accompany the flight. These were all disapproved.

The State Department was requested to collect through its representatives in Latin America, press items and photos for the records of the War Department. The State Department sent out the necessary instructions.

## 2. Publicity Prior to Departure.

Outside of a few announcements of certain details in connection with the Pan American Flight, there appeared to be comparatively little publicity secured by the War Department.

When the personnel of the flight arrived at San Antonio, a detail of reporters from the principal newspapers was assigned to keep constantly in touch with the progress of the plans and preparations. There were also representatives from the film companies. The result was that the papers of San Antonio and vicinity were never lacking in publicity, many times, front page illustrated articles of considerable size being published. Samples of a few of these have been photostated and are included as a part of this chapter of the report. In all this publicity, the greatest cooperation was given by the commanding officer of the flight and the publicity officer. Free discussions of the technical aspects of the flight and its objects were daily the subjects of conversation. Care was, of course, taken in all statements to guard against a discussion of political or diplomatic questions.

The four reproductions following show the character of publicity secured by the flight at San Antonio during the final preparation period. Not a day passed without some item generally occupying prominent space in the press.

EXTRA CITY FINAL EDITION  
**San Antonio Express**

COTTON GINS  
 THE CENTENNIAL LINE  
 S. A. Machine & Supply Co.  
 VOL. LXI.—NO. 354.

SAN ANTONIO, TEXAS, MONDAY MORNING, DECEMBER 20, 1926—TWENTY-TWO PAGES

Screen Wire Cloth  
 BEST QUALITY—PROMPT DELIVERY  
 F. W. HEITMANN CO.,  
 HOUSTON.  
 ESTABLISHED 1865.

**ALREADY PROPERTY FUDGED MISUSE ALLEGED**  
**PAN-AMERICAN FLYERS READY FOR HOP-OFF**

**News Summary**

**LOCAL.**  
 Pan-American flyers off for Brazil, Monday, December 20, 1926.  
 They make five days' flight, leaving for Rio de Janeiro, Monday, December 20, 1926.  
 They make five days' flight, leaving for Rio de Janeiro, Monday, December 20, 1926.  
**WASHINGTON.**  
 Senate divided on way to expel. Opinions on cases of Smith, Vane and Gould vary widely.  
**FRIDAY.**  
 Pan-Am flight program.  
**WEDNESDAY.**  
 Pan-Am flight program.  
**THURSDAY.**  
 Pan-Am flight program.

**ONLY THICK FOG WILL PREVENT START MONDAY**

**General Patrick Confers With Pilots**

The United States Army's first all-night flight was made Monday night to start their flight to Rio de Janeiro, Brazil, Monday, December 20, 1926. General Patrick, commander of the Pan-Am flight, conferred with the pilots before the flight was started. The flight was made by the Pan-Am flying boat, the *Wright*, which was piloted by Kelly Field pilot, Major Frank E. Egan, and co-pilot, Major Charles G. Davis. The flight was made in the presence of General Patrick and other officers of the Army Air Corps. The flight was made in the presence of General Patrick and other officers of the Army Air Corps.

**Trail Blazers For Pan-Am Hop**



**Pan-Am Flight Program**

Gen. Frank E. Egan, commanding general Air Corps Training Center, will make the announcement for the Pan-Am flight Monday morning at Denver Field. The complete program is as follows:  
 1. Departure, Washington, D. C., Monday, December 20, 1926.  
 2. Arrival, Caracas, Venezuela, Tuesday, December 21, 1926.  
 3. Arrival, Havana, Cuba, Wednesday, December 22, 1926.  
 4. Arrival, Lima, Peru, Thursday, December 23, 1926.  
 5. Arrival, Bogota, Colombia, Friday, December 24, 1926.  
 6. Arrival, Rio de Janeiro, Brazil, Saturday, December 25, 1926.

**300 KEGS OF POWDER FIRED BY TRAIN BLAZE**

**18 Persons Are Injured By Blast**

WEST PATTERSON, N. Y., Dec. 19.—Explosion of 300 kegs of black powder in a car of a freight train on the Central New England Railroad here Monday afternoon resulted in the death of one person and the injury of 18 others. The explosion occurred at 10:30 a. m. and was caused by a short circuit in the power house. The train was carrying 300 kegs of black powder. The explosion occurred in the power house. The train was carrying 300 kegs of black powder. The explosion occurred in the power house. The train was carrying 300 kegs of black powder.

**TOBIN HONORED BY 4,000 CROWD**

**Tributes Paid by Speakers to Mayor's Work For City.**

MOODY IS SPEAKER  
 Having indicated neither in his tribute to Mayor John W. Tobin, nor in his address to the crowd of 4,000 people gathered in the municipal auditorium Monday afternoon, Mayor Tobin's work for the city. The speaker was Mayor John W. Tobin. The speaker was Mayor John W. Tobin. The speaker was Mayor John W. Tobin.

**SENATE DIVIDED ON WAY TO EXPEL**

**Opinions on Cases of Smith, Vane and Gould Vary Widely.**

By MARK SULLIVAN  
 WASHINGTON, Dec. 19.—The Senate today was divided on the way to expel three members of the House of Representatives. The cases of Charles C. Smith, John Vane, and Charles M. Gould were discussed. The Senate was divided on the way to expel three members of the House of Representatives.

**MAN CONFESSES HE KILLED BOY**

CHEROKEE, Dec. 19.—Harold J. Cramer, 21, confessed to the murder of a young boy in Cherokee, Okla., Monday. The boy was named William. Cramer confessed to the murder of a young boy in Cherokee, Okla., Monday.

**Lisbon Rocked By Earth Shocks**

LIBRÓN, Portugal, Dec. 19.—Lisbon has experienced a severe earthquake today. The shock lasted 20 seconds. The earthquake was severe. The shock lasted 20 seconds. The earthquake was severe.

**Unusual But True**

WASHINGTON, Dec. 19.—The disappearance of Mrs. Kate H. Hunk, wife of a Justice in St. Louis, has been reported. The wife of a Justice in St. Louis has been reported. The wife of a Justice in St. Louis has been reported.

**Police Seeking Physician's Wife**

Husband Found, Miles Away, Apparently Mentally Deranged.  
 WASHINGTON, Dec. 19.—Police are seeking the wife of a physician. The husband was found, miles away, apparently mentally deranged. The wife of a physician is being sought by police.

**Daughter of "Bob" Ingersoll Finds Husband Shot; Wife of Watchmaker Ingersoll Dead**

NEW YORK, Dec. 19.—The daughter of "Bob" Ingersoll has found her husband shot. The wife of a watchmaker, Ingersoll, is dead. The daughter of "Bob" Ingersoll has found her husband shot.

**WEATHER FORECAST**

City	Temp.	Wind	Clouds	Precip.
San Antonio	65	W	Partly Cloudy	0.00
Chicago	45	N	Clear	0.00
London	55	W	Partly Cloudy	0.00
Paris	50	W	Partly Cloudy	0.00
Boston	40	N	Clear	0.00
San Francisco	60	W	Partly Cloudy	0.00
Houston	70	W	Partly Cloudy	0.00
Portland	55	W	Partly Cloudy	0.00
Seattle	50	W	Partly Cloudy	0.00
Denver	45	N	Clear	0.00
Phoenix	75	W	Partly Cloudy	0.00
Los Angeles	70	W	Partly Cloudy	0.00
San Diego	75	W	Partly Cloudy	0.00
Albuquerque	65	W	Partly Cloudy	0.00
El Paso	60	W	Partly Cloudy	0.00
Fort Worth	65	W	Partly Cloudy	0.00
Dallas	65	W	Partly Cloudy	0.00
Austin	65	W	Partly Cloudy	0.00
San Antonio	65	W	Partly Cloudy	0.00
Corpus Christi	70	W	Partly Cloudy	0.00
Galveston	70	W	Partly Cloudy	0.00
Houston	70	W	Partly Cloudy	0.00
San Antonio	65	W	Partly Cloudy	0.00
Corpus Christi	70	W	Partly Cloudy	0.00
Galveston	70	W	Partly Cloudy	0.00
Houston	70	W	Partly Cloudy	0.00

Continued on Page 6, Column 2.

Continued on Page 6, Column 2.

Continued on Page 6, Column 2.

Continued on Page 6, Column 2.

PAN AMERICAN FLYERS READY FOR HOP-OFF AT NOON

LESLIE F. C. WHITEHEAD

LESLIE E. S. THOMPSON

CAPT. F. W. WOODRUFF

LESLIE J. W. RENTON

LESLIE L. D. WOODRINGTON

LESLIE E. S. FAIRCHILD

CAPT. F. C. BAKER



Loening May Fly to Air Conference in Capital Tuesday

Secretary of the Department of Commerce...



LESLIE F. C. WHITEHEAD of New York

FLYERS HESITATE TO CORRECT CHIEF, FIND AIDE PILOTING

Mrs. F. M. Andrews, commandant of Kelly Field...

the debate that he regards South as equally ready to see that Stewart...

now which was found in the barn Sunday. "Was it a hearse?" he asked...

mother have collapsed and were reported in a serious condition.

provisionary were participating in the questioning. It was indicated that...

action early Sunday when he was taken to a hospital...

PAN-AM FLYERS READY TO HOP-OFF

Continued from Page 1.

When the men were taken to the camp...

ment. The planes which had been fully equipped.

With the men posed outside, flight instructor "Doc" Hays...

The last plane viewed considerably toward Houston and made an effort to get back on the San Antonio...

After showing them where his victim lay, Cronkite said while they were ministering to the dying boy...

"After I showed the police where the body was and ran away?" Cronkite said...

"I don't know. I guess he didn't get to the right store and I kind of lost my head," he said.

Later Cronkite said he killed the boy because he made his mouth noisy.

PAN-AM FLYERS TO TEST NEW EMERGENCY RATION

Continued from Page 1.

When the men were taken to the camp...

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Later Cronkite said he killed the boy because he made his mouth noisy.

MAN CONFESSES HE KILLED BOY

Continued from Page 1.

With comments on the weather, he denied vehemently, however, that he had been in the barn Friday evening...

He said in his confession that he had been in the barn Friday evening with the sick boy and another child...

When the Atlantic boy returned I was alone," Cronkite said. "I was tired and had no money."

He said in his confession that he had been in the barn Friday evening with the sick boy and another child...

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SENATE IS DIVIDED ON WAYS TO EXPEL

Continued from Page 1.

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

As the Senate on the floor of expelling the senator...

The Vogue advertisement with logo and text.

Joins Hands In Hoping The Pan-Am Flyers The Greatest Success of Any Aerial Achievement Yet Undertaken.

EVENTUALLY YOU WILL WANT A GREBE SYNCHROPHASE RADIO RECEIVER advertisement.

Northwestern advertisement for Santa Claus.

Shoppers Xmas Tree advertisement with large text.





### 3. The Daily Cable.

In compliance with the directive of the War Department, a daily cable was sent to the three principal news associations. These cables were at first limited to 300 words each; later a limit of 150 words was placed in some cases, and still later a limit of 50. This was clearly an indication to the flight of the waning interest on the part of the press and the failure to supply descriptive matter which might be used to set forth the meager details that it was possible to put in such short cables. Furthermore, letters and messages from the States spoke discouragingly of the character of publicity.

The daily cable, however, endeavored to set forth the principal events transpiring during each leg of the flight. It was desired by the news' agencies that the first part of the cable be a flash message and the last part sent in the regular way. The difficulties in the preparation of these cables where different limitations on the numbers of words were set and then the separation of the cable into flash and regular messages can well be imagined. Furthermore, the cables were often written in the air or, if opportunity did not permit this, time had to be taken from maintenance work, social or official duties. A man of newspaper training, whose sole duty on a flight of this character was limited to publicity work, could well have been used.

As the result of the lack of proper organization in the United States to handle the publicity of the Pan American Flight, the impression was soon gained that our flight was fraught with maintenance difficulties and the true progress and purpose of the flight was almost entirely obscured. Had cables been sent to a single office where the meager details might have been set off with a proper background and descriptive matter, the maintenance difficulties would have been made to assume their proper proportions instead of being exaggerated to the detriment of the flight. Before departure from Washington, a recommendation to this effect was made by the commander of the flight in anticipation of just such a lack of proper organization as resulted.

It is a well-known fact that newspapers are always looking for the sensational and local reporters will magnify every difficulty. But the contrast is marked between the publicity secured in the United States and that secured in Latin America. In the latter case, the maintenance difficulties assumed their proper proportions in publicity and were practically lost in that greater aspect of the flight wherein good will and international amity were the principal objectives.

It early became apparent to the individual fliers that but meager details of their great undertaking were being published in the newspapers at home, and those details mostly exaggerated reports of difficulties or mere statements of progress. The effect on the morale was noticeable. It was not personal aggrandizement that was hard hit

but it was pride in the Army of which they were members. Here was an opportunity to bring the Army before the public in a new role - men of war carrying a message of peace and good will to twenty nations of the world - not an aviation "stunt", but yet using the airplane for the first time in our national history in the interests of international amity. The opportunity passed.

The value of publicity is recognized throughout the world. It is one of the most powerful agencies in the diplomatic and political life of a nation. This fact was capitalized by the flight to the greatest extent in Latin America, but there is no doubt that the great mass of the American people still remain in ignorance as to the true mission of the Pan American Flight and consider it a "stunt" that failed. The publicity secured by the flight and the many messages that have been received from foreign sources clearly indicate the successful accomplishment of the objects of the flight in Latin America.

#### 4. Publicity in Latin America.

The many photographs of publicity in Latin America which have been made a part of this report give a sample of the fine attitude of the press. These photographs depict but a very small fraction of the publicity that characterized our visits in each country. As mentioned above, there is no doubt that the help of the press in Latin America was one of the most powerful factors in the successful accomplishment of our mission.

The following series of photographs indicate the type and amount of publicity which the flight secured in Latin America. It will be noted that all are front pages. This is only a sample of what occurred at nearly every stop of the flight.

# LLEGARON HOY LOS AVIADORES

## El Universal Gráfico

DIARIO ILUSTRADO

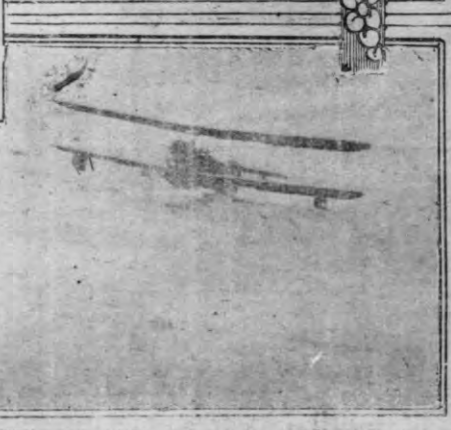
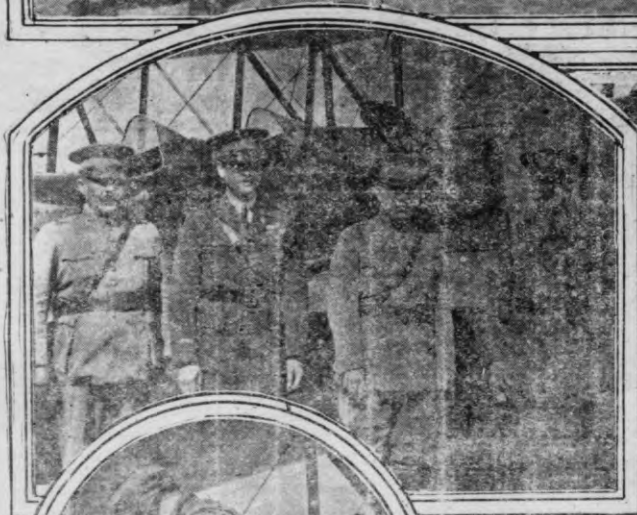
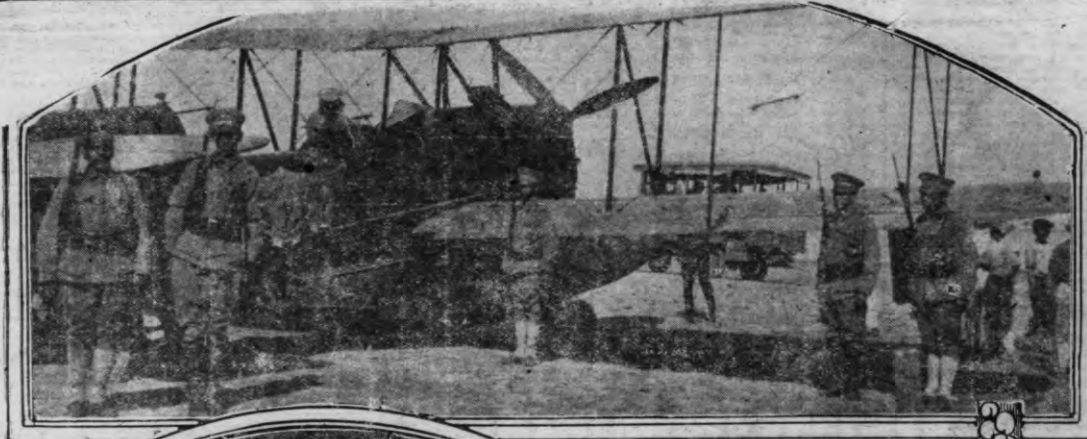
DE LA TARDE

Precio  
5 CENTAVOS

AÑO V.—TOMO LXL.—NUM. 1,634

MEXICO, D. F., SABADO 25 DE DICIEMBRE DE 1926

Registrado como artículo de 2.ª clase el día 10 de febrero de 1922.



Es el GRÁFICO el primero en publicar fotografías del vuelo panamericano en jurisdicción de México. En esta página aparecen: El "avión" "San Francisco", escoltado por fuerzas de la 10.ª Jefatura de Operaciones Militares desde su llegada a Veracruz, adelantándose al resto de la escuadra aérea; los pilotos del "San Francisco", fotografiados en poses para el GRÁFICO, junto con el general Armando R. Gómez, jefe de Operaciones; los mismos personajes, y el avión "San Francisco", representante de la Ford Motor Co. en Veracruz; el general Gómez, a bordo del "San Francisco" y recibiendo instrucciones del piloto aviador americano acerca de la manera de cómo debe hacer uso del salvavidas en caso necesario; por último, el mismo avión en los momentos de amarrar en la bahía de Veracruz.

# UN BARCO ESPIA ESTUVO EN MEXICO

AUNQUE EL PRETEXTO FUE EL INCIDENTE DEL "ARSENE J.", EL MOTIVO PARECE HABER SIDO OTRO

## El Universal Gráfico

DIARIO ILUSTRADO

DE LA TARDE

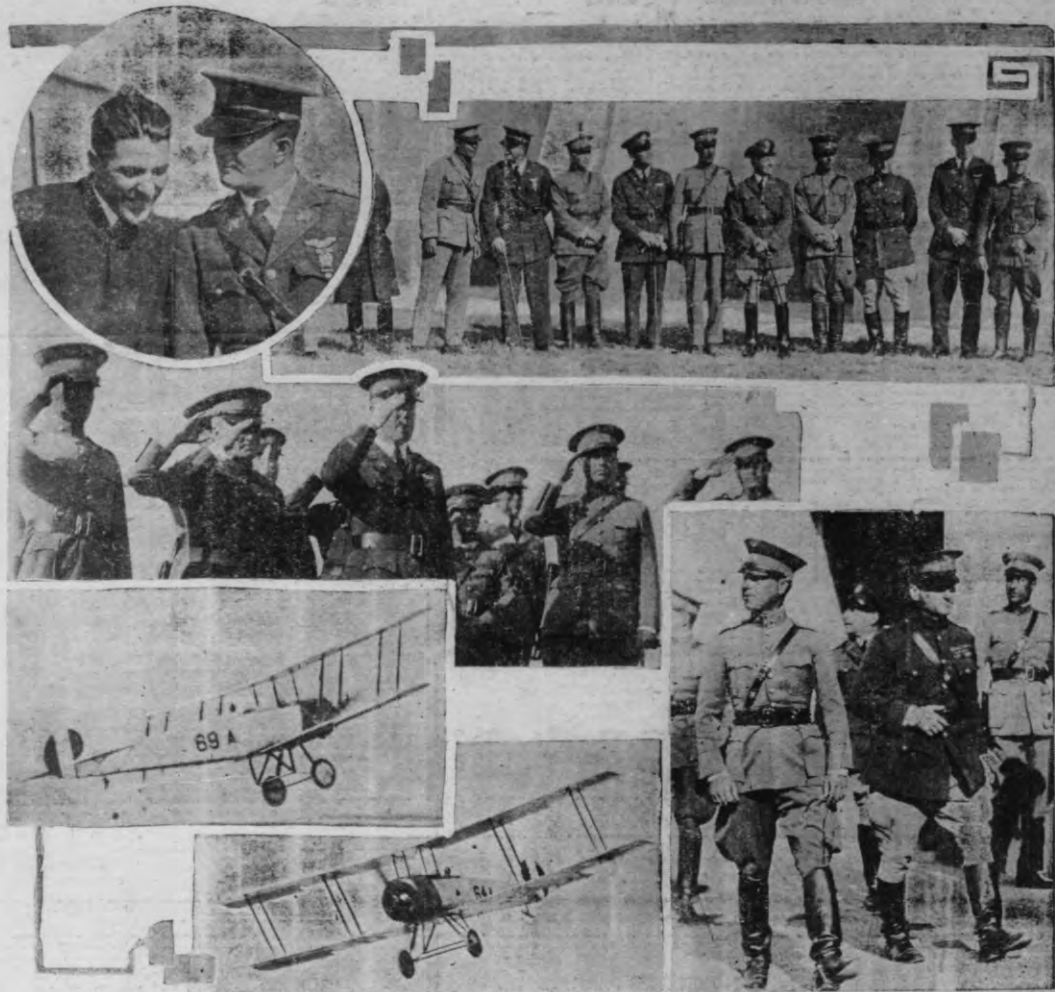
Precio  
5 CENTAVOS

AÑO V.—TOMO LXI—NUM. 1,636

MEXICO, D. F., LUNES 27 DE DICIEMBRE DE 1926

Registrado como artículo de 2a. clase el día 16 de febrero de 1923.

## LOS PLAGIARIOS DE HOWARD, CONSIGNADOS



Las presentes gráficas muestran varios aspectos de los homenajes y demás fiestas que se han dado a los aviadores estadounidenses actualmente entre nosotros y que intentan el vuelo panamericano. En el círculo, el aviador mexicano Pablo Sidar, que tantos elogios ha merecido de los pilotos extranjeros, hablando con uno de los oficiales de la aeronáutica vecina; los mismos pilotos con algunos oficiales mexicanos; saludando la bandera de México; las evoluciones de los aparatos aztecas, etc.

*Hasta los Animales Tuvieron su Navidad. ¿Qué los Pobres Niños Desamparados no Tendrán la Suya? Su Obolo Será su Respuesta*

NOVEDADES

Revistas para niños desde \$1.20
Café para casa desde \$1.50
Café para oficina desde \$2.00
Café para restaurante desde \$2.50
Café para hotel desde \$3.00
Café para club desde \$3.50
Café para negocio desde \$4.00
Café para casa desde \$4.50
Café para oficina desde \$5.00
Café para restaurante desde \$5.50
Café para hotel desde \$6.00
Café para club desde \$6.50
Café para negocio desde \$7.00
Café para casa desde \$7.50
Café para oficina desde \$8.00
Café para restaurante desde \$8.50
Café para hotel desde \$9.00
Café para club desde \$9.50
Café para negocio desde \$10.00

EL DICTAMEN

DIARIO INDEPENDIENTE

SEMI-OFICINA DE LA PRENSA ASOCIADA DE LOS ESTADOS Y DE LA PRENSA ASOCIADA DE LOS ESTADOS.
SEMI-OFICINA DE LA PRENSA ASOCIADA DE LOS ESTADOS Y DE LA PRENSA ASOCIADA DE LOS ESTADOS.

TOMICO
Wintersmith
El Mejor Físico Central en
Peladillo y la Antena
BEICK, FELIX Y Cia.
MEXICO y Oaxaca

Año XXVIII.
Domingo 22 de Diciembre de 1926

VERACRUZ, MIERCOLES 22 DE DICIEMBRE DE 1926

UNIVERSO
FRANCISCO SALPICA REINA
Núm. 6499

LAS ROPAS VOLERAN A HUATJUSCO

Le solicitaron los vecinos y el juez las ocultas ropas de sacos en su poder.

Ayer se enviaron órdenes al Mayor Pérez para que regresara con sus ropas.

La Adquisición de Operaciones
Buenos Aires, 22 de Diciembre.
El Sr. Juan Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.
El Sr. Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.

EL PUEBLO NO NECESITA PARA... LA DISPOSICIÓN DE LA AUTORIDAD

El pueblo no necesita para... la disposición de la autoridad.
El pueblo no necesita para... la disposición de la autoridad.

LOS AVIADORES AMERICANOS INICIARON EL "RAID" A TRAVES DEL CONTINENTE



Captain William B. Sturtevant, Major Harold G. Berry

Salieron de San Antonio, Tex., y Llegaron a Brownsville, Debiendo Reanudar el Vuelo a Tampico
Mañana en las Primeras Horas Saldrán del Puerto Petrolero con Dirección a Veracruz, Donde se les Prepara Entusiasta Recepción



En el mapa—Con una línea negra está marcada la ruta que seguirán los aviadores americanos a través del continente. Los kilómetros "Análisis" que tripulaban—Arriba, el capitán en tierra. Abajo, el avión en el mar.

ARRENDAMIENTO DE 'EL MCD-LO' Y 'LA GLORIA'

Este año se hará la zafra en dichos ingenios, por cuenta de los señores.

JALAPA, diciembre 21.—El Sr. Juan Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.



Captain Edward S. Thompson



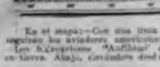
Captain William B. Sturtevant

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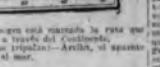
Captain Leo O. Baker

JALAPA, diciembre 21.—El Sr. Juan Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.



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Fincas Administradas por la Junta de Admón. Civil

Han sido embargadas las rentas para cobrar contribuciones pendientes de pago.

El Sr. Juan Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.

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PERSECUCIÓN DE UNA PARTIDA DE ALZAROS

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LA LEGISLATURA CLAUSURARA SU PRIMER PERIODO

Ayer se designó la Permanente que funcionará hasta el mes de mayo.

JALAPA, diciembre 21.—El Sr. Juan Pérez, jefe de la Adquisición de Operaciones de la Compañía de Electricidad de Buenos Aires, se encuentra en Huatjusco, Veracruz, en un viaje de negocios.

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LA LEGADA A VERACRUZ

Mañana medianoche llegará a Veracruz el avión de los aviadores americanos.

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LA CELEBRACION DEL CENTENARIO DE GOYA

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Star & Herald



FOR THE REASON THAT LACKS ASSISTANCE FOR THE OTHERS IN THE COMPANY...

Member of the Associated Press... The Associated Press is exclusively entitled to the use of reproduction of all news dispatches...

Published by STAR & HERALD COMPANY (Incorporated in Panama, C. Z.) At No. 8 South Ave. PANAMA, C. Z. Member of THE ASSOCIATED PRESS and NORTH-AMERICAN NEWS-PAPER ALLIANCE

VOL. LXXVII—No. 21,790

DAILY AND SUNDAYS

PANAMA, R. P., WEDNESDAY, JANUARY 19, 1927

Entered as Second Class Matter, At Post Office, Panama, C. Z.

FIVE CENTS GOLD

AL 500 PLANE OF PAN-AMERICAN FLIGHT FLEET NOW ASSEMBLED AT FRANCE FIELD

THREE PLANES REACHED BASE SAFELY Y'DAY

Major Dargue, Commanding Flight, Expects To Call on President Chari Today With Goodwill Message From Council...

COMMANDERS OF PLANES



Commanding the San Francisco, which landed third at France Field yesterday.

FLIERS PLAN TO RESUME FLIGHT SATURDAY FOR BARRANQUILLA AND BAGOTA, COLOMBIA, RETURNING AFTER TO C. Z. FOR WEST COAST

As the tropical rain, a nation had not been descending, but the flight was suspended...

KELOGG FAVORS ARBITRATION WITH MEXICO

A. F. O. F. L. TO WORK FOR PEACE WITH THE MEXICANS

U. S. ONLY TRYING TO PREVENT SEIZURES

WASHINGTON, Jan. 18 (A.P.)—The national involvement in the dispute over Mexican oil...

ARCHBISHOP LEADS REBELS, MEXICAN PAPER SAYS

MEXICO CITY, Jan. 18 (A.P.)—Archbishop of Guadalajara has been located in the village of San José de Guzman...

GOVERNOR AROSEMENA OF COON EXPLAINS OPPOSITION TO LAW 6

Enforcement of New Labor Law Would Make It Imperative For Business Houses To Suspend Activities in Colon, He Tells President Chari—There Are Not Sufficient Panamanians in Colon To Permit Compliance With Law — Is Golden Opportunity For "Pro-acted Vagrants"

DELANEY AND MALONEY WILL FIGHT FOR TEX RICKARD

NEW YORK, Jan. 18 (A.P.)—Senator Tex Rickard announced that he has rejected Delaney and Maloney...

U. S. Senate Rejects Lausanne Treaty With Turkey

WASHINGTON, Jan. 18 (A.P.)—The Senate has refused to ratify the Lausanne treaty with Turkey...

NOT SURPRISED BY PERU'S ACTION

Interest Now Centers on What Kellogg's Next Step in Attempt To Settle Tacna-Arica Dispute Will Be

SS. FRANCCNIA DUE TODAY WITH 350 PASSENGERS

Passengers Will Have Plenty of Time Ashore As Ship Is Scheduled To Sail At 1 O'clock Tomorrow Morning

CLARK'S INDIANSHIP "ALSO ANSWERS OF FOREIGN SERVICE EXAMS"

WASHINGTON, Jan. 18 (A.P.)—Clark's Indianism has passed the recent examinations for foreign service...

1000 BRITISH MARINES TO SAIL FOR CHINA AT END OF MONTH; SQUADRON OFF TODAY

British Public perplexed by seeming discrepancy in Government's announcement of policy of conciliation in China and extensive naval preparations...

PRINCE OF WALES PAYS VISIT TO PANAMA

LONDON, Jan. 18 (A.P.)—The Prince of Wales paid a surprise visit to Panamanians this afternoon...

TO VISIT PEARL ISLES ON YACHT "BIG BILL"

An excursion to Pearl Islands on the yacht "Big Bill" is planned to leave the Quarantine Pier at 11 P. M. tomorrow January 21, returning the following night.

CLEVELAND COMES FOR SUPPLIES AND COAL

CLEVELAND, Jan. 18 (A.P.)—The Cleveland, which has been sailing to Nicaragua waters, arrived here today to take on supplies and provisions...

NEW COME DISCOVERED

CAMBRIDGE, Mass., Jan. 18 (A.P.)—The Harvard College Observatory has discovered a new comet...

TO GIVE CONCERT AT ANCON CLUB TONIGHT

The Ancon Club band will give a concert under the direction of Chief Surge C. T. Linder at the Ancon Clubhouse this evening...

DELANEY AND MALONEY WILL FIGHT FOR TEX RICKARD

NEW YORK, Jan. 18 (A.P.)—Senator Tex Rickard announced that he has rejected Delaney and Maloney...

GOVERNOR AROSEMENA OF COON EXPLAINS OPPOSITION TO LAW 6

Enforcement of New Labor Law Would Make It Imperative For Business Houses To Suspend Activities in Colon, He Tells President Chari—There Are Not Sufficient Panamanians in Colon To Permit Compliance With Law — Is Golden Opportunity For "Pro-acted Vagrants"





(Fot. MUNDO)

**AL TOMAR EL TREN**—La fotografía, obtenida esta mañana en La Esperanza, cuando los aviadores se dirigen a tomar el tren, muestra, de izquierda a derecha, a los señores General Luis Carlos Morales, Mayor Dargue y Capitanes Willoughby y Wolsey. En la segunda fila: Capitán Eaker, Teniente Torres Durán y Coronel Padilla.



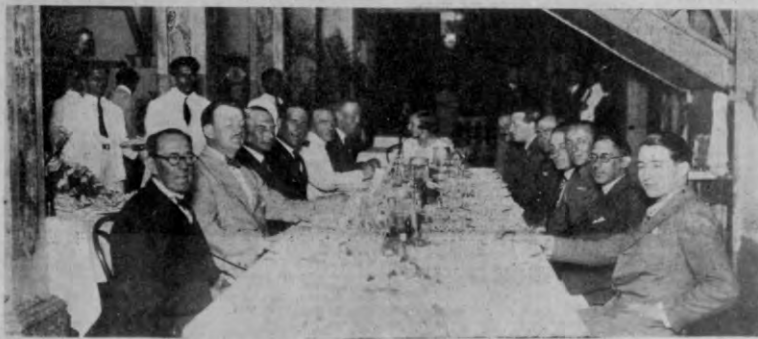
(Fot. MUNDO)

**EN EL HOTEL**—Los huéspedes del Hotel de La Esperanza festejaron anoche a los aviadores americanos, que llegaron hasta ese sitio, de donde siguieron esta mañana hacia la capital. La fotografía presenta un grupo de veraneantes rodeando a los valerosos viajeros.



(Fot. MUNDO)

**LOS AVIADORES**—Hoy a las 10 llegaron a la ciudad los aviadores americanos que están efectuando el vuelo continental. La fotografía muestra a los comisionados del Ministerio de Guerra y al Alcalde de la ciudad, doctor Piedrahíta, en compañía del Mayor Dargue y de los Capitanes Wolsley, Eaker y Willoughby, al salir de la estación, en Bogotá.



(Fot. MUNDO)

**EN LA ESPERANZA**—Anoche se sirvió una suntuosa comida en el Hotel de La Esperanza, donde pasaron la noche los aviadores que han venido a la ciudad. La fotografía muestra un aspecto de la mesa principal.

A. TOUGHNET - 100 PLAZA DE BOLIVAR - 100

EL DIARIO NACIONAL

A. TOUGHNET - 100 PLAZA DE BOLIVAR - 100

Año XIII. Bogotá (Colombia), Martes enero 25 de 1927. Número 3.640.

El plan de trabajos del ferrocarril al Magdalena

D. Julio Holguin y el Dr. Arcelia Uribe, en viaje

El plan de trabajos del ferrocarril al Magdalena...

LOS AVIADORES NORTEAMERICANOS EN BOGOTÁ



Teniente John W. Bunge



Mayor HERBERT A. DAROU



Capitán Ysa C. Ecker

Enganche de obreros para la carretera de Cambao

Telegramas del ministro de obras públicas...

El viernes dirigió el señor Bolívar...

El sábado fue el señor Bolívar...

El domingo fue el señor Bolívar...

El lunes fue el señor Bolívar...

Barranca fue declarada en estado de sitio

SE NOMBRÓ AYER JEFE CIVIL Y MILITAR DE LAS FUERZAS ALI REUNIDAS

Hoy a las diez llegan los aviadores americanos

Horario del vuelo en territorio colombiano

Los aviadores de la marina de Bogotá...

Los infantes piletos en dirección de la estación...

Por la tarde visitaron al señor presidente...

Esta misma noche a las diez emprendieron viaje...

El horario del vuelo en territorio colombiano...

Un homicidio más se registró ayer en la ciudad

Por celos una mujer a cuchillo a su rival



Capitán Ysa C. Ecker

Rumbo inesperado en el drama de Chapinero

Un pariente del matador fue detenido ayer por el funcionario

El proceso que se adelanta...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

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El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

El ministro de obras públicas...

Banco Hipotecario de Colombia. CAPITAL Y RESERVAS, \$ 2.918.000. EN DINERO EFECTIVO. EN CEDULAS DEL 8%.

LA CASA PLATIN. Sucesores: Amaya Ruiz & Palomino. ACABA DE RECIBIR UN MAGNIFICO SURTIDO DE PAFOS.

ANUNCIE USTED EN ESTE CUPON Y SE CONVIENDE DEL GRAN EXITO QUE SE OBTIENE

LABORVIEJE VETERINO. REUMATICOS. SUS DOLORIAS SERAN CURADAS CON EL TRATAMIENTO 'ZENDEJAS' No. 9. VIDRIOS. CEMENTO AMERICANO.

J. Y. WOODLOR & CO. BOGOTÁ. Calle 12, No. 232. B. BOTERO R. & C.

PERIODO LIBERAL  
E INDEPENDIENTE  
ORGANO DE LOS  
DERECHOS DE LA  
DEMOCRACIA

# LA PRENSA

DIARIO DE LA TARDE  
FUNDADO EL 10 DE AGOSTO DE 1923.

AÑO IV | EDICION DE SEIS PAGINAS

GUAYAQUIL (ECUADOR)

LUNES 31 DE ENERO DE 1927.

VALE DIEZ CENTAVOS—No 1139

REDACCION, ADMINIS-  
TRACION Y TALLERES  
AGUIRRE 309  
TELEFONO C. 993  
P. O. BOX

## El arribo de los aviadores americanos a Guayaquil

### Nuestro Saludo a los Aviadores

MENSAJEROS ALADOS DEL GRAN PAIS DEL NORTE, QUE ES TODO JOVANA, TODO FUERZA, BRAVOS Y CORAJOSAS ADALDES DE LA CIVILIZACION QUE CREANDO LOS AERES, LE VAIS A PRECIOSO CONCURSO DE UNO A OTRO CORFIN DEL CONTINENTE, Y SEREBIS EN TODOS LOS PUEBLOS EL AMOR DE LAS EMPRESAS FABULOSAS EN SU CREACION DE UNA CADA VEZ MAYOR GRANDEZA.

SEID BIENVENIDOS AL SOLAR ECUATORIANO, QUE ESTA ABIERTO PARA TODOS Y EN ESPECIAL PARA LOS HOMBRES QUE, COMO VOSOTEROS, ENGARNAIS UN EMBLEMA DE VIRILIDAD, DE HEROISMO, DE MARAVILLOSAS PERSEPTIVAS.  
EN VOSOTROS SALUDA EL ECUATOR A LOS REPRESENTANTES DE UNA RAZA DICTADA DE LAS MAGNIFICAS INQUIETUDES DE LAS EMPRESAS DEL PORTENTE. SALUDA A LOS VAMONES DE LAS COMQUISTAS MODERNAS DESLIGADOS DE LAS INTERPRANCIAS DEL PASADO; SALUDA EN UNA PALABRA A LOS CREZADOS DE LA CIVILIZACION.  
SECRETARIAS A NUESTROS CONDORES ANDINOS, VUESTRAS AERONAVES OFRECEN LA OLIMPICA MAGNIFICENCIA DE SUS REGIONES PORTES BATIDOS ALAS, Y EN EL EXTRA ORDINARIO VIAJE OYE OS HABER TRAZADO UN POR LA RUTA PANAMERICANA, CANTANDO UN HIMNO DE AMISTAD, DE CONFIANZA Y DE PROGRESO.



TENIENTE MULK S. FAIRCHILD

Nació en Bellingham, Washington, el 2 de setiembre de 1894, fue soldado de la Guardia Nacional del Estado de Washington, ciudad en la Universidad y se alistó en el Cuerpo de señales del servicio de Aviación.

En 1915 y 1917 estuvo en la Guardia Nacional en la frontera mexicana. Después de haber sido graduado en la Escuela de aeronautia Militar de Berkeley, California, fue enviado al estacionario. En enero fue nombrado Subteniente y en marzo de 1918, Teniente.

Estudió en India, donde pasó a continuar sus estudios en Francia. Estuvo en la guerra y tomó parte en el vuelo nocturno y en Los Estados Unidos contra Alemania. Después volvió en la guerra en la que condecorado con la Cruz de Guerra de Francia. Voló en muchos vuelos de reconocimiento y tuvo a su favor 1200 a 1500 horas de vuelo.



TENIENTE CHARLES M. ROBINSON

Nació en Columbus, Ohio, el 17 de mayo de 1894, asistió a la Escuela de Campo y a la Aeronautia Militar de la Universidad del Estado de Indiana. En 1913 se graduó en la Escuela Militar de Aeronautia de Austin, Texas.

En 1918 fue ascendido a Subteniente del servicio aéreo y prestó servicios en el Campo Dick de Dallas, Texas, Campo Dick de Dallas, Texas, en la fortaleza Sill, Oklahoma y en el Campo Stridger, Michigan, siguiendo varios cursos de piloto y artillería aérea. Marchó para servir también en Filipinas, donde registró para actuar como Aviajante del Oficial de Aviación en la Fortaleza Benjamin Harrison, Indiana.

En 1922 se graduó en la Escuela Superior de Aviación, después de haber cursado como estudiante en el Campo Kelly, Texas. El Teniente Mc. Robinson, es abogado y presta actualmente sus servicios en la Fortaleza Crockett, Texas.



CAP. CLINTON F. WOOLSEY

Nació el 20 de agosto de 1891 en Northport, Michigan. Por espacio de tres años asistió a la Universidad de Valparaiso del Estado de Indiana. En 1913 se graduó en la Escuela Militar de Aeronautia de Austin, Texas.

La enseñanza de la aviación la recibió en el Campo Kelly, Texas. Asistió también al Campo de Instrucción de Oficiales en la Fortaleza Benjamin Harrison, Indiana, siendo más tarde transferido al Campo de Artillería del Servicio de Aviación. Sirvió también en el estacionario, habiendo obtenido el Título de Aviación del Teniente Central de Instrucción en Leonard, Indiana. A su regreso a los Estados Unidos fue destinado como aviador en la Escuela Primaria de Aviación del Campo Crockett, Austin, Texas. Desde entonces, cumplió el curso de teniente y oficial de reconocimiento en varias vuelos.



TENIENTE LEONARD D. WADDINGTON

Nació el 8 de octubre de 1895, en Childress, en cuyas escuelas elementales y superiores se educó, logrando a completar su enseñanza de campo en la Universidad de Princeton y la educación superior en el Campo de Tallado, Texas. Hablando más tarde Subteniente del servicio de aviación en 1918 sirvió en el Campo Willburg, Virginia; en las islas Hawaii; en el Campo Higin y en la Fortaleza Houston, Texas.

Especializado en fotografía aérea ha decidido a considerarse como un oficial fotógrafo, por lo mismo ha renunciado a muchas comisiones relacionadas con fotografías de campo. Actualmente se halla en servicio en la Fortaleza de San Houston, Texas.



MAYOR HERBERT A. LARQUE

Nació en Brooklyn, Nueva York, el 17 de noviembre de 1885 se graduó en la Academia Militar de las Reservas Unidas en 1911, siendo nombrado Subteniente del Cuerpo de Artillería Costanero.

En 1914, fue promovido al rango de Aviación del Cuerpo de Señales, y en 1917 fue trasladado al XVI Campo de Artillería. Estuvo en Filipinas durante los años de 1913 y 1914 y allí realizó 123 vuelos en un aeroplano que hubo de reparar, auxiliando eficazmente al Cuerpo de Artillería Costanero, a localizar los vapores incendiarios aproximadamente, prohibiendo luego su viaje a este puerto.

El Gobierno, deseario de agajar en forma litiosa y sumarios dignos Inspección de países, le promovió a su sueldo a la escuela para alugar en la ribera quejista de Lily Al. Faro en cuyos hangares permanecerán esta noche los aparatos hasta mañana temprano en que los pilotos experimentados aproximadamente, prohibiendo luego su viaje a este puerto.

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CAPITAN ARTHUR B. MCDANIEL

El 31 de agosto de 1895, nació en San Antonio, Texas. Fue nombrado Subteniente del Cuerpo de Oficiales de Reserva de Infantería, en 1911 ascendido luego a Teniente y a Capitán en julio de 1923. Asistió en el que cursó al servicio de Aviación, siendo asignado al Campo Crockett en Florida para la primera enseñanza. Después de terminar el curso preliminar, fue destinado al Campo Kelly, Texas en el que cursó en estudios más avanzados hasta que el 16 de 1923 fue nombrado Piloto Aéreo.

En 1923, fue promovido al rango de Capitán y se graduó en la Escuela de Aeronautia Militar de Austin, Texas, habiendo en 1919 fue transferido al Campo Rockwell en San Diego, California, y más tarde a las Filipinas. Allí estudió Derecho y al mismo tiempo cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York. Cuando regresó a Estados Unidos, fue destinado al servicio de Aviación, recibiendo enseñanza en el Campo Kelly y se graduó en la Escuela de Aeronautia Militar de Austin, Texas, habiendo en 1919 fue transferido al Campo Rockwell en San Diego, California, y más tarde a las Filipinas. Allí estudió Derecho y al mismo tiempo cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York.

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CAPITAN IRA C. BAKER

El 13 de abril de 1890, nació en el Estado de Idaho, estado de Texas. El 1917 asistió al Cuerpo de Instrucción de Oficiales en la Fortaleza Logan Hill, Mo. Cuerpo de Infantería 41. Entró al servicio de Aviación en 1916, recibiendo enseñanza en la Escuela de Aeronautia Militar de Austin, Texas, habiendo en 1919 fue transferido al Campo Rockwell en San Diego, California, y más tarde a las Filipinas. Allí estudió Derecho y al mismo tiempo cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York. Cuando regresó a Estados Unidos, fue destinado al servicio de Aviación, recibiendo enseñanza en el Campo Kelly y se graduó en la Escuela de Aeronautia Militar de Austin, Texas, habiendo en 1919 fue transferido al Campo Rockwell en San Diego, California, y más tarde a las Filipinas. Allí estudió Derecho y al mismo tiempo cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York.

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TENIENTE JOEN W. BENTON

Orlando de Mantón, California, ciudad en la que nació el 21 de noviembre de 1895, cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York. Cuando regresó a Estados Unidos, fue destinado al servicio de Aviación, recibiendo enseñanza en el Campo Kelly y se graduó en la Escuela de Aeronautia Militar de Austin, Texas, habiendo en 1919 fue transferido al Campo Rockwell en San Diego, California, y más tarde a las Filipinas. Allí estudió Derecho y al mismo tiempo cursó un curso sobre leyes de contratos en la Universidad de Colombia de Nueva York.

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TENIENTE ENNIS C. WHITEHEAD

Nació en Westfalla, Kansas, el 8 de setiembre de 1896 y estudió en la Universidad de Kansas.

El Gobierno, deseario de agajar en forma litiosa y sumarios dignos Inspección de países, le promovió a su sueldo a la escuela para alugar en la ribera quejista de Lily Al. Faro en cuyos hangares permanecerán esta noche los aparatos hasta mañana temprano en que los pilotos experimentados aproximadamente, prohibiendo luego su viaje a este puerto.

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TENIENTE BERNARD S. TOMPSON

Nació en Bagdad, Florida, el 27 de febrero de 1892 y estudió en el Colegio Spring Hill, Florida.

El Gobierno, deseario de agajar en forma litiosa y sumarios dignos Inspección de países, le promovió a su sueldo a la escuela para alugar en la ribera quejista de Lily Al. Faro en cuyos hangares permanecerán esta noche los aparatos hasta mañana temprano en que los pilotos experimentados aproximadamente, prohibiendo luego su viaje a este puerto.

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### La llegada de los aviadores

Cuando esta noche se halle en la ciudad, estaría leyendo procedente de Bagdad, Florida, los aviadores norteamericanos, que en viaje de fraternidad vienen al Ecuador.

Después de su salida de Bagdad, en Childress, en cuyas escuelas elementales y superiores se educó, logrando a completar su enseñanza de campo en la Universidad de Princeton y la educación superior en el Campo de Tallado, Texas. Hablando más tarde Subteniente del servicio de aviación en 1918 sirvió en el Campo Willburg, Virginia; en las islas Hawaii; en el Campo Higin y en la Fortaleza Houston, Texas.

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SUSCRIBASE HOY MISMO A EL TELEGRAFO EL DIARIO DE MAYOR FORMATO Y CIRCULACION DE TODO EL PAIS

EL TELEGRAFO

VALE 10 ctvos.

EDICION DE LA MAÑANA

FUNDADO EN 1884

EDICION DE OCHO PAGINAS

EL TELEGRAFO-MIERCOLES 2 DE FEBRERO DE 1927

EDICION DE OCHO PAGINAS

NUM. 14.987

LOS AVIONES NORTEAMERICANOS AGUARIZARON A LAS 3 Y 20 DE LA TARDE DE AYER EN NUESTRO PUERTO

Se ven los aparatos de Tumaco... Informaciones particulares recibidas por la oficina de la Alianza...

Los hidro-aviones pasan por Emeraldas... De la misma oficina recibimos...

Para los aviones por Bahía de Caraquez... Bahía de Caraquez. Febr. 1. - (De nuestro corresponsal)...

Para la flota por Playas... Playas. Febr. 1. - (De nuestro corresponsal)...

Para la población de Ponce... Ponce. Febr. 1. - (De nuestro corresponsal)...

Para el avión más pequeño... Para el avión más pequeño que...

Los aviones cruzan por Machalilla... Machalilla. Febr. 1. - (De nuestro corresponsal)...

Se dirigen para la flota de la Libertad... Aviones de la Libertad...

Cruzan los aviones por Anón... Anón. Febr. 1. - (De nuestro corresponsal)...

Los norteamericanos, en número de tres, por Anón. Se ve a las aves sobre San Lorenzo...

El jefe de Distrito, señor Rompillo, con la amabilidad que le caracteriza...

Acuerdo de pasar 3 horas de avión por encima del cañal de San Lorenzo...

El vuelo más reciente que se registra algo fuerte hace que los aviones...

Para la flota por Playas... Playas. Febr. 1. - (De nuestro corresponsal)...

Para la población de Ponce... Ponce. Febr. 1. - (De nuestro corresponsal)...

Para el avión más pequeño... Para el avión más pequeño que...

Los aviones cruzan por Machalilla... Machalilla. Febr. 1. - (De nuestro corresponsal)...

Se dirigen para la flota de la Libertad... Aviones de la Libertad...

Cruzan los aviones por Anón... Anón. Febr. 1. - (De nuestro corresponsal)...

EL VUELO DE TUMACO A GUAYAQUIL LO EFECTUAN EL NEW YORK, EL SAINT LOUIS Y EL SAN FRANCISCO EN CINCO HORAS Y CUARTO DE MARCHA ININTERRUMPIDA

A LAS 4 Y 30 APARECE EN GUAYAQUIL LA CUARTA NAVE AEREA DE LA GLORIOSA FLOTILLA

LA POBLACION ENTERA SALUDA CON FRENETICOS Y PROLONGADOS APLAUSOS EL ARRIBO DE LOS AVIADORES

NUMEROSAS LANCHITAS RODEAN A LOS HIDRO-AVIONES PARA QUE LOS COMITES DE RECEPCION DEN A LOS PILOTOS SU CORDIAL BIENVENIDA



El jefe de Zona envió en las primeras horas de la mañana algunos partes telegráficos e hizo de los puntos de la zona...

La madrugada, agolpados en las playas, prorrumpían en entusiastas aplausos y vivas al mismo tiempo...

El Comandante portuario... Con la debilidad que embalsó el señor Harold D. Clark...

Los lancheros al servicio de los aviones... Los lancheros que se colocaron en el lugar señalado para el aterrizaje...

Avión oportuno sobre la llegada de los aviones... El Comandante de Zona...

La delegación que recibió a los aviones... La delegación que se había formado desde el aeropuerto...

El jefe de Zona envía algunos despachos... El jefe de Zona envió en las primeras horas de la mañana...

Reunión de los comisionados... A la 1 de la tarde convocó un comité...

La hora de salida en la lancha de Anón... A las 2 de la tarde, tomaron la lancha...

El viaje de los alumnos de los cursos... En la lancha "Nueva Esperanza" se trasladaron al otro lado...

mayores y mecánicos, los que de los buques cargo del lado de los aviones...

El Comandante portuario... Con la debilidad que embalsó el señor Harold D. Clark...

Los lancheros al servicio de los aviones... Los lancheros que se colocaron en el lugar señalado...

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El viaje de los alumnos de los cursos... En la lancha "Nueva Esperanza" se trasladaron al otro lado...



EL PRESIDENTE DEL DIRECTORIO DEL AGRICOLA

A través importante... reunión convocada por el Banco Comunal y Agrícola...





# La Tradición



DIARIO DE LA TARDE

AÑO IX

OCHO PAGINAS

LIMA, JUEVES 3 DE FEBRERO DE 1927

CINCO CENTAVOS

No. 2394

## ¡HURRA A LOS HEROES NORTEAMERICANOS!



Major Herbert A. Dargue ✓



Capitan Clinton F. Woolsey ✓



Capitan Arthur B. McDaniel



Capitan Ira C. Eaker ✓

**"LA TRADICION"**

**WELCOMES  
AMERICAN  
AVIATORS**

(For reading matter turn to page 2)



Lieutenant Charles McK. Robinson



Arts Lieutenant Barnard S. Tompson

**"LA TRADICION"**

**presenta su saludo a  
la Embajada Aérea  
Norteamericana**

(Véase nuestra información en la 2a. pag.)



Lieutenant Ennis C. Whitehead ✓



Lieutenant Leonard W. Weddington



First Lieutenant Muir S. Fairchild



First Lieutenant John W. Benton



## Han llegado los aviaadores norteamericanos

### La hora inoportuna impidió una grandiosa bienvenida El Ayuntamiento de La Paz los declara Huéspedes Ilustres Como señal de agasajo se embanderará la población

#### EL JEFE DE LA MISION



Mayor Herbert A. Dargus jefe de la expedición aérea, a bordo del avión insignia "New York". Nació en Brooklyn el 17 de Noviembre de 1887, se graduó en la academia militar de los Estados Unidos en 1911, y poco después se dedicó a la aviación. En consecuencia viajó a los lares Filipinas, a México y a diversos puntos de la Unión americana. Corrió la guerra mundial, fue enviado a Inglaterra y Francia con una misión especial. Actualmente pertenece al departamento de correo del mayor general Mason M. Patrick, jefe del cuerpo aéreo militar. El mayor Dargus es principalmente un instructor, y es director en jefe de la escuela de pilotos del Cuerpo Aéreo.

#### Bienvenidas sean a Bolivia las águilas del país de Wilson

Desde cuando son huéspedes muy gratos de La Paz los intrépidos aviaadores jóvenes que realizan el explorador del "la vuelta a la América". El mayor Herbert A. Dargus y sus compañeros de hazaña emprendieron su primer vuelo una embajada extraordinaria del gran país amigo de Bolívar el país fuerte, poderoso, justiciero y valiente que ha reconocido el inmenso derecho boliviano de salir al mundo. Los Estados Unidos han consentido realizar las clarividentes anticipaciones de una admirable extensión de la justicia internacional que sus Presidentes Wilson, La Guardia, los Taft y sucesivamente sostienen por nosotros, ha logrado a su objeto, la verdad se ha impuesto y con ella nuestros derechos: es el firme y sacro país del norte que a la luz de referendos. Son ya un hecho realizable, un hecho de destino inalterable, y su consecución en hecho tangible y material será sólo cuestión de tiempo. Entre tanto, el mundo ya no pasa en tela de juicio la justicia de nuestra causa.

#### EL TIPO USADO ES EL ANFIBIO LOENING, CON MOTOR LIBERTY DE 420 H. P.



Capitán Arthur B. McDaniell, segundo jefe del raid y comandante del hidroavión "San Antonio".



Capitán Eric E. Eaker, tercer jefe del raid, comandante del avión "San Francisco".

## LOS ALCANCES Y EL OBJETO DEL RAID



MISTER KELLOGG

En el gran raid del pasado verano, el mayor Kellogg, comandante de la misión, y el capitán Kellogg, jefe de la expedición, fueron los únicos que lograron completar el viaje. El mayor Kellogg, jefe de la expedición, fue el único que logró completar el viaje. El mayor Kellogg, jefe de la expedición, fue el único que logró completar el viaje.

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Capitán Clinton G. Vander, comandante del "Odessa".

## Ordenanza Municipal

RUFINO PANDO, Presidente Interino del H. Consejo Municipal. Por cuanto el H. Consejo Municipal, con aprobación unánime de sus actantes, acordó, se dicta la siguiente ordenanza: El H. Consejo Municipal — Considerando: Que el día sábado 12 del presente mes arribó a esta ciudad, en vista aérea, la misión de aviación de la República de los Estados Unidos de Norte América. Que, siendo los miembros de la comisión representantes oficiales del ejército y la armada del último país que ha hecho justicia a las restricciones y derechos paritarios de la República de Bolivia, alegando por ellos en sus últimas deliberaciones intermunicipales, un deber de carácter cívico considerar la profunda gratitud del pueblo boliviano por la justicia con que el pueblo de Norte América en la cuestión de Tacna y Arica. Resolvió: — Artículo 1.º.— Declárense HUESPEDES ILUSTRES de la Ciudad de La Paz a los señores miembros de la misión norteamericana de aviación. Artículo 2.º.— En demostración de

## Detalles del arribo

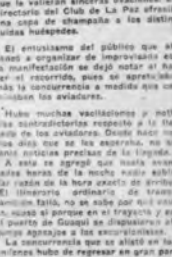
Después de las primeras horas de la noche un inquieto interés dominó al pueblo, ante la noticia de que arribaban los miembros de la gran misión. En efecto, la estación de la Paz reveló su más atento de personas ansiosas de dar la bienvenida a los intrépidos pilotos: Representantes del gobierno, de las autoridades al ejército, la prensa y una enorme muchedumbre entusiasta. A la llegada de los aviaadores, una banda de música acompañó a los jóvenes de la canción americana, mientras la muchedumbre silenciosa presenciaba y escuchaba. Los aviaadores fueron acompañados hasta el Club de La Paz, entre vitores y hurras y en medio de un fervor entusiasta. Desde ese día los jóvenes del Club de La Paz, en representación de la manifestación y concretada que la valieron aires ovalsinos. El director del Club de La Paz ofreció una copa de champagne a los distinguidos huéspedes. El entusiasmo del público que se dispuso a organizar de improvisación la manifestación se dejó notar al notar el recorrido, que se apresuró hacia la concentración a medida que se acercaban los aviaadores. Hubo muchas vacilaciones y muchas subterfugios respecto a la llegada de los aviaadores. Desde hace varios días que se los esperaba, no se tenía noticias precisas de la llegada. A esta se agregó que había un avión a las horas de la noche había salido del Club de La Paz, entre vitores y hurras y en medio de un fervor entusiasta. Desde ese día los jóvenes del Club de La Paz, en representación de la manifestación y concretada que la valieron aires ovalsinos. El director del Club de La Paz ofreció una copa de champagne a los distinguidos huéspedes.



Terence Leonard D. Widdington, piloto de la misión del "Saint Louis".



Terence E. Eaker, piloto de la misión del "Saint Louis".



Terence E. Eaker, piloto de la misión del "Saint Louis".



Terence E. Eaker, piloto de la misión del "Saint Louis".

## EN 10 HORAS LOS AVIADORES NORTEAMERICANOS HICIERON AYER LA ETAPA MEJILLONES-EL BOSQUE

### DESPUES DE EVOLUCIONAR SOBRE SANTIAGO, LOS CUATRO AVIONES ATERRIZAN EN EL AERODROMO MILITAR— EL COMANDANTE DE LA ESCUADRILLA, MAJOR DARGUE, ENTREGA UN AUTOGRÁFO

### PARA "LA NACION", MOMENTOS DESPUES DE SU LLEGADA.— SERAN CAMBIADOS EN LA CAPITAL LOS MOTORES DE DOS MAQUINAS.— EL MIÉRCOLES SEGUIRAN VIAJE A VALDIVIA

### EL EMBAJADOR NORTEAMERICANO HABLA SOBRE LAS PROYECCIONES DEL RAID.— EL BANQUETE DE ESTA NOCHE EN LA EMBAJADA NORTEAMERICANA

El teniente Fitchell portador de un mensaje para el Director de "La Nación"...

Primer vistazo tomado de la... de la tarde...

El público rodea a los aviadores...

Los aviadotes norteamericanos reciben órdenes...

Se invita a los aviadotes al Casino...

Un mensaje para la ciudad de Antofagasta...

Los aparatos acuatizaron cerca de Coquimbo...

La estada en Coquimbo...

Se prosigue el raid...

Los aviadotes que forman parte de la escuadrilla...



El Mayor Dargue rodeado de los pilotos que forman la flotilla

*As leader of the Pan American flight I am happy to greet the people of Santiago and of Chile through the columns of the Nation Good will to all Greetings We are happy to be here N A Dargue Major, Air Corps*

Traducción: "Como jefe del vuelo Panamericano, me siento feliz de saludar al pueblo de Santiago y de Chile por intermedio de las columnas de "La Nación"— Felicitades para todos. [Firma] Estamento conjunto de Estados Unidos y Chile. Aviación"

Por Zapallar DE SANTIAGO, 11.—A las 1.15 pasaron por aquí los aviones...

DE SANTIAGO, 11.—A las 1.15 pasaron por aquí los aviones...

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### INJERTO

Se ha inventado un método para...  
SOLAS DE VENTAS: ALAMEDA 1549  
TELÉFONO 1247—CORREO 1247.  
FARMACIA O'HARRA.

### Los SORDOS quedarán FLAGOS

Se ha inventado un método para...  
Casa M. H. Dupont—Domeyko 2022—Casilla 3624



DIRECTOR

DOCTOR ADRIANO IRALA

AÑO II — N.º 289

# LA NACIÓN

DIARIO INDEPENDIENTE DE LA TARDE

ASUNCIÓN, (PARAGUAY) JUEVES 2 DE MARZO DE 1937.

Número suab: 8. 1.—

## LA HAZAÑA DE PREPARAR LOS BUENOS PALOMAR AMERICANOS

### El recorrido Buenos Aires Asunción es cubierto en ocho y media horas. - Reportaje al mayor Dargue y al capitán Eaker

#### El arribo a nuestra Capital. - El saludo de LA NACION. - Detalles del viaje. - Un cablegrama del presidente Mr. Caldwell Coolidge Las distintas etapas del vuelo. - El accidente del Palomar. - Prosección del raid



1. Mayor Dargue jefe de la expedición. 2. Capitán Max Daniel. 3. Capitán Clinton Woodley (piloto del accidente de LA NACION). 4. Capitán Ira Eaker (piloto del San Francisco). 5. Teniente primero Fairchild.

#### LA LEGADA A ASUNCIÓN

A las 5 de la tarde rebalsa el grado de frío paralizado los dos edificios que los viajeros y expectantes pilotos aguardan. La gente se aglomera en la plaza, en las calles y veredas para presenciar el desfile y saludar a los héroes que vuelan a las alturas con una vibración de simpatía más poderosa que la vibración de sus motores.

#### LOS TRIPLANTES

El "San Luis" vuela al mando del mayor Dargue jefe de la expedición, a quien acompaña el capitán Thompson, y el "San Francisco" es pilotado por el capitán Eaker en compañía del teniente Fairchild.

#### PRESENTACION DE LOS AVIADORES

Calentamente recibidos por el señor ministro de los Estados Unidos al nuestro Director y administrador, doctor Adrian Irala y don Antonio Stranich, respectivamente, encontrándose al primero en el aeropuerto de Asunción, se le presentó al señor director y administrador, doctor Adrian Irala y don Antonio Stranich, respectivamente, encontrándose al primero en el aeropuerto de Asunción, se le presentó al señor director y administrador, doctor Adrian Irala y don Antonio Stranich, respectivamente.

#### DE NUEVA YORK A BUENOS AIRES EN SEIS DIAS

"No solo desde que dentro de un plazo relativamente breve, las seis mil millas que median entre Nueva York y Buenos Aires pueden ser cubiertas en seis días, sino que ahora lo recorren en dos días, con un promedio de distancia de un viaje entre los aeropuertos de Nueva York y Buenos Aires de 1.100 millas, o sea, un promedio de 180 millas por hora, lo que constituye un récord en el mundo de aviación."

#### EL TIPO DE LOS APARATOS

Los biplanos que realizan la expedición son de tipo "Learner" y "Cessna", volados con motor "Liberty V" (inversión) de 120 H. P.

#### EN LA LEGACION DE LOS ESTADOS UNIDOS

El ministro plenipotenciario Mr. Eaker ofreció amable en la sede de la Legación de los Estados Unidos al señor director y administrador, doctor Adrian Irala y don Antonio Stranich, respectivamente, encontrándose al primero en el aeropuerto de Asunción, se le presentó al señor director y administrador, doctor Adrian Irala y don Antonio Stranich, respectivamente.

### NUESTRO SALUDO

Con cordial atención, sin interés viviente, el pueblo paraguayo ha seguido las alternativas del gran raid que visionamos los estadistas norteamericanos.

Un entusiasmo de poca durabilidad existió entre nosotros, la fatal noticia de lo ocurrido en el Palomar. Uno de los gallardos conquistadores de aire, dueños de los barullosos y pesados y de marabombos adormidos, el capitán Clinton Woodley y teniente primero John W. Benton, descendieron víctimas de la fatidicidad, en pleno vuelo triangular altercado y de irreparable gloria.

Entrares fueron avistados en el horizonte los dos aviones, el San Luis y el San Francisco, la evocación del tragico suceso del Palomar pareciera hacerse más aguda, asociada a la lección trágica a nuestra tierra.

En un ejemplo de voluntad, una exhibición de insuperable entereza, este vuelo que repitió al imperativo de una misión de honor a la distancia de seguir siempre adelante?

Y así, al levantar el vuelo en alto para no dejar que flaqueara el entusiasmo que los perseguidos la mayoría de los concurrentes al aeropuerto de Asunción, el contingente de una nueva victoria de proezas fuezas con que proseguir a la gran empresa.

Al descubrir de su vuelo pareciera que la misión de la misión que los aviones con el apoyo de un enorme público y de la asamblea popular, y más trascendente significado a un vuelo triunfal.

Todo el corazón paraguayo se desbordó en simpatía y admiración por los héroes aeronáuticos.

El alma paraguaya, al poder llegar a vibrar al unísono con la de los Estados Unidos que se está abriendo la puerta de este raid de las transacciones imperativas para la solidaridad y fraternidad de ambos continentes.

El alero oficial y la solidaridad siempre valerosa de admiración, en el vuelo de este raid que en un solo gran triunfo nuestro pueblo como un solo espíritu a los héroes viajeros.

LA NACION se hace intérprete de ese sentimiento de admiración popular y muestra el impulso vitalista en sus débiles fuerzas y héroes conquistadores del aire, triunfos de la fraternidad, internacionalista, siempre libre de la pobreza y noble patria que después en vuestras manos al momento cordial?



8. Teniente primero John W. Benton. Teniente primero Emis Whittaker. 9. Teniente Charles Whitman. 10. Teniente primero Bernard Thompson. 11. Teniente Leonardi Wolfman.

#### PAR TERMINAR INICIADOS EN BUENOS AIRES

#### POR CENTRO AMERICA

Después de haber salido de Buenos Aires, los aviones se dirigieron a Montevideo y aterrizaron en Montevideo, de aquí a Nicaragua, para descansar en el lago de Managua, aguardando a Puerto Rico, en Costa Rica.

#### EN LA ARGENTINA

Tras detenerse en Uruguay en Bahía Blanca, los aviones se dirigieron a Mar del Plata y posteriormente a Buenos Aires, luego de haber sido recibidos en el aeropuerto de Ezeiza, en el momento de su llegada.

#### UN RECUERDO PARA LOS CALIFORNIA

A esta altura de su vuelo, el capitán Eaker, así como el mayor Dargue, que en un momento la expedición, se detuvo en el momento de su llegada.

#### LAS ETAPAS DEL VUELO

El raid, sin interrupción, desde el momento de su salida de Nueva York, se dirigió a Nueva York, de cada una de las etapas en un tiempo de un vuelo de un día.

#### CONVERSANDO CON LOS PILOTOS

Un miembro de nuestra redacción se entrevistó con el mayor Dargue y el capitán Eaker, los que se prestaron cordialmente a la entrevista.

#### EL PRIMER ACCIDENTE

En el momento de su salida de Nueva York, el avión "San Francisco" sufrió un accidente, lo que ocasionó la muerte de los dos pilotos.

#### UN MENSAJE DEL PRESIDENTE COOLIDGE

Poco antes de su partida de Buenos Aires, el jefe de la expedición, mayor Dargue, recibió del presidente de los Estados Unidos Mr. Coolidge el siguiente despacho cablegráfico.

"Al seguir el vuelo nuevamente a Asunción, el jefe de la expedición, mayor Dargue, recibió del presidente de los Estados Unidos Mr. Coolidge el siguiente despacho cablegráfico.

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#### DEBIDA ATENCIÓN POR LOS AVIADORES

Con cordial atención, sin interés viviente, el pueblo paraguayo ha seguido las alternativas del gran raid que visionamos los estadistas norteamericanos.

Un entusiasmo de poca durabilidad existió entre nosotros, la fatal noticia de lo ocurrido en el Palomar. Uno de los gallardos conquistadores de aire, dueños de los barullosos y pesados y de marabombos adormidos, el capitán Clinton Woodley y teniente primero John W. Benton, descendieron víctimas de la fatidicidad, en pleno vuelo triangular altercado y de irreparable gloria.

Entrares fueron avistados en el horizonte los dos aviones, el San Luis y el San Francisco, la evocación del tragico suceso del Palomar pareciera hacerse más aguda, asociada a la lección trágica a nuestra tierra.

En un ejemplo de voluntad, una exhibición de insuperable entereza, este vuelo que repitió al imperativo de una misión de honor a la distancia de seguir siempre adelante?

Y así, al levantar el vuelo en alto para no dejar que flaqueara el entusiasmo que los perseguidos la mayoría de los concurrentes al aeropuerto de Asunción, el contingente de una nueva victoria de proezas fuezas con que proseguir a la gran empresa.

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#### CONTRABAJO DE LA NACION

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#### EL SALUDO DE LA NACION

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#### SALUDO FRATERNAL

Al pueblo paraguayo, subscrito por el jefe de la flota aérea del gran raid norteamericano y hecho participante de sus glorias en LA NACION:

Greeting to the people of Paraguay, Good with respect all of you. This is the message of the Pan American Flyers through the columns of LA NACION.

H. A. DARGUE  
Mayor Air Corps  
Leader



Uno de los aviones Leaning de 420 H. P., que realizan el admirable raid internacional de 30 mil kilómetros.



# Correio da Manhã

PROPRIEDADE DE EDMUNDO BITTENCOURT

ANNO XXXV - N. 2.960

RIO DE JANEIRO, SEXTA-FEIRA, 11 DE MARÇO DE 1927

LARGO DA CARICHA, 14

Gerente - V. A. DE ALMEIDA FELIX

SERVICO TELEGRAPHICO DA UNITED PRESS, AMERICANA E CORRESPONDENTES ESPECIAES

## Chegou hontem a esta capital a esquadilha aerea norte-americana que faz o circuito das tres Americas

Tendo partido de Santos ás 2.10 da tarde, precisamente tres horas depois os hydro-aviões baixavam nas aguas da nossa bahia

### Os seus denodados tripulantes tiveram carinhosa recepção



I — Altas autoridades aguardando a chegada dos aviadores; II — Um dos primeiros aviões americanos, com seus pilotos; III — Um aspecto da Avenida Beira-Mar

...muito mais a utilidade...  
...a chegada dos aviadores...  
...a recepção dos tripulantes...  
...a Avenida Beira-Mar...

#### DE SANTOS A GUANABARA

A ESPADRILHA AEREA DO PORTO DE SANTOS...  
...a chegada dos aviadores...  
...a recepção dos tripulantes...  
...a Avenida Beira-Mar...

#### UMA CARTA DO NOSSO CORRESPONDENTE

EM NOVA YORK...  
...a chegada dos aviadores...  
...a recepção dos tripulantes...  
...a Avenida Beira-Mar...

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EM NOVA YORK...  
...a chegada dos aviadores...  
...a recepção dos tripulantes...  
...a Avenida Beira-Mar...



I — Os pilotos americanos em suas respectivas aeronaves; II — O capitão Dargatzis comandante da esquadilha americana, em companhia do engenheiro Moura e seus companheiros de tripulação; III — O capitão Dargatzis em seu avião; IV — O capitão Dargatzis logo após a chegada.

# Diário da Tarde

Chegaram ao Rio dois "globe-trotters" alemães, que, ha trinta mezes, percorrem o mundo. A singularidade curiosa dos "raidmen" é viajarem sem dinheiro algum.

ANNO 31. TELEFONOS: 1562-1563, 1564, 1565, 1566, 1567, 1568, 1569, 1570, 1571, 1572, 1573, 1574, 1575, 1576, 1577, 1578, 1579, 1580, 1581, 1582, 1583, 1584, 1585, 1586, 1587, 1588, 1589, 1590, 1591, 1592, 1593, 1594, 1595, 1596, 1597, 1598, 1599, 1600. BRASIL—Estado do Pará—Belem. Redacção e officina—Rua Casar Vianna, n. 33. Jornal da manhã, quotidiano e independente. Director-gerente—PAULO MARANHO. Quinta-feira, 24 de março de 1927. NUM. 11.110. CAIXA POSTAL N. 109.

## DEZETE NOTAVEIS JURISCONSULTOS ELABORAM, EM GENEBRA, UM PROJECTO DE CODIFICACAO DO DIREITO INTERNACIONAL

### Echos de Paris O naufragio do «Sarrebourg» na lendaria Bahía dos Trespasados

De noticia alemã, enviada que para dois dias e meio se preparava a partida do «Sarrebourg» para a Bahía dos Trespasados, onde se encontra a lenda da nau que naufragou em 1792, e a lenda da nau que naufragou em 1804, e a lenda da nau que naufragou em 1816, e a lenda da nau que naufragou em 1828, e a lenda da nau que naufragou em 1840, e a lenda da nau que naufragou em 1852, e a lenda da nau que naufragou em 1864, e a lenda da nau que naufragou em 1876, e a lenda da nau que naufragou em 1888, e a lenda da nau que naufragou em 1900, e a lenda da nau que naufragou em 1912, e a lenda da nau que naufragou em 1924, e a lenda da nau que naufragou em 1936, e a lenda da nau que naufragou em 1948, e a lenda da nau que naufragou em 1960, e a lenda da nau que naufragou em 1972, e a lenda da nau que naufragou em 1984, e a lenda da nau que naufragou em 1996, e a lenda da nau que naufragou em 2008, e a lenda da nau que naufragou em 2020.

### O raid do «Argos»

Com o navio-torpedeiro alemão «Argos»... O «Argos» foi o primeiro navio-torpedeiro alemão a ser construído para a Marinha Imperial Alemã. Foi lançado ao mar em 1904 e serviu na Primeira Guerra Mundial. Foi capturado pelos britânicos em 1918 e entregue ao Brasil em 1920. Foi rebatizado de «Argos» e serviu na Marinha Brasileira até 1930.



### A aviação latino-americana no momento Deixa Belem, pela manhã de hoje, a esquadilha americana

#### AS HOMENAGENS DE HONTEM AOS INTREPIDOS NAVEGADORES DO ESPAÇO

#### O almoço dos aviadores americanos e o jantar do marquês De Pinedo, oferecidos pelos governos do Estado e do Municipio

Em homenagem aos aviadores americanos... O almoço dos aviadores americanos e o jantar do marquês De Pinedo, oferecidos pelos governos do Estado e do Municipio.



### COLABORAÇÃO ACCO DO BARRADO

Colaboração do Barrado... O Barrado é um dos mais importantes colaboradores do jornal.

### O RAISQUE PRIO DO BARRADO

O Raisque Prio do Barrado... O Raisque Prio do Barrado é um dos mais importantes colaboradores do jornal.

### EPHÉMERAS

EPHÉMERAS... Lista de eventos e datas importantes.

### O «raid» Pan-Americano

O «raid» Pan-Americano... O «raid» Pan-Americano é um dos mais importantes eventos do momento.

### O levaso comandante Borge, chefe da esquadilha norte-americana, e seus companheiros de «raid», vindos-se aquilando por uma cruz e informados aviad oroz emriores em consequencia da colisão de dois aparelhos em, em Buenos-Aires



### As irregularidades do Arsenal de Marinha

As irregularidades do Arsenal de Marinha... O Arsenal de Marinha apresenta algumas irregularidades.

### Chagas Franco

Chagas Franco... O Chagas Franco é um dos mais importantes colaboradores do jornal.

### Latinorio... de lei

Latinorio... de lei... O Latinorio... de lei é um dos mais importantes colaboradores do jornal.

### A «randonnée» interrompida

A «randonnée» interrompida... A «randonnée» interrompida é um dos mais importantes eventos do momento.

### Aspecto do banquete oferecido hontem pelo governos do Estado e do Municipio aos intrepidos aviadores norte-americanos, que hoje partem de Belem



### Companheiro inseparavel de com. mercante de leitura até a variação.

Companheiro inseparavel de com. mercante de leitura até a variação... O companheiro inseparavel de com. mercante de leitura até a variação é um dos mais importantes colaboradores do jornal.

### O avião suíço Lare Borge, que «raid» foi interrompido em consequencia de se haver colidado o aparelho em Cabo Juby

O avião suíço Lare Borge, que «raid» foi interrompido em consequencia de se haver colidado o aparelho em Cabo Juby... O avião suíço Lare Borge, que «raid» foi interrompido em consequencia de se haver colidado o aparelho em Cabo Juby.



### Companheiro inseparavel de com. mercante de leitura até a variação.

Companheiro inseparavel de com. mercante de leitura até a variação... O companheiro inseparavel de com. mercante de leitura até a variação é um dos mais importantes colaboradores do jornal.

### Companheiro inseparavel de com. mercante de leitura até a variação.

Companheiro inseparavel de com. mercante de leitura até a variação... O companheiro inseparavel de com. mercante de leitura até a variação é um dos mais importantes colaboradores do jornal.

LAUREANO VALLEHILLA LANZ  
ALEJANDRO FERNÁNDEZ GARCÍA  
Diseño y Redacción: Teléfono: número 3374  
Administración: Teléfono: N° 1385

# EL NUEVO DIARIO

CONDICIONES	
Suscripción mensual .....	\$ 6.00
Ejemplar del día .....	0.25
Ejemplar suelto .....	0.40
EXTRANJERÍA	
Suscripción mensual .....	\$ 20.00
Suscripción anual .....	\$ 200.00

Apartado de Correo 132, Calle y Telé. "Diario"

Año XV

Caracas, domingo 13 de Marzo de 1927

Número 3102

# EL VUELO PANAMERICANO



Mayor Herbert A. Dargatzis

Otro importante cambio va a ser escrito sobre la notable historia de la aviación en este país. Por espacio de más de diez años han estado en preparación las planes que un vuelo de los aviones de los Estados Unidos a través de México, la América Central y la zona mayor de la América del Sur, desde un punto de partida en San Antonio, Texas a través de México y la América Central, al otro lado del Canal de Panamá, al otro lado del Canal de Panamá, hasta el punto de destino del Mar del Caribe.



Capitán Arthur B. McDaniel

Después, como dos proyectos, con numerosas variaciones, fueron examinados, con el resultado de que en una sola expedición, sobre las naciones de la América Latina serán visitadas en este vuelo único.



Capitán Ira C. Coker

Wright agregó a su tipo inventado de aeroplano una cámara oscura e impermeable con la cual, habiendo podido, amarrar fácilmente, pudo luego ser habilitado para llevar un vuelo. En 1910 Coker hizo un experimento similar.



Capitán Clinton T. Woolsey

En marzo 28 de 1910—Wright hizo el primer vuelo sobre el agua y así contribuyó al tipo actual.



Teniente Bernard S. Thompson

El primer progreso más lugar en el avión, durante 1922 y 1923, y en ese entonces despertó el interés de Grover Loening, e ideó la primera nave aérea con un motor. Sin embargo, el tipo del avión, ideado por Loening, no fue el tipo de avión que se usó en el vuelo Panamericano.



Teniente Leonard D. Weddington

En este momento el Departamento de Estado trata con veintidós naciones—diferentes, inclusive entre las naciones latino-americanas, la



Teniente Charles Mc Rolison

El tipo de avión de este tipo, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano. Este tipo de avión, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano.



UN AEROPLANO ANFIBIO LOENING, Modelo de las naves aéreas que realizan el Vuelo Panamericano

El primer verdadero avión, de este tipo, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano. Este tipo de avión, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano.

El tipo de avión de este tipo, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano. Este tipo de avión, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano.

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Teniente Paul C. Whitcomb

El tipo de avión de este tipo, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano. Este tipo de avión, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano.



Teniente John W. Beaton



Teniente William B. Souza



Teniente Samuel C. Skemp

El tipo de avión de este tipo, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano. Este tipo de avión, con un motor, no fue el tipo de avión que se usó en el vuelo Panamericano.



Teniente Melvin B. Aep

En la tercera página  
Concurso de Crónicas, premio por Federico García Lorca, con el Premio "TERESA DEL TORO Y ALAJA"



The press was friendly indeed. The newspapers realized that we were representatives of the United States, that we carried messages from our President, and that our mission was solely in the interests of international amity. They were eager for news, descriptions of the country, difficulties of the flight, but above all wanted that personal greeting of good will that they knew came from the people of the United States. We cooperated to our utmost and in turn made many friends, as well as secured the results we desired.

It is particularly significant that during the progress of the Pan American Flight there was a great deal of anti-American propaganda being spread and the papers contained much along this line prior to our arrival. Attempts were even made through the press to boycott the flight. And yet, in spite of this, we noted in our cooperation with the news reporters that the tone of the press absolutely changed and the articles published gradually assumed that friendly tenor which we so much desired in accomplishing our objective.

##### 5. Summary.

In general, it appears that the news items concerning the Pan American Flight in the United States were simply a mere statement of the progress made, except where the reporters could pick upon some difficulty that we were having and write a long story about that. The impression given was not favorable.

On the other hand, the publicity in Latin America was excellent. The cooperation of the press was the best obtainable. The effect of this publicity was very favorable to the United States and assisted greatly the progress of the flight and the accomplishment of its mission.

The news services in the United States appreciate the efforts made by the flight to furnish desired information in the limited number of words allowed in the cables, and letters of acknowledgment have been received from each of these associations.

It is believed far better organization for the publicity on a project of this sort to emanate from a single source and, consequently, much better results would probably have been obtained and a more favorable reaction, both toward the War Department and the Pan American Flight which was one of its projects, had the daily cable been sent to a War Department office and an officer familiar with the details of the flight and the character of the country passed over been responsible for the issue of news releases in which the paramount object of the flight might have been woven unmistakably into the story.



## DUTIES OF THE ADJUTANT.

The commander of the flight designated Captain Ira C. Baker as Adjutant as soon as it was known what personnel would constitute the pilot group. As a result of the experience of this flight, some details of the duties of the Adjutant are here set down as they may be of some benefit to future undertakings of a similar character.

### 1. Duties prior to departure.

It devolved upon the Adjutant to secure the necessary blank forms which had to be carried. He also made a digest of the information which it would be necessary to keep as the flight progressed from day to day, in order to have the required data to render an accurate report upon the return of the flight. Photographs of the diary form and the pilot log are included in this chapter to indicate how the material was collected.

The following are some of the miscellaneous forms and data which had to be assembled before the flight took off:- telegram blanks, the orders of the personnel, information on each pilot to be used in case of emergency, the official schedule, forms for pay and mileage, forms for necessary financial transactions incident to paying flight agents, diary forms, pilot logs, etc. It was also necessary to prepare a method of keeping the official file which it was evident would soon become rather voluminous.

## 2. Method of keeping the files.

As the flight went along it was soon found that the official records could be fairly well classified into:-

- a. Correspondence with Advance Officers and Flight Agents. These were classified by flight divisions.
- b. The press and newspaper file.
- c. Telegram and cable file.
- d. The official diary.
- e. Pilots logs.

The whole official file, segregated as indicated above with each file carried in an individual manila folder, was placed in a brief case prepared by the San Antonio Air Intermediate Depot prior to departure.

## 3. How messages were sent.

It was necessary for the commander of the flight to send a telegram or cable ahead to the flight agent at the next stop sufficiently in advance to allow him to have everything in readiness for the coming of the flight. Generally, they were cared for by the flight agent at the place where the message was sent. The daily message to the Office of the Chief of Air Corps was generally sent official, collect. The press messages were sent press rate, collect. The flight agent was made responsible, in most cases, for seeing that messages were properly dispatched.

The pilots report required to be made daily on each plane in order that an accurate record of maintenance work might be kept.

U. S. ARMY  
PAN AMERICAN FLIGHT  
PILOTS REPORT

Date..... Place.....

Plane..... No. .... Name.....

Pilot on Leg of Flight..... Passenger.....

Leg of Flight Flown.....

Flying Time.....

Condition of Engine.....

Condition of Plane.....

Hours of Plane Maintenance Work Done..... Exact Nature.....

Hours of Engine Maintenance Work Done..... Exact Nature.....

#### 4. Records kept.

The senior pilot in each plane was required to render at the close of each day the pilot's log for that date. These were kept by the flight Adjutant in a folder for that purpose, and upon the completion of the day's flight, a total of these furnished the flying time, the distance, and the maintenance and engineering data for the compilation of the report of that day.

Each member of the flight was required to render daily an official diary. A photograph of this form occurs in this chapter. These official diaries proved invaluable in the compilation of the complete report of the flight.

In addition to the two above forms, each member of the flight was also urged to keep a personal diary in which could be entered personal experiences and interesting occurrences not necessarily included in the official diary. The diaries were also used to record certain official data, names, etc., that might assist in clearing records in case of the loss of official papers, especially finance accounts.

#### 5. Summary.

Any official flight should have a flight adjutant. If he properly handles his duty, he can relieve the flight commander of a

The diary form submitted daily by each pilot to record the day's activities. These proved of great assistance in the compilation of this report.



great many vexing details. Events transpire so rapidly on a flight of this kind that the memory of any individual is likely to prove faulty and it is, therefore, very important that some individual keep a daily accurate record of all pertinent data in order that a complete report may be rendered upon the conclusion of the flight.

It is also very important to carry the necessary blank forms - War Department, finance, and otherwise - such as will save the members of the flight a great deal of inconvenience. A single example of the necessity for being prepared with a careful set of records was afforded at Buenos Aires. The flight adjutant had taken the precaution to obtain the emergency addresses of individuals to be notified in case of emergency for each member of the flight prior to its departure. When, unfortunately, two of the pilots were killed at Buenos Aires, it was possible with this information to advise the War Department in the cablegram only a few minutes after the accident as to what these addresses were, and the commander of the flight was also able to wire the relatives.

The services rendered by Captain I. C. Eaker as adjutant of the Pan American Flight, in addition to all his other duties, relieved the commanding officer of much detailed administrative work. Absolute confidence in his ability to carry out this important duty has been well repaid by the painstaking effort he put forth to not only have the official report of the flight complete and accurate, but to secure for the War Department records a complete file of all official papers and documents.



## CHAPTER IX.

## ENGINEERING AND MAINTENANCE.

1. Following the plan which had been shown to work so successfully in the preparation for the World Flight, as soon as the personnel for the Pan American Flight had been selected, one of their number was designated as Engineering Officer for the flight and ordered to the Loening factory to supervise the construction of the airplanes to be used on the flight. This man was Captain Clinton F. Woolsey, and it is very largely on account of his untiring efforts, backed by his great experience in practical aviation engineering and maintenance, and his undoubted genius at applying that experience and knowledge to new construction, that the success of the flight in its technical aspect is due.

2. It is unfortunate that due to the tragic death of Captain Woolsey during the flight, the record of the changes made to adapt the equipment as designed to the needs of the flight, has been lost. The result of his work, however, is to be seen in the fact that the planes as finally flown away from San Antonio Air Intermediate Depot required so few further changes during the course of the flight, and as will be noted hereinafter few recommendations for changes have been found necessary as a result of the experience gained on the completed flight.

3. Once more following the procedure established by the World Flight, a trial airplane was rushed through to completion and most of the members of the flight ordered to Miller Field, New York, to test it. Following the rigorous tests to which it was subjected there, and as a still further test of its suitability under varying conditions, it was flown from Miller Field to San Antonio by Captain Woolsey and Captain McDaniel and there given a very thorough inspection.

4. As a result of these tests a number of changes were found necessary and more were found desirable to fit the equipment for the demands of the flight. Unfortunately, due to the limited time available, the five flight planes were practically completed and ready to ship from the factory before these results were obtained and it was, therefore, impossible to accomplish the desired changes before shipment. Accordingly, it was necessary to call upon the San Antonio Air Intermediate Depot to make the changes in their shops. Too much credit cannot be given to the Commanding Officer, his officers and personnel of that Depot for the masterly way in which they took hold of the situation, accomplished the changes - one of them of a major nature - and turned the planes out completed and ready to go on schedule.

5. The list of these changes which was in the possession of Captain Woolsey at the time of his death has, unfortunately, been lost. The more important items are, however, listed below and will indicate the general nature of this work:-

a. The hull was reinforced in No. 3 compartment. On inspection of the trial ship it had been found that the cross floors or low bulkheads used in this compartment did not possess sufficient strength, owing both to their design and material, and had split badly allowing the bottom plates to buckle with a consequent danger of failures and leaks. The main gas tanks were, accordingly, removed and the low bulkheads in this compartment were raised to make a straight cantilever section, were secured to the chine pieces by angle fittings and screws, and were further reinforced by riveting a piece of half inch plywood, cut to size, on either side of the solid spruce member. This change, while involving a great deal of trouble and labor, was vitally necessary and was entirely successful - no further trouble being experienced with the hull at this point.

b. The trailing edge of the rudders was reinforced by splitting the dural sheet at the trailing edge, inserting a one inch strip of one-eighth inch dural and riveting the whole together. This change had been shown necessary by the cracking of the rudder on the trial ship due largely, no doubt to the buffeting these rudders received from the water on landing and taking off. This change was also entirely successful, no further trouble being experienced.

c. The tail skid shoe was reinforced by welding a heavy block to the wearing surface as the shoe on the trial ship had worn out after only a few land landings.

d. A new piece of cowling was made up to completely close in the under side of the engine in order to prevent spray from drowning it out when taking off in rough water as had once occurred with the trial ship.

e. A spray deflector was riveted to the side cowl just under the exhaust port holes in an effort to prevent spray from reaching the spark plugs through these holes.

f. The cowl was gone over and reinforced at the places where cracks had appeared on the trial ship. The biggest job in this connection was the reinforcement of the entire edge of the top cowl which was entirely too light to stand up.

g. Doors were cut in the front cowl so the front spark plugs could be reached without removing the front cowl, which being permanently attached involved entirely too much time and labor in its removal. This may seem a small point but without such small points being taken care of, the airplane would not have been a sufficiently good maintenance job to allow the flight to go through on schedule.

h. A ninety degree quadrant was installed on the landing gear operating crank lock in place of the forty-five degree

quadrant furnished so that the slack which quickly occurs in the operating cables could be compensated for without the tedious and intricate adjustment otherwise necessary.

i. New handles were made up and installed on the gas wabble pump mechanism in both cockpits, the ones provided being entirely too difficult to operate.

j. A wooden brace was run across the rear cockpit in rear of the gas tank so that the man in the rear seat might have a rest for his feet and to protect the aluminum gas tank from damage and wear.

k. A wabble type bilge pump was installed with a hose connection to the built-in bilge lines.

l. Wing nuts were provided on the rear seat supports so that the seat might be quickly dropped down out of the way to facilitate loading and unloading the rear compartment.

m. The gasoline line to the fuel pressure gauge which was taken off the main pressure line with a rigid connection was cut and a hose connection inserted on account of vibration of the line and fear of a fatigue failure near the rigid connection. These hose connections came through the entire trip without trouble or replacement.

n. A place was found for the fire extinguisher in the rear cockpit thus getting it in out of the slip stream.

o. The map cases provided were entirely unusable and new ones were made up and installed.

p. Heavier clips were made up and installed to hold the water line which runs up the left side of engine from radiator to water pump line on the bottom to the left water expansion tank line on the top. This clip had failed on the trial ship.

q. Heavier clips were made up from steel instead of dural to hold the worm type oil cooler as the clips provided appeared entirely too frail.

r. Wooden clamps were made up and installed passing the length of the oil cooler worm to hold it rigid and prevent it sagging in the middle as it quickly did without the clamp.

s. Heavy webbing was inserted between the landing and flying wires to hold them apart and prevent chaffing. This was found to be necessary and the webbing used worked perfectly throughout the flight.

t. A safety-pin type of safety was made up to replace the ordinary safety wire on the main line gas strainer drain since it was necessary to open this cock daily and it had been located in such an inaccessible place that it was next to impossible to safety it with wire while on the water.

u. It was found that Deleo in building the air gap distributors for use on the inverted engines had placed the oil drain holes in the position for upright operation so that when the engine was inverted the drain holes came on top, permitting the flooding of the distributors with the water sprayed over the engine during take-off. These holes were plugged and new holes

drilled on all engines installed throughout the trip.

v. Considerable trouble with carburetion was experienced on the engines in the five flight planes at San Antonio. Similar troubles had previously been experienced with the trial ship. The cause being demonstrated to lie in the peculiar side type intake stack provided on these planes, the SAN FRANCISCO was changed over to the bowl type intake stack provided by the Allison Engineering Company as standard equipment for the inverted engines. This change completely eliminated the trouble and no carburetion difficulties were encountered by this plane during the entire flight. The other planes left San Antonio with the side type stacks but had so much trouble with carburetion that all were changed during the flight except the SAN ANTONIO which retained the side type stacks to the end of the flight, though more or less troubled by carburetion difficulties at various times.

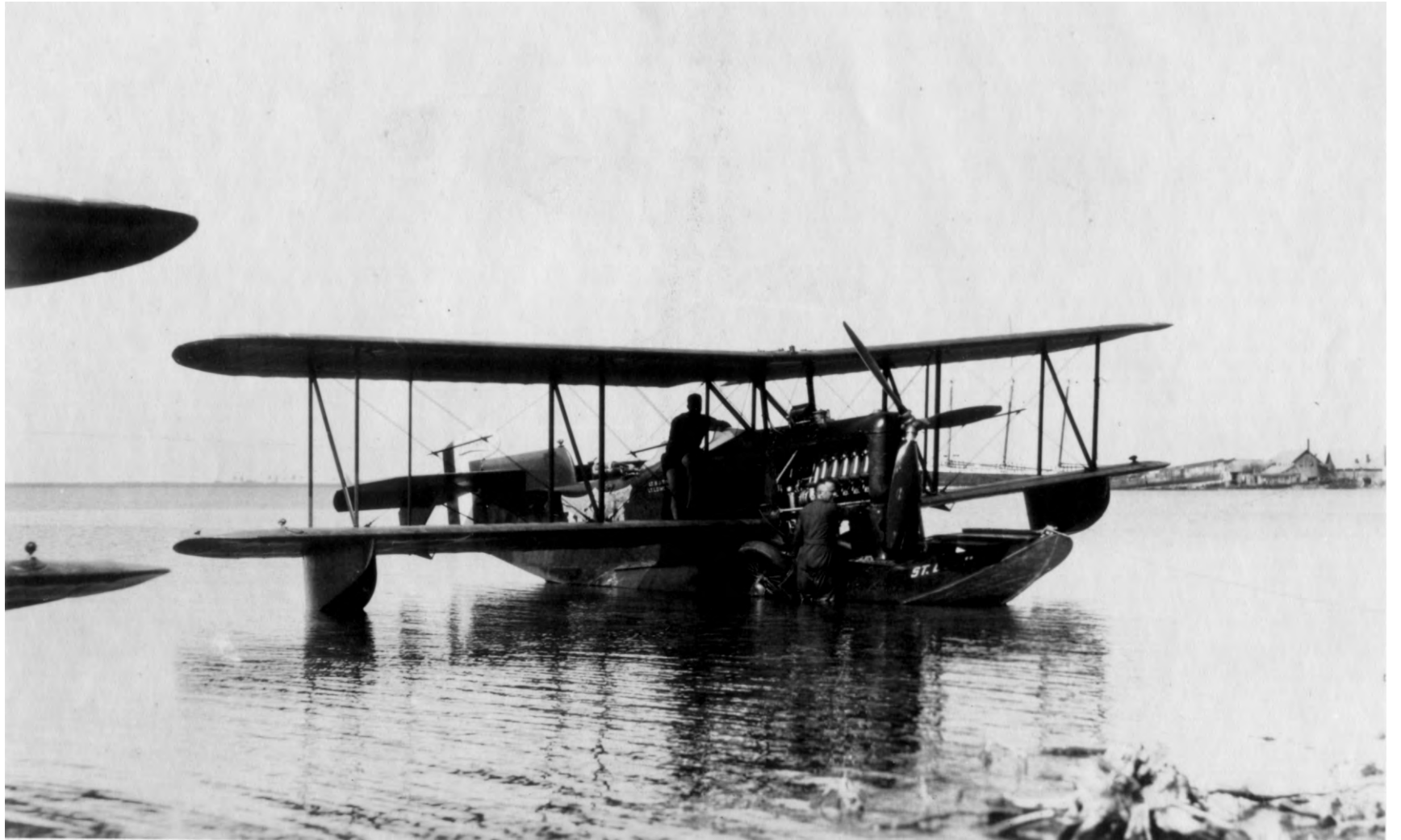
6. In addition to the above listed changes, there were a number of others accomplished at the Depot but it is believed that the remainder were too minor to be of any great interest.

#### MAINTENANCE HISTORY OF FLIGHT

7. In this section the phrase "Servicing and Checking" will be used. This should be understood to include such work as filling the

Often due to lack of suitable places to get the planes ashore, it was necessary to do maintenance work under adverse conditions standing in the mud and water while performing the work. This condition existed at Cartagena, Colombia, where the soft mud would not support the planes.





airplanes with the desired amount of gas, oil, and water; checking over distributor heads and ignition wiring, tightening spark plugs, checking valve springs, draining gasoline strainer and wells on gas tanks, and looking over the engine installation in general, especially all hose connections and lines.

Point Isabel, Texas.

Serviceing and checking.

The ST. LOUIS pulled the landing gear operating cables out of the landing gear end attachment fittings due to the fact that the landing gear was not properly locked before attempting to taxi out on the beach at Point Isabel. Captain Woolsey and the crew of the ST. LOUIS refloated the plane at high tide, tied the landing gear in the down position with ropes, taxied it up on the beach, and resoldered the cables in the attachment fittings so that the flight was able to proceed the following day on schedule.

Tampico, Mexico.

Serviceing and checking.

Some difficulty was encountered with the soft field which being all filled land was muddy and wet under a dry crust on top. Tractors and planks had to be used here to handle some of the planes.

When taking off from Tampico the oil pump on the ST. LOUIS failed, due apparently to a flaw in one of the gear teeth which broke off and passing through the pump sheared off the remaining teeth.

The engine was burned up before a landing could be made and it was necessary to ship another by express from San Antonio. During the delay involved, some severe "northers" occurred which the planes rode out without damage except to the rudder of the NEW YORK which was whipped about so much by the wind that it was necessary to rebuild it in the shops of the oil company near the field.

Vera Cruz, Mexico.

Servicing and checking.

The SAN FRANCISCO having preceded the flight to this stop remained here during the delay while waiting for the new engine for the ST. LOUIS. As the plane was on the beach unprotected from the fierce "northers" that sweep this harbor, it was necessary to lash it down with ropes running to every possible point of attachment. These ropes were then run to dead men made from railroad ties buried three or four feet deep in the sand. Though the plane got a most severe buffeting from the "northers" which sometimes blew in excess of seventy-five miles an hour, no damage was done except a droop in the left wing tip from the pull of the ropes which later straightened out of itself. At this stop after the SAN FRANCISCO had been sitting for several days it was found necessary to prime the oil pump manually as it would not pick up the prime from the tank. This was the first experience with this trouble which occurred rather frequently thereafter until a 90° elbow was installed to retain the prime.

Minatitlan, Mexico.

Servicing and checking.

Salina Cruz, Mexico.

Servicing and checking.

This was the first base for the flight and supplies were located here but, owing to the terrific wind, it was impossible to work on the planes and it was felt necessary to get away as soon as possible, owing to the danger of damage from the high winds. Consequently, nothing was done except the necessary routine work.

Guatemala City, Guatemala.

Servicing and checking.

Cleaned planes throughout. Regreased wires and fittings. Greased wheels and landing gears. Inspected all planes throughout and made minor adjustments.

Replaced brush on starting motor, ST. LOUIS.

Replaced bad ball bearing in inertia starter on the SAN FRANCISCO and cleaned the accumulated oil out of starter.

The NEW YORK had a minor crash due to a forced landing in a rough field during take-off from the aviation field at Guatemala. The wheels were knocked off, the main landing gear fittings were badly bent and twisted as were the struts and members of the landing gear. The left side of the hull was knocked in by the wheel on that

side. The bottom plates were badly buckled and the wooden bulkheads and the bracing inside were badly split and twisted as were the auxiliary keel stringers.

It was decided to fly the plane on to Panama as a seaplane without attempting to repair the landing gear. Accordingly, the wings were removed and the hull was placed upon a sledge or stone boat provided with a cradle to receive the hull and it was then dragged by a tractor to the nearest railway siding.

The wheel cups were then removed giving access to the interior of the hull. It was decided not to attempt to straighten out the buckled plates owing to the total lack of material and facilities, but rather to so brace the structure that no further movement could occur. This was accordingly done. The split and broken brace members were replaced. Auxiliary keels were put in position and bolted to the broken members, the bulkheads were reinforced with plywood; new fittings were made up from some old shovel blades and bolted in place; and finally all seams and openings were covered with a liberal application of marine glue and the hull once more sealed up.

A railroad wrecking crane was employed to lift the plane and its cradle and place it on a flat car. The wings were loaded on another car and the plane was reassembled on the shore of Lake Amatitlan, some twenty miles down the valley. Upon launching, it was found that it did not leak badly and it was, accordingly, flown out of the lake by Major Dargue who, being joined by the rest of the flight over the lake, proceeded on to San Salvador where a landing was made in Lake Illopango.

This take-off while made light, without baggage or supplies and with only one man, is interesting in that the surface of the lake is some 3,900 feet in altitude and is located in a bowl in the mountains, causing treacherous and severe air currents from all directions. The take-off was made rather quickly and entirely successfully just after dawn when conditions were best.

The cause of the crash at the aviation field take-off was the altitude of the field - over 5,000 feet - coupled with the very heavy load the plane was carrying and the treacherous air conditions due to the downward cascades of air which roll down the encircling chain of mountains and over the local obstructions, such as the tall Spanish aqueduct which it is necessary to pass over in take-off and which air currents cause planes to settle and lose altitude even when climbing their best on take-off. In the case of the NEW YORK, these conditions were aggravated by minor engine sputtering so that when it approached the aqueduct it was doubtful whether it could be cleared and the crew wisely cut the engine and landed straight ahead before it was too late.

#### San Salvador, Salvador.

##### Servicing and checking.

There being no aviation gasoline here it was necessary to service with some twenty gallons of commercial gas in each plane. No difficulty was experienced.

Amapala, Honduras.

## Servicing and checking.

The NEW YORK, accompanied by the ST. LOUIS as an escort, left immediately for Panama, stopping over night at Puntarenas, Costa Rica. The flight was made without difficulty except for engine trouble with the NEW YORK, due to very bad gasoline secured at Amapala. This gasoline was about one-third water and, as at that time no provisions were available for using a chamois skin, many gallons of water were pumped into the tanks. The NEW YORK went through without a forced landing however.

It was necessary for the other three planes to be anchored out at Amapala during the three day stay. No anchors except the small collapsable anchors carried by the planes were available. All three ships rode out a considerable gale while so moored, the anchors proving highly satisfactory.

Trouble was experienced with both gasoline refueling pumps and wabble type bilge pumps on all three planes at this stop, due to the corrosion of the cast iron cases from the water. It was necessary to disassemble and clean all pumps.

Managua, Nicaragua.

Necessary to prime oil pump on the DETROIT.

Puntarenas, Costa Rica.

## Servicing and checking.

It was necessary to anchor out during the three days' stay here. Some difficulty was experienced in gassing from the small boats

due to the constant wind kicking up a choppy sea.

David, Panama.

Servicing and checking.

The jets were also pulled for inspection on the SAN ANTONIO due to having experienced trouble with the engine cutting out. This was, however, probably due to the type intake stack used as the jets were found to be O.K.

France Field, Canal Zone.

Servicing and checking.

The engine in the ST. LOUIS was changed.

A new landing gear was installed on the NEW YORK and the hull was still further reinforced where it had buckled.

The engine was changed in the NEW YORK.

All planes were thoroughly cleaned and inspected and were gone over and many minor adjustments made.

All starters were removed, disassembled and cleaned up as they were found to be full of oil which leaked from the crankcase through the gear-box and down to the flywheel housing making the starter practically impossible to turn, in some cases. In some cases too, it was found that the oil would leak on down into the electric motor, putting it out of commission. Oil drain holes were drilled in the flywheel housing which helped this condition somewhat.

All planes were gone over and all metal parts heavily coated with no-oxide.



Nearly all engines had broken valve springs which were replaced. The DETROIT had three exhaust and two intake springs broken. The SAN ANTONIO, one each broken. The SAN FRANCISCO had two exhaust and one intake broken.

New sets of spark plugs were installed throughout.

A new brace strut to the right vertical fin was installed on the SAN FRANCISCO to replace one bent by the mechanics lifting on it in placing the tail on a dolly.

Two refueling pump shafts broke and were replaced by solid shafts instead of the hollowed out shell of a shaft supplied.

The refueling system was changed to do away with the built in lines leading direct from the pump to the tanks and instead a length of hose was provided which would reach to the filler necks of the tanks and a large funnel with a chamois skin was thereafter used. This did away with all difficulties from dirt and water and is an indispensable item when refueling from drums.

Fittings were made to screw into the intake side of the oil pump and provide a trap so that the oil present in the pump at the time of stopping the engine could not drain back into the tank. Thus the pump was always primed. The system worked well and furnished oil to the engine much sooner after starting than before.

The Exide battery in the SAN FRANCISCO was found to be bulging badly on the ends, due to the pull of the spring hold down clips on the rubber case which became soft in the heat. It was replaced

by a Willard battery with a wooden case which finished the flight without trouble of any sort. The space provided on top of the battery to take care of the liquid during up side down operations was utilized for carrying reserve water by drilling holes near the top of the vent plugs and filling the battery with water up to these holes. Sufficient water was thus carried in the battery itself to last over a month through the heat of the tropics, and no trouble whatsoever was experienced from then on.

Surfaces of all planes were given two coats of yellow dope and the duco paint of the hull was touched up where necessary.

All struts were found to be rusted and pitted on the leading edge in spite of frequent coats of grease. These were all sanded down and repainted and greased.

In the attempted take-off for Columbia from the water of the harbor, the SAN ANTONIO did not get off back in the quiet water and ran out into the big swells where she took a terrific pounding on the forward part of her bottom. While taxiing back after the unsuccessful run she settled in the water and finally sank by the bow. Before she could be gotten up on the beach, she had entirely sunk and was resting on the bottom with only the tail and a portion of the top wing above water. Upon examination, it was found that the rear bottom plate had pulled away from the front bottom plate near the left chine leaving a large hole several inches across. Also the left rear side plate of the hull had pulled away from the left front side plate at

their point of juncture, leaving a considerable space at this point. Otherwise, the plane was uninjured except for the damage caused by the immersion in salt water and in pulling it up the steep bank out of the water. The total damage was, however, too great to be repaired in time to allow the SAN ANTONIO to proceed with the flight and, accordingly, the trial ship was substituted for it as the SAN ANTONIO.

The NEW YORK also suffered from the buffeting of the big waves on this attempted take-off, resulting in one of the vertical wooden braces in No. 2 compartment being split and some further movement occurring in the bulkhead at the rear of this compartment.

It was, therefore, decided that the NEW YORK should remain at Panama for further repairs and Major Dargue transferred to the SAN FRANCISCO in place of Lieutenant Fairchild, and the SAN FRANCISCO, the DETROIT and the ST. LOUIS took-off for Barranquilla.

#### Barranquilla, Colombia.

##### Servicing and checking.

The ST. LOUIS had a forced landing on this flight in the Gulf of Darien due to further carburetion trouble with the side intake stack and fouled spark plugs, probably resulting from this poor carburetion. Having changed plugs, a take-off was made in the open ocean through very heavy seas. The take-off was successful but the three-bladed standard steel propeller was bent forward several inches

out of line by hitting solid water. On account of a leaking radiator, the ST. LOUIS was left at Barranquilla for repair and the flight up the Magdalena River was made by the SAN FRANCISCO and the DETROIT alone.

Barranca Bermeja, Colombia.

Servicing.

Girardot, Colombia.

Servicing and checking.

Barranca Bermeja, Colombia.

Servicing.

Barranquilla, Colombia.

Servicing and checking.

Cartagena, Colombia.

Servicing and checking.

France Field, Canal Zone.

Servicing and checking.

During the absence of the flight the SAN ANTONIO II had been made ready to continue with the flight in place of the SAN ANTONIO. The hull of the NEW YORK had been repaired, the split members replaced and the bulkheads still further reinforced.

The propeller of the ST. LOUIS was replaced by a new one from the supplies.

The side carburetor intake stacks on the ST. LOUIS and the NEW YORK were replaced by the bowl stacks as used on the SAN FRANCISCO, which eliminated the carburetion trouble they had been experiencing.

All ships were very thoroughly checked and gone over before starting the long grind down the west coast.

#### Buenaventura, Colombia.

Servicing and checking.

Moored out here and refueled from small boats without difficulty, the water being calm.

The ST. LOUIS broke the left outer rear landing wire a short distance out from France Field and returned there accompanied by the DETROIT as an escort, to replace this wire. The left outer "N" strut was apparently slightly bent and was also replaced at this time.

#### Tumaco, Colombia.

Servicing and checking.

On the flight from Buenaventura the SAN FRANCISCO sprung a slight water leak in the radiator shell just under the left inlet line to the shell, the metal at this joint cracking. The five gallon auxiliary water tank installation was used to good advantage on this flight, all of the water being gradually pumped into the cooling system to replace that which leaked out. This leak was repaired by sweating a thin piece of brass on the shell over the crack to close it and to reinforce the metal around it.

The water thermometer was replaced on the SAN FRANCISCO, the lead having failed at the point where it comes out of the radiator.

It was discovered here that the thrust bearing on the SAN ANTONIO had failed allowing almost a quarter of an inch end play in the shaft and permitting the crank shaft throws to strike the case webs.

It being impossible to either continue the flight with this engine or repair it, it was decided to send to Panama for another engine and leave the SAN ANTONIO behind to wait for it. The ST. LOUIS and DETROIT having rejoined the flight here, the four proceeded leaving the SAN ANTONIO at Tumaco.

#### Guayaquil, Ecuador.

Servicing and checking.

The stabilizer on the NEW YORK was damaged by striking a mooring pile in the river when the rope by which it was moored was cut by the propeller of a small motor boat. The damage was not sufficient to prevent the plane being flown, however, and no repairs were attempted on account of lack of a suitable place and facilities.

The DETROIT made a landing on this flight, coming down in the open ocean which was quite calm. Trouble was due to fouled spark plugs in all probability caused by poor carburetion with the side type intake stack. Plugs were replaced and the flight continued.

Paite, Peru.

Servicing and checking.

Spark plugs in the DETROIT were removed and cleaned.

Chimbote, Peru.

Servicing and checking.

Lima, Peru.

Servicing and checking.

All planes thoroughly cleaned and inspected. All exposed metal parts coated with no-oxide. Struts painted. Hulls and fuselages touched up with paint.

All spark plugs cleaned and checked.

Broken water thermometer replaced on the ST. LOUIS.

Oil pump changed on ST. LOUIS on account of drop in oil pressure.

Cracked cowling repaired on SAN FRANCISCO and DETROIT.

Deck plates under radiators cracked and were repaired on NEW YORK, DETROIT and SAN FRANCISCO.

When the SAN ANTONIO II arrived at Lima, some time later, the engine which was installed at Tumaco was replaced by another engine on account of very serious oil leaks. This was the engine which had been in the SAN ANTONIO I when she sank and had been overhauled at France Field.

Pisco, Peru.

Servicing and checking.

Left tire on NEW YORK blew out while taxiing. The spare for the flight being in the SAN ANTONIO which had been left behind, it was necessary to purchase automobile tires for the NEW YORK. These functioned perfectly but did not permit wheels to be completely retracted into cups in sides of hull.

Ilo, Peru.

Servicing and checking.

A broken intake valve spring was replaced on the SAN FRANCISCO.

A burned out ignition switch resistance unit was replaced on the NEW YORK.

Mejillones, Chile.

Servicing and checking.

The generator on the ST. LOUIS failed. Upon examination, it was found that the copper safety wire wound around the armature had torn loose and was shorting the generator. This was removed and generator functioned O.K.

Coquimbo, Chile.

Servicing and checking.



An amphibian taxiing ashore. Sixty-five of the eighty landings were made on water and where suitable beaches existed the wheels were lowered and the planes taxied ashore. It was desirable to get the planes out of the water to drain the hulls, service the planes and make the maintenance work easier.



Santiago, Chile.

Servicing and checking.

Changed engines in the SAN FRANCISCO and the DETROIT after about 140 hours flying time.

Cleaned and greased all planes thoroughly.

Touched up paint and repainted struts.

Changed generator on ST. LOUIS on account of previous trouble.

Changed radiator on SAN FRANCISCO on account of crack for fear that it might open up again.

Changed starter and replaced tail skid fitting inside of hull on NEW YORK.

Talcahuana, Chile.

Servicing and checking.

Great difficulty in servicing here on account of high wind and heavy seas. Fuel refueling pump failed on SAN FRANCISCO but no time or facilities for repair here.

Valdivia, Chile.

Servicing and checking.

Size 180 compensating jets were installed in the ST. LOUIS and the SAN FRANCISCO as the engines were running a little lean due to the cold weather.

The DETROIT made a landing in Lake Dieulleu on this flight, due again to fouled plugs caused by poor carburetion.

Puerto Belgrano, Argentina.

Servicing and checking.

Landed here at Naval Air Station where we had hangars and all facilities. NEW YORK tore a hole in her bottom at the step by striking a projecting bolt at the top of the runway as she was being pulled out. This was repaired by the excellent sheet metal workers at the Air Station.

The pins holding the impeller to the shaft in the refueling pump of the SAN FRANCISCO which had sheared off were replaced.

Mar del Plata, Argentina.

Servicing and checking.

The landing gear on the DETROIT failed in attempting to taxi up the runway, due to its not being properly locked in the down position - this was the same as the case of the ST. LOUIS at Point Isabel. The tubes were so badly bent as to make repair overnight impossible and it was decided to fly the DETROIT to Buenos Aires and repair it there, effecting a landing at Buenos Aires by tying the wheels down with rope.

Buenos Aires, Argentina.

Servicing and checking.

The NEW YORK and DETROIT collided in the air while coming over the landing field, both falling out of control. The DETROIT burned upon crashing, probably due to the fact that Captain Woolsey, piloting, was using his engine up to the time he struck the ground in an attempt to right the plane and bring it under control. Captain Woolsey and Lieutenant Benton in the DETROIT not having their parachutes on were unable to jump and were killed. Major Dargue and Lieutenant Whitehead jumped. Their parachutes opened at once though they had had considerable rough treatment in the month that had elapsed since they were packed at Franco Field. The NEW YORK did not burn but having fallen in a spin from 1,400 feet it was completely demolished and not worth salvaging.

The remaining planes, the SAN FRANCISCO and the ST. LOUIS were thoroughly gone over here, cleaned up and greased.

New tires were installed on the SAN FRANCISCO.

New plugs were installed in both planes.

Paint was touched up where necessary.

Corrientes, Argentina.

Servicing.

Asuncion, Paraguay.

Servicing and checking.

Planes were also cleaned and greased.

Two fouled spark plugs in the SAN FRANCISCO were replaced.

Santa Fe, Argentina.

Servicing and checking.

Montevideo, Uruguay.

Servicing and checking.

The SAN FRANCISCO nearly went on the rocks here, due to the engine being drowned out while taxiing through heavy seas. The cause of this stoppage and of other trouble experienced many times on the flight is loose distributor heads. At the point where the screws holding the distributor cup to the breaker mechanism pass through the flanged edge of the cup, the flange is cut away leaving an opening through which water collects on the aluminum breaker housing and runs into the cup from where it is thrown over the breaker mechanism by the moving rotor arm.

While taxiing near the beach at Montevideo, the SAN FRANCISCO struck an unmarked submerged reef. The rock slid along the metal keel strip without doing any damage until it came in contact with the keel shoe at the step. The keel shoe projects something over a quarter of an inch below the metal keel strip and this projection catching on the rock, the keel shoe was torn loose. A temporary repair was effected by driving the shoe back into place and attempting to hold it with the screws that had been torn loose. This repair job held though with considerable

leakage and much trouble at each stop in attempting to pack the spaces left open and to pull the shoe up tight again, until the flight reached Rio where a new shoe was installed. A discussion of the construction features involved and recommendations for change will be found in the next section of this report.

The SAN ANTONIO joined the flight at this stop.

Rio Grande do Sul, Brazil.

Servicing and checking.

Florianopolis, Brazil.

Servicing and checking.

Santos, Brazil.

Servicing and checking.

On this flight the SAN FRANCISCO had a forced landing at Guaratuba, caused by rubber flaking off the hose connections to the carburetors and plugging the inlet to the carburetor screens, causing one carburetor to cut out completely. The rubber was removed, the hose connections replaced and the plane rejoined the flight at Santos.

Rio de Janeiro, Brazil.

Servicing and checking.

Engines were changed in all three planes in preparation for the long homeward grind.

All planes were thoroughly cleaned and metal parts recoated with no-oxide.

All surfaces were given two coats of yellow pigmented dope.

Fuselages and struts were repainted.

A new rudder was installed on the SAN ANTONIO, the old one having been badly bent by landing in heavy seas at Montevideo.

A new keel shoe was installed on the SAN FRANCISCO to replace the one torn loose at Montevideo. It was not possible to make a very good job of this without removing the main gas tank and practically tearing the plane apart, on account of the fact that the shoe is installed with a bolt through it with a nut on top of the keel where it cannot possibly be reached without disassembling the ship. Furthermore, the spare shoe provided did not fit and continuous trouble was experienced on up the coast to the next base, Para, where a permanent and satisfactory repair was accomplished.

#### Victoria, Brasil.

Servicing and checking.

Replaced the left outer rear landing wire on the SAN FRANCISCO which snapped at the intersection with the flying wires on the flight up. This wire had not been cut by coming in contact with the flying wires, however, it appeared to be a simple fatigue failure. This is the same wire which broke on the ST. LOUIS, and both failed at the same point.



Bahia, Brazil.

Servicing and checking.

The SAN FRANCISCO landed on this flight to replace the primary ignition wire to the left distributor head which broke in flight and which, in conjunction with a primer line which had vibrated in two, allowing an air leak to the intake manifold, caused the engine to run very ragged. The repairs were quickly effected and the plane rejoined the flight at Bahia.

Porto de Pedras, Brazil.

Stopped over night on account of darkness.

Pernambuco, Brazil.

Servicing and checking.

Natal, Brazil.

Servicing and checking.

Maranhao, Brazil.

Servicing and checking.

Replaced broken breaker arm left distributor of ST. LOUIS.

Para, Brazil.

Servicing and checking.

Cleaned and checked all spark plugs.

Went over engines thoroughly

Replaced broken valve springs on all three planes.

Effected permanent repair job on keel shoe of SAN FRANCISCO, replacing the bolt by two  $3\frac{1}{2}$ -inch wood screws and packing it with duck and marine glue.

Cleaned all planes thoroughly and recoated metal parts with no-oxide.

Cayenne, French Guiana.

Servicing and checking.

Paramaribo, Dutch Guiana.

Servicing and checking.

Georgetown, British Guiana.

Servicing and checking.

Cleaned planes thoroughly. Went over all engine installations very carefully.

Cleaned spark plugs.

Port of Spain, Trinidad.

Servicing and checking.

Puerto Cabello, Venezuela.

Servicing and checking.

Landing was made on the water at this place but on account of rough seas it was necessary to take-off from the land on the beach.

The left tire of the SAN FRANCISCO had been cut through, presumably by glass upon taxiing up on the beach. It was necessary to replace this tire by an automobile tire purchased locally which functioned perfectly and was quite satisfactory.

The ST. LOUIS bent the tail skid quite badly by catching it in a coral reef projecting through the sand when attempting a sharp turn while taxiing. It was necessary to remove it and repair it in the local shops.

The NEW YORK joined the flight here, having been brought across from Panama by Lieutenant Whitehead and Lieutenant Weddington. This plane was the old SAN ANTONIO which had sunk at Panama and had since been overhauled and recovered in the shops at France Field.

Some trouble had been experienced in the flight across by the NEW YORK through the breaking of the synchronizing rod between the distributors and the failure of one of the heads. Both head and rod were replaced here.

#### Port of Spain, Trinidad.

Servicing and checking.

All spark plugs were either cleaned and checked or were replaced.

Planes were thoroughly cleaned and metal parts coated with no-oxide.

Engine installations were thoroughly gone over.

A new starter was installed on the SAN FRANCISCO.

New starter and generator were installed on the NEW YORK.

New wheels and tires were installed on the SAN FRANCISCO.

The forward deck plate just to rear of manhole on the ST.

LOUIS had split badly and was patched.

Cowling was patched in several places on the SAN FRANCISCO.

Paint was touched up where necessary.

St. George, Island of Grenada.

Servicing and checking.

Kingstown, Island of St. Vincent.

Servicing and checking.

Port de France, Island of Martinique.

Servicing and checking.

The NEW YORK struck a submerged rock in taxiing ashore and badly dented the right wheel, blowing the tire off the rim. The wheel was perfectly straightened out in a local garage and the tire remounted.

Pointe a Pitre, Island of Guadeloupe.

Servicing and checking.

St. Thomas, Virgin Islands.

Servicing and checking.

San Juan, Porto Rico.

Servicing and checking.

Santo Domingo, Dominican Republic.

Servicing and checking.

Port-au-Prince, Haiti.

Servicing and checking.

All planes thoroughly cleaned and regreased.

All engine installations thoroughly gone over and minor adjustments made.

The streamline dural former over the leading edge of the rudder on the SAN FRANCISCO had corroded almost entirely away and a new one was made up and installed. This corrosion had progressed nearly as far also on the ST. LOUIS. The metal forming this streamline piece is of too light a gauge - heavier metal should be substituted.

Santiago de Cuba, Cuba.

Servicing and checking.

The propeller of the SAN ANTONIO was found to have worked loose in the propeller hub due to the large retaining nut not having been tightened sufficiently upon original assembly at Rio. While the splines had worn a little allowing play within the propeller hub, it was determined that this condition was not dangerous and it was decided to fly the SAN ANTONIO on to Havana and replace the propeller at that point.

The SAN FRANCISCO when taxiing down the beach into the water preparatory to take-off, struck some submerged obstacle with the left wheel and the whole left side of the landing gear broke off clean and floated clear in the water. The shock was not severe as the plane was moving very slowly. Examination of the broken parts seemed to indicate that in some manner an unusual load had been applied to the gear which it was not designed to take, all the strength of the members being so designed as to take "up" loads only. It was decided to fly the SAN FRANCISCO on to Havana as a seaplane and attempt to effect repairs at that point.

Havana, Cuba.

Servicing and checking.

The propeller of the SAN ANTONIO was replaced by a new one from the supplies at this sub-base.

The SAN FRANCISCO was pulled out of the water on a small marine railway. Inspection showed that the forward brace of the landing gear which runs from the axle to the chine piece forward of the gear had broken off clean just below the fitting which attaches the brace to the chine. The main hinge bolt had pulled out the ear of the forward dural strap fitting within the landing gear recess at an angle of 45° down and out from the hull. The threaded portion of this hinge bolt which screws into the spacer rod running from the main

hinge to the forward landing gear brace fitting had snapped and the main hinge bolt had bent back upon itself, twisting the rear strap fitting badly and allowing the whole gear to slip off the hinge pin and float free. The gear actuating and locking tube had broken off short at the dural forging holding the shock absorber - or rather the upper end of this forging had snapped off. These three being the only points of attachment of this half of the landing gear, it had come entirely free from the ship.

Repairs were effected as follows:-

Both wheel cups were removed, giving access to both compartments to the front and rear of the landing gear recess. The forward dural strap fitting was removed and a new one made up from a piece of scrap armor plate from a wrecked gunboat. This fitting was drilled and bolted in place. It was necessary to open up the rear wheel cup in order to get in and hold one bolt which is so located that the nut is in one compartment and the head in another - this is another example of the extreme difficulty of effecting some repairs.

A new main hinge pin was turned out of a piece of broken crankshaft from a convenient dump pile. A bronze casting was made up, using the broken casting as a pattern. This bronze casting when machined up was installed and worked perfectly. The broken brace rod was notched down and butt welded.

The landing gear was then assembled using the made up parts, the shock absorber wrapped, and the wheel cups replaced and

sealed with marine glue. The gear thereafter functioned perfectly and no leaks occurred in the hull.

Advantage was taken of the SAN FRANCISCO being out of the water to clean her thoroughly, repaint throughout and regrease all metal parts.

Miami, Florida..

    Servicing and checking.

    The ST. LOUIS suffered damage to the right lower wing leading edge when she was towed into a pile by an unskillful towboat pilot while maneuvering to get into the boat slip where the flight planes were to be moored. Temporary repairs were made.

Jacksonville, Florida.

    Servicing and checking.

Savannah, Georgia.

    Servicing and checking.

Wilmington, North Carolina.

    Servicing and checking.

    At this stop, the generator base was found cracked through on the SAN FRANCISCO. No supplies being available, it was decided to continue with it until the flight reached the next stop, Langley Field, Virginia.



A chart showing the mileage, the flying time, the points of landing and other data incident to the Pan-American Flight.

PAN AMERICAN FLIGHT

Mileages and Flying Time

L - Landed on ground.  
 WA - Landed on water and anchored out.  
 WL - Landed on water first and land later.  
 WT - Landed on water and taxied ashore.

	<u>Landing</u>	<u>Date</u>	<u>Mileage</u>	<u>Time</u>
San Antonio	L			
Point Isabel	WT	Dec. 21	260	2 hr. 55 min.
Tampico	L	" 22	260	3 " 40 "
Vera Cruz	WT	" 30	250	3 " 10 "
Minatitlan	WL	" 31	160	1 " 50 "
Salina Cruz	WT	Jan. 1	150	1 " 20 "
Guatemala City	L	" 2	415	4 " 50 "
San Salvador	WA	" 11	175	2 " 00 "
Anapala	WA	" 13	130	2 " 15 "
Managua	WA	" 15	140	2 " 35 "
Puntarenas	WA	" 15	230	2 " 30 "
David	L	" 18	240	3 " 00 "
France Field	L	" 18	250	3 " 30 "
Barranquilla	WT	" 23	475	6 " 30 "
Barranca Bermeja	WA	" 24	300	3 " 45 "
Girardot	WA	" 24	275	3 " 15 "
Barranca Bermeja	WA	" 26	275	3 " 00 "
Barranquilla	WT	" 26	300	3 " 35 "
Cartagena	WA	" 26	75	0 " 45 "
France Field	L	" 27	400	4 " 20 "
Buenaventura	WA	" 29	425	5 " 40 "
Tunaco	WA	" 30	200	2 " 25 "
Guayaquil	WA	Feb. 1	475	6 " 05 "
Paita	WT	" 2	250	3 " 15 "
Chimbote	WT	" 3	325	4 " 20 "
Lima	L	" 3	275	2 " 50 "
Pisco	L	" 6	160	1 " 45 "
Ilo	WL	" 7	475	5 " 50 "
Mejillones	WT	" 17	430	4 " 40 "
Coquimbo	WT	" 18	500	4 " 50 "
Santiago	L	" 18	325	3 " 35 "
Valparaiso	WA	" 22	100	1 " 20 "
Talcahuano	WA	" 23	300	3 " 05 "
Valdivia	WT	" 23	250	3 " 30 "
Puerto Belgrano	WT	" 24	650	6 " 00 "
Mar del Plata	WT	Feb. 25	300	2 hr. 55 min.
Buenos Aires	WL	" 26	300	3 " 55 "
Corrientes	WT	Mar. 2	585	7 " 10 "
Asuncion	WT	" 2	190	2 " 00 "
Santa Fe	WA	" 4	500	5 " 30 "
Montevideo	WT	" 4	375	4 " 20 "
Rio Grande do Sul	WA	" 8	350	5 " 15 "
Florianopolis	WT	" 9	410	5 " 10 "
Santos	WT	" 9	325	3 " 55 "
Rio de Janeiro	WL	" 10	245	2 " 40 "
Victoria	WA	" 18	300	3 " 30 "
Bahia	WT	" 18	550	6 " 40 "
Porto do Pedras	WA	" 19	350	4 " 50 "
Pernambuco	WA	" 20	100	1 " 10 "
Natal	WA	" 20	190	2 " 00 "
Maranhao	WT	" 21	725	8 " 10 "
Para	WT	" 21	425	3 " 55 "
Cayenne	WT	" 25	565	6 " 45 "
Paramaribo	WA	" 26	250	2 " 25 "
Georgetown	WT	" 27	235	2 " 35 "
Port of Spain	WT	" 28	365	4 " 10 "
Puerto Cabello	WT	" 30	475	4 " 50 "
Port of Spain	WT	Apr. 4	475	6 " 30 "
St. George	WT	" 7	100	1 " 30 "
Kingstown	WT	" 8	90	1 " 25 "
Port de France	WT	" 9	110	1 " 35 "
Pointe a Pitre	WT	" 10	125	1 " 25 "
St. Thomas	WA	" 11	275	3 " 15 "
San Juan	WT	" 12	80	1 " 00 "
Santo Domingo	WT	" 14	270	3 " 00 "
Port-au-Prince	WT	" 16	185	2 " 05 "
Santiago	WT	" 18	275	3 " 00 "
Havana	WA	" 19	560	6 " 00 "
Miami	WA	" 23	275	3 " 30 "
Jacksonville	WA	" 25	350	4 " 30 "
Savannah	WA	" 26	135	2 " 15 "
Wilmington	WA	" 28	270	4 " 15 "
Langley Field	L	" 29	350	4 " 30 "
Washington	L	May 2	140	1 " 45 "
			<u>22,065</u>	<u>263 hr. 15 min.</u>

Langley Field, Virginia.

Servicing and checking.

All planes thoroughly cleaned and painted.

Generator base on SAN FRANCISCO failed completely on the flight from Wilmington and generator burned out shortly before the field was reached. The generator was replaced at this stop.

The right lower wing of the ST. LOUIS was repaired.

Washington, D. C.

End of Pan American Flight.

8. Discussion of Troubles Experienced with OA-1A Amphibians on Pan American Flight and Recommendations for Changes on Future Production.

For the purpose of this discussion, the OA-1A airplane will be divided up into its various parts, roughly as follows:-

- a. Hull (bilge system, anchor, etc.)
- b. Fuselage
- c. Wings and bracing
- d. Tail skid
- e. Empenage
- f. Controls
- g. Landing gear
- h. Cockpits

i. Engine installation

- (1) Mount
- (2) Cooling system
- (3) Fuel system
- (4) Lubrication system
- (5) Cowling
- (6) Propeller

j. Instruments and accessories.

- (1) Thermometers
- (2) Airspeeds
- (3) Compasses - magnetic and earth inductor
- (4) Tachometers, etc.
- (5) 12 volt system
- (6) Flight indicators
- (7) Starters
- (8) Refueling system
- (9) Bilge pump

k. Engine.

a. Hull (Bilge System, Anchor, etc.)

The troubles brought out in the first section of this report are of a very serious nature. Without the reinforcing which was added to the flight planes at Duncan Field prior to the start, it is doubtful that it would have been possible to have made the flight with these planes. The hulls as designed had certain weaknesses inherent in them

which should be remedied in any future production.

In the first place, it is recommended that all sub-bulkheads or cross floors in every compartment be made from plywood instead of plain spruce or, failing this, that 1/16" dural plates be bolted to either side of the present spruce members to prevent splitting.

The front sub-bulkhead should be deepened in the center and extended in a straight line from chine to chine and fittings should be provided to properly attach this bulkhead to the chines and to the keel and auxiliary keels or longitudinal stringers.

The overlap of the bottom plates at the point of attachment of the front and rear plates should be made greater and a double row of machine screws used to secure this joint instead of the single row of wood screws used at present.

The rear sub-bulkhead in No. 1 compartment should also be deepened in the center to make the top of this bulkhead a straight line from chine to chine.

The overlap in the dural skin on the side of the hull at No. 1 compartment should be made greater and the joint should be secured by a double row of machine screws instead of the single row now employed.

The above recommendations are made with a view to correcting the weaknesses of these parts whose failure caused the sinking of the SAN ANTONIO. Each of these parts failed in that case.

The sub-bulkhead in the center of No. 2 compartment is entirely too shallow in the center. Furthermore, the part of the bulkhead which joins the chines on either side is not properly anchored to them. The vertical members which extend from the auxiliary keels to the top of the hull compartment are very light plain wood members anchored at the bottom by dural fittings and bolts. In two cases in rough water these vertical brace members split and kicked in at the bottom. It is recommended that this sub-bulkhead be built deeper in the center and that the members of the bulkhead from the auxiliary keels to the chines be built up to make this bulkhead a straight line from chine to chine. In addition, the vertical members should be increased in strength, either by reinforcing the present members or increasing these members in size.

As noted previously, both sub-bulkheads under the main gasoline tank in No. 3 compartment failed in the tests before the flight and, as a result, these bulkheads were built up on all flight planes so as to make a straight line from chine to chine and they were further anchored securely to the chines with angle fittings. After this change was made, no further trouble was experienced at this point though, of course, much worse conditions were afterwards encountered. It is recommended that this change be incorporated in any future production.

Most of the serious leaks which occurred in the hulls were around the wheel pockets in No. 2 and No. 3 compartments. It is very difficult to reinstall these pockets after they have been removed so as to get a water-tight job, on account of the bending of the metal at the joint. Some thought should be given the design of this joint to see if one cannot be worked out which will stand removal and reinstallation.

The so-called "water-tight" bulkhead between No. 3 and No. 4 compartments is not water-tight at all. It leaks like a sieve through two holes in the rubber hand hole covers, around the bilge line which runs low down through the bulkhead instead of at the top as it should run, around the gas tank drain line, and around the keel fitting. In any future production, definite orders should be issued the contractor that water-tight bulkheads actually be water-tight. There is no possible purpose in having ventilating holes in rubber hand hole covers fitted in bulkheads between compartments which are both entirely open to the air. Furthermore, it is not believed that any of the compartments are ever apt to be so air-tight as to need equalizing holes in these covers.

The top aluminum plate of the hull over No. 2 compartment between the engine and the radiator failed on every ship under the left hand side of the radiator, due to vibration from the propeller slip stream. These plates were reinforced and a triangular block of wood put under the left hand side of the radiator to prevent this vibration, after which no more failures occurred.

On the SAN FRANCISCO and the ST. LOUIS, which were the planes with the most time on the flight, the forward deck plate just to the rear of the front deck man-hole cover, cracked to the rear from the man-hole. This was getting bad at the end of the flight and would have, doubtless, required the replacement of the upper deck before long in spite of repairs. This condition is due to vibration of the deck plates from the propeller action. These plates must be braced by a light reinforcing, either of wood or metal, on the inside of the hull so as to dampen out vibration at this point.

The method of attaching the keel shoe was not satisfactory, as it was impossible to get at the nut on top of the bolt holding the shoe on without removing the tank. Also this shoe projected down below the keel proper about a quarter of an inch or more. This shoe should, by all means, be set flush with keel so that there is no projection. There are two reasons for this:- in the first place, there will not be the same chance of it catching on obstructions such as reefs, etc., and being torn off (as it must inevitably be now); and, in the second place, it will improve the take-off characteristics of the plane considerably to get away from this projection.

In general, the greatest single complaint about the hull, aside from its lack of strength as pointed out above, is the fact that it is consistently constructed inside out, and it is impossible to get at bolts and nuts to tighten them without nearly tearing the plane



apart. The lack of accessibility is a very bad feature.

The bilge lines functioned very well for drying out purposes. Recommend that these lines be increased from 3/4" to 1" diameter, so that the big refueling pump may be used as a bilge pump more nearly up to its capacity in case of emergency.

The drain holes between different sections of the compartments in the hull are not large enough and plug up quickly, so that the water cannot flow down to bilge line or drain plug. These holes should be increased in size.

The anchor, anchor line, brackets and cleats are all very satisfactory.

b. Fuselage.

No defects noted on the trip. However, it would be necessary to completely tear down one of these fuselages in order to inspect it to determine just how far corrosion had progressed. This is the real test of the suitability of this type of construction and final decision will have to wait until this can be done.

c. Wings and Bracing.

Wings themselves gave no trouble during the flight save the breaking of some ribs on the left lower wing between the aileron and the fuselage at the point where ribs pass over the rear spar. This

results from the action of the water in take-off and landing. Recommend the installation of an extra rib at this point to stiffen the structure.

Fabric loosened up rather badly in the humid regions of the tropics. Surfaces were redoped at France Field and Rio de Janeiro and they needed it badly each time. Even with this frequent doping, the fabric was often very slack, particularly in the mornings. It did not seem to deteriorate or lose strength during the six months of the trip, however.

Struts were satisfactory except that the leading edges rusted and pitted in spite of all efforts at protection through frequent coats of paint and grease.

Wires were kept thickly coated with no-oxide grease and did not corrode badly. It is worthy to note that the same wire snapped during flight on two planes. This was the left outer rear landing wire, and in both cases it broke at the intersection of the flying wires though not chafed by these wires. The wires were wrapped with cotton webbing to prevent rubbing before the start of the trip and it was found entirely satisfactory for this purpose.

Wing skid pontoons proved satisfactory, though the factory coat of paint flaked off badly and it was necessary to repaint at Panama.

The most serious matter in connection with the wing con-

struction is the probability of excessive corrosion of the dural ribs. One plane whose lower wings had been submerged showed considerable corrosion, while another whose wings had been subjected to spray alone showed little corrosion, and that little limited almost entirely to the section of the ribs from the rear spar to the trailing edge. The lower wings are drenched with spray on every water take-off. Some of this water gets to the rib flanges through holes in the wings and while it dries out quickly the salt deposit remains and starts the corrosion that continues as long as the salt lasts.

d. Tail Skid.

The tail skid assembly is one of the most entirely satisfactory ever designed. The shoe as put out was too light to stand many landings, however, and a block was welded on before the start of the flight. No changes were necessary.

e. Empenage.

Elevators and stabilizers of the OA-1As were satisfactory. The bracing of the stabilizer, however, in common with that of many other planes, is defective in that not enough bearing area is provided for the bolts when they pass through the attachment fittings. In consequence, the holes through these fittings soon elongate and the whole empenage becomes more or less rickety and requires considerable maintenance. It is recommended that the fittings be made heavier at

the point where the bolts pass through.

The corrosion of the dural streamline former in front of the rudder has already been mentioned.

The rest of the rudder was pretty satisfactory on the whole after it had been reinforced at San Antonio A.I.D., as detailed in the first section of this report. However, several rudders were more or less bent up, due to the pounding of the water on the lower portion. The lower half should be stiffened up somewhat or the rudder should be raised so that it will not dip so deeply into the water.

f. Controls.

The operation of the controls is satisfactory. All cable controls are satisfactory and showed no signs of wear after the trip.

The universal joints on the controls in the cockpits and the bearings of the control torque tube show considerable wear in spite of a great deal of time spent in attempting to oil them. This is a most annoying condition to the pilot, resulting as it does in considerable play in the control wheel and nothing to be done about it.

It is strongly recommended that the bearing area of the universal joint be increased to reduce wear and that an alomite system of lubrication be fitted throughout. The present method of lubrication through a sand and dirt choked oil hole by means of an oil can is unsatisfactory.

The method of mounting the bearing for the control wheel in the top of the control column is unsatisfactory. This bearing is held in place by a pin. Play developed at this point, the holes in which the pin fitted elongated, and the whole attachment appeared very flimsy. This fitting and its attachment should be redesigned. The method of attaching the lower part of the control column to the elevator actuating mechanism by small bolts through the dural sheet ears of the lower part of the column was unsatisfactory. The holes through the sheet dural elongated, permitting fore and aft play of the column. The sheet dural should be heavier at the point where the bolts pass through to prevent this elongation.

g. Landing Gear.

Wheels were satisfactory except alemite system which should be modified so as to carry the grease direct to axle.

Tires were a little small for the 6,000 pound load the flight was carrying. There was a decided tendency to mire down except when the field or beach was very hard. For loads as great as this larger diameter tires should be provided. Also, some trouble was experienced with blowouts. It is intended to carry such heavy loads, it would seem well to add another two plies to these tires for greater strength.

The retracting mechanism for the landing gear was in general quite satisfactory. The only two failures which occurred

were due to not getting the gear all the way down and not to any fault in the mechanism itself. There was, however, considerable stretch in the operating cable which made necessary the changing of the 45 degree locking quadrant to one of 90 degrees before the start. With this change no further difficulty developed.

The failure of the entire gear on the SAN FRANCISCO is thought to be due to a peculiar condition of load applying the force in a very unusual direction. This is so rare an occurrence that it is hardly worth while to redesign to meet such a condition.

#### h. Cockpits.

Both cockpits were very comfortable and quite satisfactory after the various changes had been made at the San Antonio Air Intermediate Depot. Windshields as installed are excellent.

The ventilator in the front cockpit was a godsend but would recommend that it be made still larger and with several notches or a screw actuating device.

A better location should be found for the 12-volt control box. It is quite difficult to work on it in its present location, and it is a device that requires much attention, frequently during flight.

## i. Engine Installation.

### (1) Mount.

The mount and bearers are, in general, good and it is not too difficult to change engines. No troubles were experienced except with the cupping down of the light dural washers provided under the heads of the engine hold down bolts. These washers are not rigid enough and cup into the wood, allowing the bolts to loosen up. The very purpose for which the washers are provided is defeated by their lack of strength. To be of value, they must be more rigid. As designed, the cross bracing wires in front of the mount must be removed to remove the nose cowl. This should be eliminated on any future production.

The cross bracing tubes at the front of the mount make access to the front carburetor studs very difficult - this should be eliminated if at all possible.

Not enough clearance is provided between the front main support tubes of the mount and the water lines from radiator to cylinders. Unless the greatest care is exercised in installation these lines will be cut by vibration against the tubes.

### (2) Cooling system.

The cooling system was sufficient for operation under the hottest weather conditions of the tropics. No trouble

was experienced with lines or expansion tanks. Two radiators developed leaks due to cracks occurring in the shells just under the water inlet attachments. The metal at this point was either too thin or had been worked excessively. A reinforcing flange around these inlet lines would be a good idea.

The greatest care was necessary at many points to prevent the water lines from chaffing.

A severe vibration of the shutters and their operating mechanism occurs in flight when the shutters are tightly closed.

Failure would occur at some point in a short time if it were necessary to fly with the shutters closed. This condition should be investigated to determine its cause and the cause should be eliminated.

Not enough notches are provided in the shutter quadrant. Many more should be provided, preferably a finely notched quadrant to permit exact adjustment. At present it is impossible to regulate the temperature by means of this quadrant. In one position, the engine runs too cool and in the next too hot, requiring constant manipulation of the shutters. This point should be taken care of on all future production, as it is quite unsatisfactory.

### (3) Fuel system.

Fuel tanks were entirely satisfactory in every case.



Lines, pumps and valves were entirely satisfactory.

Gas tank drain lines and valves were satisfactory.

In general, the whole fuel system was satisfactory except the main line strainer. This strainer was located in entirely too inaccessible a position. Practically any place will be better than where it is, but probably the best place would be to move it to the right of the mass of "plumbing" behind which it is hidden at present and place it next to the cowling door on the right of the airplane.

It is also recommended that the D-2 wobble pump be installed in future production on account of its larger capacity, and that an attempt be made to locate the operating handles so that pilot and observer can more easily use the pump in case of emergency.

#### (4) Lubrication system.

Tanks and lines satisfactory.

The oil cooler provided was very effective. Temperatures never ran high. Soft copper coil of cooler requires bracing to prevent sagging in middle.

Trouble was experienced from time to time in getting the oil pump to pick up a prime from the tank especially after the engine had been standing a few days. This was eliminated by making an elbow fitting so that the oil pump attachment might be tipped up

at an angle of 45 degrees, thus trapping the oil in the pump and preventing it running back into the tank and the pump losing its prime.

(5) Cowling.

The cowling after reinforcement and redesign at the San Antonio Air Intermediate Depot before the flight, as detailed in the first section of this report, was, in general, quite satisfactory on this trip. Some patching had to be done on account of cracks and splits but certainly no more than normal.

Doors must be provided to get at front spark plugs, however, and a door to get at the front carburetor is desirable. The removal of the nose cowl should be made more simple, as recommended under "Mount".

It is recommended that, in addition to reinforcing the cowling on future production as detailed in this report, that all cowling be made on a jig so that it will be interchangeable. Difficulty was experienced in using the spare sets of cowling shipped to Rio for replacement, due to lack of interchangeability.

(6) Propellers.

The "Standard Steel" propellers used were entirely satisfactory. It would have been impossible to make the flight with wooden propellers. The metal blades chewed up somewhat in the spray of take-off but could be smoothed down with a file and seemed to be

none the worse for it.

j. Instruments and Accessories.

(1) Thermometers.

Considerable trouble was experienced with water thermometer capillary tubes breaking where they enter the radiator. The attachment to the radiator should be in the rear, not the front. This would remove the necessity for the sharp bend in the tube and would also protect it from the severe action of the slip stream which sets up vibration.

(2) Air speed indicators.

These instruments functioned satisfactorily in all but one place when the installation became unreliable from some unknown cause.

(3) Compasses - magnetic and earth inductor.

The magnetic compasses functioned perfectly. They were swung at San Antonio Air Intermediate Depot and were not touched thereafter. The water hops at the end of the flight, after over 250 hours, were made entirely by magnetic compass and invariably the exact course was maintained, striking the intended destination without so much as a mile in a hundred error.

The earth inductor installation was generally un-

satisfactory. None of the compasses were functioning when the flight reached Panama. The first installation failed after five hours flying. Sufficient maintenance work might have made some of these inductor compasses function but the flight personnel had no time left over after doing the work necessary to keep the planes flying to work on compasses. In at least one case, the galvanometer instrument failed completely within a few hours.

(4) Tachometers, etc.

Very little trouble was experienced with tachometers or their driving mechanism on the flight. Only two were replaced.

The same is true of altimeters, fuel contents gauges, fuel pressure gauges, voltmeters, switches, and oil gauges.

(5) 12-Volt system.

A little trouble occurred with the 12-volt generators. The copper safety wire wrapping around the armature of one generator tore loose and shorted out the generator. When this was removed, the generator functioned. This seems to be an isolated case and unless similar cases have previously occurred can be disregarded.

No trouble was experienced with wiring. The reverse current cutout in the control box was entirely satisfactory.

The voltage regulator was the source of constant annoyance and trouble. It requires much attention to keep it func-

tioning and ground attention alone will not accomplish this. The trouble lies in the points themselves, the coil and other parts are satisfactory. The points, however, cannot be considered as satisfactory. They stick badly from time to time, requiring manual separation if the generator is to be saved from burning out due to the high load. They quickly get dirty and pitted so that they do not make contact at all and the generator will not charge.

It is felt that this instrument is in a state of only partial development and that if this trouble cannot be overcome, the device should be entirely done away with and some other system substituted therefor. However, it would seem that by a little research in materials some suitable materials could be found from which to make up these points, so they would continue to operate a reasonable time without attention. On the flight, these points were cleaned and polished very often. Both the fixed and movable points were frequently removed from the box and polished up perfectly. In spite of all this attention, it was necessary to work on these points during many of the flights to keep the system functioning. This sort of thing cannot be considered reasonably satisfactory and it is recommended that further research work be conducted immediately to improve the functioning of the voltage regulator.

As stated before, the location of the control box in the cockpit was unsatisfactory on account of its inaccessibility. A better location can and should be found.

(6) Flight indicators.

These instruments functioned very well on the whole and were very useful upon some occasions. At the conclusion of the flight some of the longitudinal pitch indicators were beginning to stick, and on one instrument the turn indicator was getting very sluggish. The latter case was perhaps due to faulty hose connections.

(7) Starters.

The "Eclipse Hand and Electric Inertia Starters" are a tremendous improvement over anything we have previously had in service. Constant trouble was experienced with them but it was practically all due to oil leakage. The starters were installed at a 45 degree downward angle and oil would seep from the crankcase down through the gear case to the flywheel housing and, frequently, even down into the electric motor itself. The oil in the flywheel housing made the mechanism very hard to turn sometimes, requiring both the electric motor and hand crank to get up sufficient speed to turn the engine over. Of course, when oil got into the electric motor it put the motor out of commission.

This condition is due very largely to the position of installation, but it might present a minor problem in other installations. It is recommended that some research work be done on

devising a baffle or similar means to prevent the oil working out of the crankcase into the starter gear box. It might also be well to try to make the junction of the gear box and flywheel housing completely oil tight so as to keep this housing dry in any event.

It was found in the case of all the new starters examined, that they had been assembled with the ball bearings dry and before this fact was noted several ball bearings went bad and had to be replaced. The contractor should be required to pack all these bearings in light grease upon assembly.

More trouble was experienced with the ball bearing at the base of the flywheel between the flywheel and the gear box than any other. Even after greasing some of these bearings gave signs of going bad. It is believed that in future design and production, it would be well to increase the size of this bearing as it gets most of the heavy load when the clutch is thrown in.

The starters on the whole were, however, eminently satisfactory. There was never a case of a starter going so bad that the engine could not be started. They start the engines in a more positive and satisfactory manner than any starter previously used. They are recommended for standard with the above modifications.

(8) Refueling system.

The refueling system as installed had built in lines from the refueling pump to the tanks. This system proved unsatisfactory on account of the impossibility of using a chamois skin with it. It is absolutely necessary to use a chamois when refueling from drums which, of course, is the only case in which a refueling system is ever used.

On this account the system was modified at Panama by substituting a hose of sufficient length to reach the gas tank filler necks and attaching this to the pump outlet in place of the built in lines. This hose was used in connection with a large funnel with a chamois skin. This made a satisfactory arrangement though the funnel is hard to stow away and makes a more inconvenient system than the other. It would be very desirable in a refueling system if a permanent built in system could be devised with a chamois skin strainer installed in it in such a manner as to be out of the way and yet accessible for draining and cleaning.

The theory of the D-3 refueling pump is excellent and its capacity is quite satisfactory. It is, however, a very crude product. The case is made of cast iron. Therefore, it corrodes badly and requires to be disassembled and cleaned up every few days. The case should be made of some corrosion resisting material such as monel metal or bronze.



The shaft is drilled out at the end saving very little weight. Practically all the shafts in the flight failed at one time or another and were replaced by solid shafts made locally.

The pins holding the impeller to the shaft sheared off in several cases - they do not appear to be strong enough.

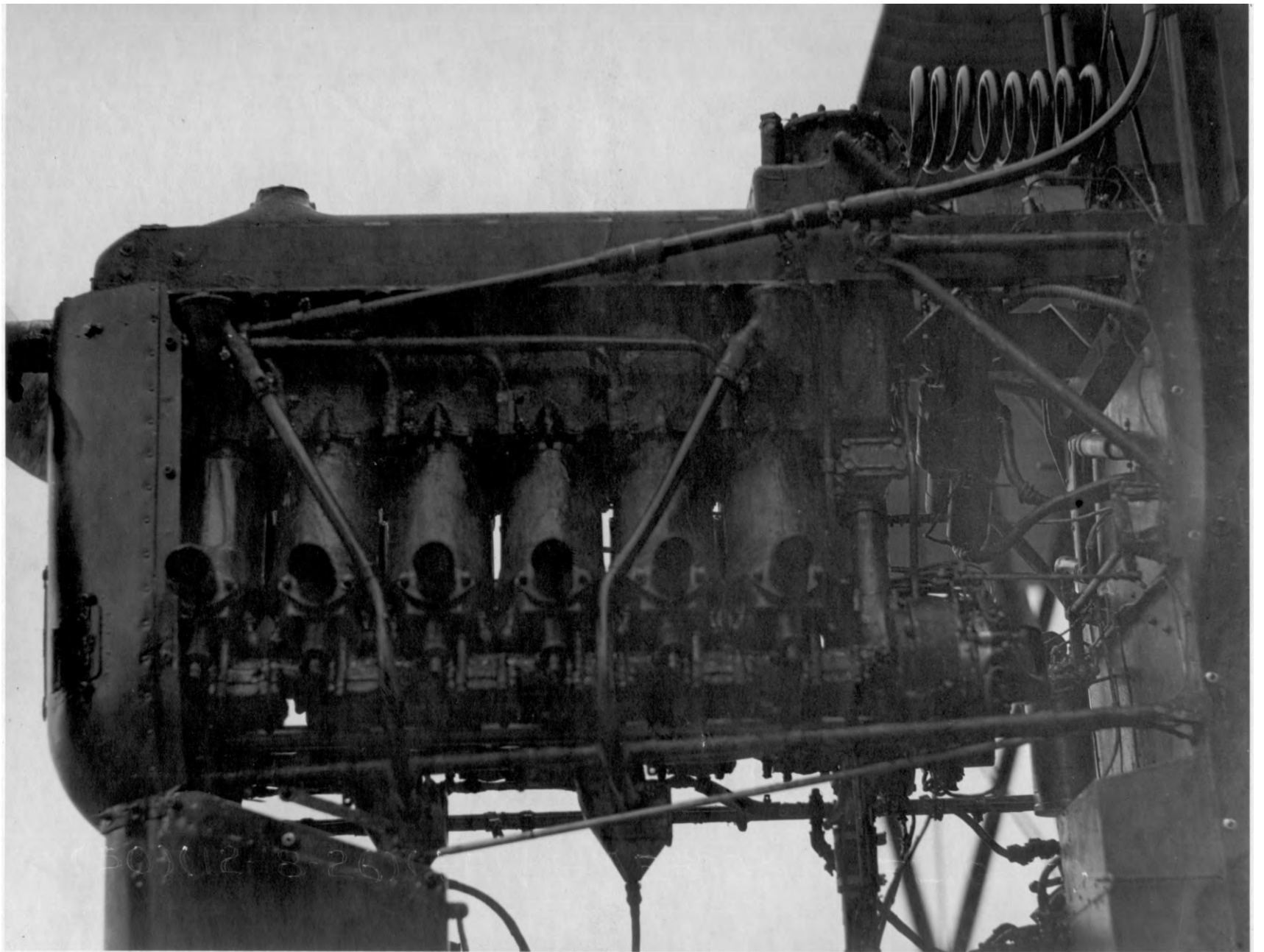
Aside from these defects noted above, the refueling system was very satisfactory. It would be almost impossible to make such a flight as this without some such method of refueling on the water. The system with recommended changes should be adopted as standard.

(9) Bilge pump.

The D-2 pump used as a bilge pump gave constant trouble. It was necessary to disassemble and clean it every few days. As constructed, it was entirely unsuited for use as a bilge pump. The cast iron case corrodes badly. It should be made of some corrosion resisting material such as monel or bronze.

It is necessary in any bilge system employing a wobble pump with flap valves to include some sort of a screen to stop foreign matter from entering the pump and plugging the valves. Of course, this screen should be easily cleaned.

The inverted Liberty motor used in the amphibian planes.



(50)(12-3-26)

k. Engines.

The inverted Liberty engines turned out by the Allison Engineering Company which were used on the flight are without doubt about the best lot of Liberty engines that have ever been turned out. It is due very considerably to their excellent performance that the technical success of the flight is due.

Considering the constant trouble experienced with standard Liberties after their years of storage, it is almost incredible to record that there was not a single case of water jacket leakage on the whole flight and this in spite of the fact that the engines had to be run wide open for considerable periods in water take-offs and that, due to the low propeller setting necessary for take-off with full load, the average R.P.M. in flight was nearly 1600 and in many cases exceeded this figure for long periods at a time.

Neither was there any trouble with cylinders pumping oil though previous inverted Liberties developed considerable difficulty along this line after a few hours.

No trouble with bearings or with knocks, pounding or the usual rattling noises developed.

No major failures developed except the thrust bearing on the SAN ANTONIO, and it is thought that this was due to corrosion occurring in this bearing while the engine was in transit to Panama and to the fact that the bearing was not thereafter oiled properly before flight.

Some minor difficulties were, of course, encountered. The greatest of these was the breaking of valve springs. In all, perhaps 35 or 40 valve springs broke on the flight. Of these, the greater proportion were intake springs but there were a large number of exhaust springs also. The reason for this abnormal breakage is not known. The following theories may be advanced to account for it:-

(1) All these engines were from the same general lot - therefore, there might have been a bad lot of springs to start with.

(2) It might possibly be due to the cold water thrown on the engine in landings and take-offs, hitting the hot spring.

(3) It might be due to the fact that some of these springs have been under compression for some years and might have taken a permanent set.

(4) It might be that this particular lot of springs were too long in relation to the distance between the valve spring collars, so that they were tightly compressed and twisted at each valve opening period.

Another minor difficulty which was rather aggravating was the trouble experienced with all copper and asbestos gasketed

joints. These gaskets take a permanent set after they are first tightened up and by the time the engine was installed in the plane some months later all such joints were loose, permitting sufficient air leaks into the fuel system to cause poor operation. It was found necessary on all engines installed to tighten carburetor hold down bolts and all intake manifold stud nuts.

It is recommended that it be adopted as a standard Air Corps policy in the future, to require all such copper and asbestos gasketed joints to be set up again after the engine comes off the block after its test run and while the routine work is in progress before it is prepared for temporary storage.

Very little spark plug trouble was experienced except that which could be traced to poor carburetion on those engines using the Loening type side intake stack.

These Loening type side intake stacks were unsatisfactory and it was never possible to secure good carburetion with them due, no doubt, to peculiarities of air flow. No difficulties were experienced when the Allison double bowl type intake stacks were employed.

Several primer lines broke on these engines. The failures occurred on that part of the lines which form a permanent installation on the engine and at the point where the lines join one of the union connections. Apparently, these lines get more effect from the

slip stream or some other cause of vibration on this installation than on the standard installation.

The trouble with the distributor heads leaking water has already been detailed. This point should be covered on any future production of inverted Liberties and means should be found to effectually seal these heads so that water cannot get into them.

Several high tension leads broke off at the distributor head terminal. In two cases, the left distributor head primary lead broke off at its attachment to the head. This wire runs from the left over to the right side of the engine compartment without support. Some means should be provided to support this lead so it will not be so liable to break.

The distributor head synchronizing rods failed in five different cases. It would seem worth while to strengthen this rod in future production.

It will be noted from the class of failures mentioned above that all were of a minor nature with the one exception, and could be repaired in the field in a few minutes time. The Allison Engineering Company deserves a great deal of credit for the fine workmanship and careful inspection which made this excellent engine performance possible.

It should be noted that the bushings installed in the carburetor butterfly valves and mixture control valves functioned perfectly and, undoubtedly, saved a very great deal of trouble and grief which has always been experienced with the standard carburetors on salt water use. It is recommended that this change be adopted as standard on those engines intended for work off salt water.

9. Flying Characteristics of the CA-1A and General Remarks.

In the first place, too much praise cannot be given the amphibian idea in airplanes. It is a wonderful thing to be able to function equally well from land or water. A striking example of this was the experience at Porto Cabello, Venezuela. No field was available there. The flight landed in the water and taxied up onto the beach. When ready to take-off, however, the direction of the wind was such that it would have been necessary to go out into the open ocean to take off, and the water was too rough to permit this. There being no possibility of getting off on the water, a few logs were dragged out of the way, some brush cut down, and the planes took off without difficulty down this runway, improvised in only a few minutes. The ability to land in the water and taxi out onto any suitable beach or shore is an invaluable advantage over an ordinary seaplane which requires elaborate apparatus for its removal from the water. It is not too much to say that the flight as made, could not have been accomplished with any other type than an amphibian. A land plane could not do it, because for long distances there are no suitable landing fields. Also there is no water at hand at such places as Santiago, Chile, for a seaplane to operate from.

On the whole, then there can be only praise for the amphibian principle and, as can be seen from the foregoing sections of this report,



the amphibian idea has been worked out in a very satisfactory manner on the OA-1A type of plane. Great credit is due the designer for this basic success.

To consider details of performance:-

The airplane handled the heavy load carried, weighing as it did approximately 6,000 pounds fully loaded, in a very creditable manner. The take-off characteristics from water are very good. It gets off from glassy smooth water with a full load surprisingly well. The take-off characteristics from land are not as good, comparatively, as from water.

The OA-1A is directionally unstable to the point of being dangerous under bad flying conditions. It is understood from the designer, however, that this problem has been solved on later planes brought out since the flight planes. If this is so, the matter is of no further importance.

In general, it may be said that the OA-1A was very satisfactory for use on the Pan American Flight - undoubtedly, the most satisfactory type in existence for such a purpose. Planes of this general type are recommended for standard equipment for units working near large bodies of water and particularly at such places as Panama and the Islands. However, it is felt that the question of corrosion, as shown by the flight planes should be thoroughly studied and steps taken to bring such corrosion under control.

10. As stated in the opening paragraph of this chapter, undoubtedly the success of the flight is largely due to the remarkable efficiency of Captain C. F. Woolsey as Engineering Officer, in anticipating and remedying difficulties in both the plane and its motor. His unselfish devotion to duty and constant attention to every detail stand unsurpassed as invisible monuments to the memory of this remarkable man.

Assisting Captain Woolsey were 1st Lieutenant M. S. Fairchild and 1st Lieutenant E. C. Whitehead, whose engineering experience and ability contributed in no small degree to the successful termination of the flight. Between the three engineering officers, the flight early learned to have absolute confidence in their decisions. The flight was fortunate in having this bulwark of strength, especially when it is considered both plane and motor were in a more or less experimental stage of development.

A chart showing the miles flown and the flying time of each plane of the Pan-American Flight.

PLANE MILEAGE and TIME.

Name of Plane	Mileage	Flying Time
New York No. 1	8390	99:20
New York No. 2	5140	67:00
San Antonio No. 1	2660	33:35
San Antonio No. 2	15340	183:35
San Francisco	22015	260:15
Detroit	10075	126:25
St. Louis	20915	249:30

## CHAPTER X.

## SUPPLY

1. General.

As soon as the War Department had approved the project of the Pan American Flight, the Chief of Air Corps directed the Chief, Materiel Division to set up the necessary organization to take care of the supply features of the flight. The Chief, Materiel Division issued instructions to the Chief Field Service Section, to make a supply survey and lay plans for the procurement of the necessary equipment and for the selection, purchase and shipment of the required supplies. The Chief, Field Service Section, designated the Fairfield Air Intermediate Depot to do the work of buying, assembling, inspecting, crating and shipping the supplies.

As soon as the flight personnel had been selected, the commander of the flight designated Lieutenant Charles McK. Robinson as supply officer. He was early ordered to the Fairfield Air Intermediate Depot to work in conjunction with them on supply matters. As soon as the engineering officer had been designated, his services were enlisted and his advice used on many supply features incident to changes in the plane and engine, the selection of tools, etc.

The five sets of miscellaneous supplies and tools carried in the planes. In some cases there were only one or two of an item and these were distributed so as to equalize the loads.



## 2. The work of the Field Service Section.

This section of the Materiel Division placed Mr. Kennedy, who had been in charge of assembling the supplies for the World Flight, in charge of supervising the supply features of the Pan American Flight. The Field Service Section, after consulting the commander of the Pan American Flight, the supply officer and the engineering officer, compiled a list of all supplies needed, made a careful study to determine where and what quantities of these should be shipped, issued instructions to the Fairfield Air Intermediate Depot on the method of packing and shipping, supervised the assembly and inspection of the equipment, and placed purchase orders for those items not available as standard for the Air Corps.

The amount of work required in determining what supplies would be necessary was tremendous. In order that the flight might be successful, it was necessary to have available when needed more than six hundred separate and individual items of equipment and supplies. A careful estimate had to be compiled as to the amounts of each of these six hundred items, and as to where they should, properly, be located. The whole supply list is available in the files of the Pan American Flight in the Office of the Chief of Air Corps.



### 3. The work of the Fairfield Air Intermediate Depot.

It devolved upon the Fairfield Air Intermediate Depot to assemble and inspect the supplies, prepare them for shipment and get them under way. Little time could be lost. Practically all the supplies had to be prepared for shipment to foreign countries. It was necessary to prepare them so that they would not deteriorate in overseas shipment, and all these many items had to be packed so that they would be readily available to the flight personnel when the time came to use them, since it was well known that the flight would stop for only a short time at the major supply bases and for less time at the other supply points.

The Fairfield Air Intermediate Depot deserves great credit for the manner in which these supplies were selected, inspected, crated and shipped. So well was the work done that in only two cases was there any cause for complaint. There were no hose clamps in the supplies. Due to the rapid deterioration of rubber connections in the heat of the tropics, these in the proper sizes were very necessary. The flying suits ordered for the personnel were ridiculously grotesque. The smallest suit contained almost enough cloth to make two suits for the largest member of the flight. This was unfortunate since it was, of course, desirable for the flight personnel to make as good an appearance as possible. The suits were so large that it was impossible to wear them at all and mechanics coveralls were sub-

stituted in their places. It is possible there was an oversight in inspection of these articles before shipment.

The depot made up a book of ten large photostat sheets containing a list of all of the parts, materials, tools and equipment for use in connection with the Pan American Flight, showing the number provided for each plane, the total number sent and the places to which they were shipped. Copies of this book were carried with the flight and proved to be invaluable in advising the personnel in advance where the supplies could be expected. A sample sheet of this book has been photographed and is included in this chapter. This was an excellent system to show in compact and concise form what supplies were provided for each ship of the flight, and where they were located. The whole book is too large for inclusion in the report but is available with the flight records in the Office of the Chief of Air Corps, and should certainly be examined by those charged with the supply features of any future undertaking of this nature.

#### 4. Supply Bases.

In selecting supply bases, determining factors were local conditions, trans-shipping possibilities and distances. Perhaps the principal consideration was to secure a base approximately every 2,500 miles. These supply bases were:-

Salina Cruz, Mexico.

France Field, Panama Canal Zone.

Lima, Peru.

Santiago, Chile

Buenos Aires, Argentina.

Rio de Janeiro, Brazil.

Para, Brazil.

Port of Spain, Trinidad.

Havana, Cuba.

As a result of the flight experience, it was found that these supply bases were well selected, except for Salina Cruz, Mexico. It would have been better had Guatemala City, Guatemala, been selected as a supply base rather than Salina Cruz. In this case, the facilities for working at Salina Cruz were very poor and a strong "norther", carrying great quantities of dust and sand, interfered greatly even with servicing the planes. At Guatemala City, a good airdrome existed and the planes were at a good place to do work on them.

Talcahuano, Chile, was originally selected as a supply base instead of Santiago, but in view of the fact that the Chilean Air Corps had a good airdrome in the vicinity of Santiago, it was determined to have the supplies shipped from Talcahuano to the latter point. This proved a desirable change. Supply bases for amphibian planes should always be located where the planes can be drawn out of the water since this facilitates work on them greatly.

One sheet of the supply list. This list contained over six hundred items and it will be noted how the distribution to planes and bases shows the entire supply situation in a single document. This information was of great value throughout the flight.



## 5. Shipments.

In order to expedite handling of the supplies, letters of instructions were sent to the Flight Agents prior to the arrival of the flight, telling them to have the supplies moved as close to the location of the airplanes upon their arrival as possible. These instructions also directed Flight Agents to have the boxes open in order to facilitate the use of the supplies upon the arrival of the flight. In most cases, Flight Agents carried out these instructions very well. However, at Port of Spain, Trinidad, the supplies were left in the Custom House two miles distant from the beach where the planes were brought out of the water. This arrangement was, of course, very unsatisfactory.

The method used in packing the supplies was well conceived. A list in the top of each box showed what supplies were contained in that box and in what part of the box they were located. This facilitated greatly the selection of supplies by the flight personnel while working on the planes. In nearly all cases, the supplies came through in good condition indicating that they had been well packed and carefully crated. At Talcahuano, Chile, one engine was slightly damaged in unloading from the steamer. All of the supplies with the exception of a portion of the gasoline and oil reached their destinations in advance of the flight.

## 6. Gasoline and Oil.

The fuel requirements and shipping points were determined in the Office of the Chief of Air Corps, principally by Captain R. G. Hoyt who handled many details of the flight. The contract for the fuel was awarded the American Oil Company of Baltimore, Md., and included delivery at the points to be used. It was contemplated that fuel would be delivered at all the scheduled stops of the flight.

It was necessary to delay the departure of the flight five days because the gasoline and oil had not been placed at the designated time in certain points in Central American countries. To avoid further delay, fuel was shipped from Panama for use at the Central American stops. The only other points where delivery of the contract fuel did not occur before the flight arrived was at Corrientes, Argentine Republic, and Asuncion, Paraguay. At several points there was considerable shortage of gasoline due to leakage or possible theft. At some points a quantity of water was found in the drums, and this water caused quantities of fine rust to form and mix in the gasoline and bensol. This gave us so much trouble that it became necessary to devise a means of chamolising the gasoline. This is discussed under the chapter on engineering.

It is scarcely fair to be too critical on this subject since the company charged with supplying the gasoline and oil was required

to place it in some very out of the way places where shipping facilities are uncertain and inadequate, and much carelessness in handling was evident. The gasoline and oil was of an excellent grade and quality and undoubtedly complied with Air Corps specifications when shipped. This water and rust undoubtedly collected in the drums in the course of shipment.

7. Remarks.

In a flight of this nature very careful attention should be given to the supply feature. There is no more important detail. Taken all in all, the Materiel Division of the Air Corps deserves great credit for the way in which the Pan American Flight supplies were handled.

Supplies should be located at as frequent intervals as practicable, at suitable places for use, and very careful consideration should be given to the transportation facilities between points in order to take care of emergency shipments when supplies are needed away from the established bases. When the SAN ANTONIO developed a bad engine at Tumaco, Colombia, seventeen days elapsed before the new engine was received from France Field, Panama.

The work of the supply officer of the flight, 1st Lieutenant Charles McK. Robinson, is worthy of special mention. His careful preparation of all details before departure was evident in the smooth



operation of the supply system during the flight. His efficient performance of the supply function left nothing to be desired by the commander of the flight.

## CHAPTER XI.

## PHOTOGRAPHY - METEOROLOGY - COMMUNICATIONS

1. Photography.

Words cannot describe scenes vividly enough that a complete history of Army achievement such as the Pan American Flight can be compiled without photographs. In the report of a trip such as made by this flight, photos would prove invaluable. They might show the planes at each stop, condition of field or water, people out to meet the flight, crews working on their planes, and views setting forth the nature of the country, coast line or water flown over.

For this flight, a 4" x 5" Graflex camera, an aerial hand held camera 4" x 5", and a spring operated movie camera carrying 100' rolls of standard movie film, were used by the flight during the preparation for the flight at San Antonio, Texas.

Before the flight left San Antonio orders were received from the War Department that no photographic equipment or supplies would be carried on the flight. Since the flight was on a good will mission, it was felt that to carry cameras might arouse an unfriendly feeling in some places and operate against the successful accomplishment of that mission.

The insignia adopted by the Pan-American Flight. It was painted on the sides of each of the planes.



Accordingly, 1st Lieutenant L. D. Weddington, who had been appointed photographic officer, was instructed to have the cameras shipped to Miami for our use in the United States upon our return, and to work out means of securing photos from local sources en route through the Latin American countries.

Persons whom we saw taking photographs were asked on occasion if they would send us copies of the good views taken. We got many promises but comparatively few photographs, most of which did not show the things of historic interest to the flight.

The State Department was also requested to collect photos through its representatives, but few have been received thus far. In addition, the flight personnel themselves made several purchases of local views but these were more of personal than official interest.

A few requests were received from government officials to take photos but we informed them of our lack of photographic equipment.

## 2. Meteorology.

A very careful study of weather conditions throughout Latin America was made prior to the departure of the flight and this one consideration had more influence in determining the period for the flight to be made than any other one factor.

Naturally, the best time of the year was picked and most of the Central and South American countries were visited during their

summer or dry season. While some had no dry season, principally those along the East Coast of South America, the rains encountered were mostly of a local nature.

Messages containing information on existing weather conditions and weather forecasts were received from very few places during the flight. Such information was generally unobtainable, due to slowness of existing means of communication and, in some cases, due to entire lack of communication facilities or lack of meteorological observation stations.

Whenever possible, information on existing weather at the next scheduled stop was obtained prior to the start of each day's flight. The method of obtaining this information was to wire ahead to the flight agent who had received instructions from the advance officer in this respect.

The state of the weather for each leg of the flight is shown in the data given at the head of each paragraph in Chapters II to VII, inclusive, and, therefore, only a general discussion of meteorological conditions will be given in this chapter.

Good flying along the east coast of Mexico was encountered except for a series of "northers" that came up when we were at Tampico and Vera Cruz. These did not, however, interfere with the progress of the flight. The terrific amount of dust that was picked up by the "northers" was not very good for our equipment. One of these "northers" was blowing with terrific force at Salina Cruz, our first stop on the

Pacific side and did cause considerable worry. A little fog, low clouds and local rains were also no bar to progress.

The bumpy air currents of Central America impressed themselves upon all of us. The terrific force of the bumps and constant necessity for controlling the planes caused blisters to be raised on our hands. It was natural to expect this rough air since the winds generally blew from the north or northeast across the range of mountains passing lengthwise of Central America and the heat of the day, together with an occasional volcanic disturbance, caused this condition.

The trade winds north of the equator were not felt except on the Atlantic side and they did interfere considerably when flights were made in an easterly direction. Their velocity at times was as high as 30 or 40 miles an hour.

Passing down the west coast of South America, rains were encountered until we reached northern Peru. In the equatorial rain belt along the coast of Colombia and Ecuador very heavy rains of considerable extent were prevalent, but their duration was only for a short period and we generally flew through them.

The coast of Peru and northern Chile is known as the "Rainless Coast of South America". For a distance of approximately two thousand miles, we were informed not a drop of rain had fallen for over thirty years. The flying conditions along this section in the air were excellent. It was not uncommon to be able to see distinctly

fifty miles ahead and on at least two occasions the visibility permitted us to see one hundred miles ahead.

The prevailing winds along the greater part of the west side of South America are from the south and southwest at sea level. This impeded our progress. We soon found brisk breezes from the north or northwest at altitudes varying from four to eight thousand feet, and, of course, we took advantage of this condition. Along the coast of Chile, the wind blows with considerable intensity at times and carries much dust with it. These storms correspond to the "northers" of Texas but in Chile are known as "temporals".

The rains south of Valparaiso deserve special mention for we flew from a practically rainless section into a very wet one. At Valdivia, we were informed there hadn't been a wholly pleasant day for nine years. The rains are mostly in heavy downpours and local showers. They were a decided menace to our safety as we were forced to fly through them. Visibility would become very poor, heavy dark clouds hang just above the ground and the rainfall became very heavy.

Except north of Peru, the weather over the Andes so far as we could see appeared to be generally good, though cumulus clouds appeared daily over the mountains. In crossing the Andes, we encountered these heavy cumulus clouds going up to an altitude of over twelve thousand feet but the weather above them was excellent. Over the pampas of northern Patagonia the weather was also very good, except for the bumpy condition of the air.



Passing up the east coast, especially in the Argentine Republic and the Paraguay and Parana Rivers, the heat of the day would cause local thunder storms very similar to those that exist in our own north temperate climate. The heat of mid-day in Asuncion, Paraguay, was only rivaled by that of Guayaquil, Ecuador.

Almost every flight day from the time we left Montevideo, Uruguay, until we reached the West Indies, we found a breeze coming from the northeast. This interfered with our progress until after passing Pernambuco.

Soon after striking the coast of Brazil, we encountered what appeared to be their rainy season for throughout the long coast line of this country there were local storms and thunder showers and the green, fresh character of the foliage gave evidence of a great amount of rain. These storms were mostly local and kept the air from getting very rough. We flew around the storms most of the time, but occasionally had to go through them when it carried us too much out of our way to do otherwise. As we neared the equator, these storms became real tropical downpours. The visibility, however, was generally good between storms.

We seemed to be emerging from that region of daily rains when we reached Trinidad, although occasional local showers and thunder storms occurred all the way to Florida. These storms were limited mostly to the land areas and by flying over the water it was possible to keep in pleasant weather. This was particularly evident along the coast

of Venezuela where the east and west range of mountains was almost continuously covered with clouds and local storms were prevalent, whereas one-half mile out on the water the flying conditions were very good. Winds over the water may have had something to do with this condition for the trades blew with considerable velocity almost directly from the east. These winds kept the Caribbean Sea in a state of unrest so that it was impossible to use it with our amphibian planes.

Throughout the West Indies flying conditions were generally good and, although storms put in their appearance, they did not interfere in any way with our flight.

One of the outstanding points in connection with the Pan American Flight is this - not once did the weather prevent us from leaving for our day's flight, and never once did it cause us to turn back and abandon the trip scheduled for the day. It did delay us at times, helped us at other times, and on only two occasions prevented us from reaching our destination for the day. In both of these cases, it was an exceptionally strong head wind that held us back.

It might be said, in summarizing, that fairly good flying conditions existed at this time of the year throughout the entire length of the Pan American Flight, and in only a few instances did conditions exist which would be a decided menace to commercial aviation. These conditions appeared to be temporary and not the general

state of the weather over an extended period of time. It should be realized, however, that the rainy season of the West Indies, together with its hurricanes, was the principal factor in determining the completion date for the flight. There are, undoubtedly, other bad weather seasons existing over the route we followed which might be a bar to all year round operation of aircraft.

### 3. Communications.

No radio equipment was carried by the planes on the Pan American Flight. When preparations for the flight were being made, careful consideration was given to the question of equipping the planes with radio sets. It was decided that the only possible advantages in having the planes thus equipped would be:-

- a. Calling for aid when forced to land;
- b. Calling for weather reports while en route between stops;
- c. Training in use of radio equipment;
- d. Possible communication between planes in flight.

In the case of a. above, it would be possible to use radio only while the plane is in the air, which in the majority of cases would be for only a few seconds after the trouble necessitating a forced landing occurs. In the event of a forced landing from a low altitude, there would be no time at all to use radio. It was also borne in mind that with a flight such as ours there would always be planes to fly to the nearest place to secure aid in event of a plane

being in danger after making a forced landing. This latter method would prove to be the most valuable, especially since very few towns along the route of the flight are provided with radio stations.

In the case of b. above, information on weather conditions could be obtained while in flight from only a very few places, due to lack of radio facilities as mentioned above. It would also be far more satisfactory to obtain weather reports just prior to the start of a flight rather than during the flight. Furthermore, the weather information was not very reliable.

Training, of course, is always valuable but the limited use of the equipment might even make the little training secured not worth the trouble of carrying this extra load and keeping it in operating condition.

Communication between planes is a problem best solved when it is possible to talk from one plane to the other. But signal systems, using motions of the plane, arm signals, etc., were devised to replace the radio.

The great amount of shielding that would have to be done on the planes made the risk of a short circuit in the ignition system too great to consider when it was known the flight had to pass over many sections of water and land where a forced landing would have meant disaster.

The disadvantage of having radio equipped planes would

be:-

- a. Approximately 150 pounds additional weight to be carried by each plane;
- b. Added risk of trouble occurring in ignition system of airplane engine, due to radio shielding equipment.

The weight factor was the one given most serious thought.

Even without radio equipment it was found, just prior to the start of the flight, that the heavy load of gas, oil, water, tools, spare parts and baggage exceeded the weight carrying capacity of the planes, consequently, the load had to be reduced before the flight started.

A system of signals for use by the flight was very carefully worked out before departing from San Antonio and, in general, they worked very satisfactorily throughout the flight. Of course, there were many occasions which arose for communicating something not contained in the signal code, and in most cases the improvised signals were fully understood as they were exchanged between planes in the air. The set of flight signals we made up is as follows:-

#### PREPARATORY

- (1) READY - Hold one arm vertical until acknowledged.
- (2) READY WITHIN TEN MINUTES - Wave one arm until acknowledged.
- (3) NOT READY FOR MORE THAN TEN MINUTES - Wave both arms until acknowledged.

IN THE AIR

- (1) CLOSE FORMATION - Zoom.
- (2) LOOSE FORMATION - Rock ship or wave both arms.
- (3) RIGHT TURN - Dip right wing or point right.
- (4) LEFT TURN - Dip left wing or point left.
- (5) FORM IN COLUMN - Move arm forward and aft in vertical plane or zoom.
- (6) CHECK LANDING GEAR - Fly along side and give warning by operating own landing gear or by pointing at landing gear.

EMERGENCIES

- (1) SUITABLE TO LAND - Smoke bomb; or squat at point where wheels should touch ground and move both arms in direction of landing.
- (2) NOT SUITABLE TO LAND - Motion plane on, moving and pointing in direction of any suitable landing available.
- (3) HELP URGENT - Lean over side of cockpit with body hanging limp; or lie prone; or white signal.
- (4) GO ON - Green signal, or motion planes on.
- (5) WAIT - Red signal.
- (6) TROUBLE - Red signal; or fly in front of leader and rock plane; or hold arm horizontally over head.
- (7) SPEED UP - Move arm up and down vertically.
- (8) DISTRESS - Square flag with ball underneath.

The rule followed in case of a forced landing was for the other planes of the flight to circle while the leader went down to determine the trouble, landing if the place was suitable or if the circumstances made it appear advisable. The personnel of the plane forced to land would give the signal to go on unless help was needed. In this latter case, the engineer officer was designated to land and the balance of the flight would proceed to keep up to schedule and avoid disappointment, if possible, at the destination for the day.

## CHAPTER XII.

## FINANCE

1. Current Expenses.

The Pan American Flight was allotted the sum of \$17,750.00 for current expenses during the trip. This sum was determined in the following manner:-

Per diem (flying) 10 officers, 140 days @ \$8.00 per day .....	\$11,200.00
Per diem (rail or boat) 10 officers, 16 days @ \$6.00 per day .....	960.00
Rail and boat transportation .....	590.00
Contingency fund (for payment of flight agents, emergency purchases and other contingencies .....	<u>5,000.00</u>
TOTAL .....	<u>\$17,750.00</u>

Captain Arthur B. McDaniel, Air Corps, was appointed Finance Officer for the flight. However, it was considered desirable for each plane to carry enough funds to care for emergencies in case of separation from the flight. Therefore, the senior officer in each plane was appointed Agent Finance Officer of Major E. T. Comegys, Finance Department, Washington, D. C., and the above mentioned funds were divided as follows:-

(NEW YORK)	Major H. A. Dargue	\$1,000.00
(SAN ANTONIO)	Captain A. B. McDaniel	13,750.00
(SAN FRANCISCO)	Captain I. C. Eaker	1,000.00
(DETROIT)	Captain C. F. Woolsey	1,000.00
(ST. LOUIS)	1st Lieut. B. S. Thompson	1,000.00

The Flight Finance Officer was furnished checks drawn by the Finance Officer, Fort Sam Houston, Texas, made payable to himself and indorsed to the Flight Finance Officer as follows:-

10 checks	\$500.00 each	\$5,000.00
70 checks	100.00 each	7,000.00
35 checks	50.00 each	1,750.00

During the period the Flight Finance Officer was separated from the flight, Lieutenant Weddington received from Lieut. S. E. Skemp, Air Corps, Advance Officer of the 3rd Division, Pan American Flight, and Agent for Finance Officer, Panama Canal Zone, the sum of \$500.00. Upon rejoining the flight, this sum was turned over to the Flight Finance Officer. Major Dargue also received \$2,000.00 from the same source for current expenses of the flight.



The following accounts were paid by the Flight Finance

Officer:-

Flight Agents - (For handling gasoline and oil from ships to planes, clearing beaches, preparing buoys, assisting in mooring, beaching, servicing and launching planes, miscellaneous minor supplies, telegraphic reports, and handling supplies at various stops and bases) .....	\$6,973.29
Miscellaneous supplies, services, etc. ....	701.36
Telegrams and cables .....	356.27
Per diem to officers .....	<u>6,057.79</u>
TOTAL .....	\$14,088.71

Vouchers covering all the above are on file with accounts of Major E. T. Comgys, Finance Department, Washington, D. C.

RECAPITULATION

Funds furnished Finance Officer .....	\$13,750.00
Transferred from Lt. Weddington's account .....	<u>500.00</u>
TOTAL .....	\$14,250.00
Current expenses .....	<u>14,088.71</u>
Funds remaining on hand to be returned to Major E. T. Comgys, Finance Department .....	<u>\$ 161.29</u>

The accounts of the other four agent finance officers of the flight were settled by them with Major E. T. Comegys, as follows:-

	<u>Current Expenses</u>	<u>Turned back</u>	<u>Total</u>
Major H. A. Dargue	\$2,582.72	\$417.28	\$3,000.00
Capt. I. C. Baker	766.80	233.20	1,000.00
Capt. C. F. Woolsey	230.00	770.00	1,000.00
Lieut. B. S. Thompson	<u>312.00</u>	<u>688.00</u>	<u>1,000.00</u>
	\$3,891.52	\$2,108.48	\$6,000.00

As far as possible, all accounts were settled at each stop by the finance officer before the flight departed. However, in only two cases were the accounts in such shape that it was impossible to settle them before the flight left.

On February 1, 1927, due to a defective thrust bearing, the SAN ANTONIO was left at Tumaco, Colombia, and the rest of the flight proceeded. The SAN ANTONIO rejoined the flight at Montevideo, Uruguay, on March 5, 1927. During this period, flight accounts were paid by other agent finance officers in the flight.

After paying the flight agent at Port of Spain, Trinidad, on April 6th, the flight finance officer had no further funds available and Major H. A. Dargue paid all flight accounts from that date.

## 2. General Expenses.

The main expenses of the flight were cared for out of Air Corps funds by the finance personnel of the Office of the Chief of Air Corps. There were numerous expenses in connection with the contract for the planes, the preparation of the motors, spare parts for both planes and motors, purchase of special supplies, packing and shipping of all supplies and spare parts, the fuel contract, transportation of personnel, etc. A small fund from the Signal Corps appropriations was set aside to care for cable messages.

## 3. Remarks.

The flight was moving under pressure at all times and the members were busy with planes and official receptions during every minute of the short stops. No time seemed available for the settlement of financial accounts and this worked a hardship upon both the flight finance officer and the flight agents. It was difficult to find time to properly prepare vouchers, exchange money at the bank, secure rate of exchange certificates and check accounts carefully. In only three cases was it possible for the finance officer and flight agent to sit down and do the job leisurely. At all other times these accounts were settled on the run, many times with the wing of a plane, an oil barrel, or box as desk, and the spectators assisting to make up the necessary change, etc.

The system of carrying checks made out in definite amounts was very embarrassing. No advance information was available as to the amount of accounts, and the flight moved from one country to another so rapidly that it was impossible to carry the currency of the country in proper amounts to settle these accounts. If the money of one country were carried into another there was considerable loss in the exchange rate.

At all stops made by the flight, except three, the United States was represented by a Consul or Consular Agent. Many of these acted as flight agent and others supervised the work of the flight agents. In a number of cases, they realized the difficulties of the finance officer and volunteered to settle the accounts from their funds and request reimbursement from the War Department through the State Department.

If it were possible for the flight finance officer to be given authority to draw checks upon the Treasury, or if he were furnished letters of credit to such firms as Grace and Company, or banks in each country visited, so that he might draw checks upon them, his work would be greatly facilitated.

Accounts at places where the United States is represented by Consul or Agent might be settled by these representatives and transmitted to the War Department for reimbursement of the State Department. These agents of the government are conversant with local conditions and prices, have time to see that work is well done, and to scrutinize accounts and prepare proper vouchers.

The work of the finance officer under the conditions above cited is not at all pleasant. In the face of these conditions, however, Captain A. B. McDaniel performed his duty well, handled large sums of money with the greatest of care and used excellent judgment in the settlement of accounts.

## CHAPTER XIII.

## AVIATION IN LATIN AMERICA

(CONFIDENTIAL)

The aviation facilities existing in Latin America will be discussed in this chapter by country in the order in which they were visited. The flight, of course, landed at many places that will not be listed. These landings were made on the water and no facilities whatsoever existed.

1. Mexico.

a. Tampico.

The flight landed on a level field inside the Huasteca Petroleum Company's property. This field had been made of dredgings from the river and had not thoroughly dried, so that there was a crust approximately one foot thick which held very nicely the light planes of the training and observation type which had been using the field. The heavy amphibian planes, however, ran into much difficulty by sinking through this crust at many places. The field is none too large and in order to insure the safety of take-off a stretch of a few hundred feet of telephone wire at the far end was removed. This field lies a few hundred yards back from the river on the opposite side from the main part of the city of Tampico. There are no facilities except the place to land.

On the same side of the river as the main part of the city and about two miles to the west, there is a small two-way field which has been used for some time by a commercial operator who carries passengers to various points in Mexico and engages in the usual pleasure rides over the city of Tampico. The runway on this field is headed in the direction of the prevailing winds and an inspection from the air indicated it was smooth and solid with a good turf of grass.

b. Mexico City.

The Balbuena Flying Field lying about five miles outside of the city is the military training center of the Mexican Air Service. It is located at an altitude of over seven thousand feet but has excellent surroundings due to the level character of the ground and the absence of high obstacles. It would be excellent for the operation of any type of plane except for the fact that an unfilled ditch cuts the field practically in half. Several hangars and shops are located on the field and the usual facilities of a flying field are available.

About a half mile from the field and on the opposite side of the main highway the principal shops are located. An inspection of all of these buildings indicated considerable activity, both in the repair and building of airplanes. Practically all of the equipment was of a more or less obsolete type and none of the later models were in evidence.

c. Vera Cruz.

An emergency landing field was reported west of the city but this was not examined. The terrain seems quite level close to the shore line.

d. Minatitlan.

The Englishmen operating the Aguila Oil Company at this town enlarged and prepared a site for use by the Pan American Flight. It had previously been selected as a station for a portion of the Mexican Air Service. This field, located about a mile north of the Coatzacoalcos River, is on the highest ground available with gentle slopes on practically all sides. The field is very small and was entirely used both in landing and take-off by the amphibian planes. The surrounding country to the north and east is good for emergency landing for some distance. There are no facilities at this field.

2. Guatemala.

a. Guatemala City.

A good landing field is located about two miles south of Guatemala City and is the station of the small Air Service of this country. The field is five thousand feet above sea level and is large enough for the operation of all types of aircraft under favorable conditions though the surroundings are very poor. The rough air at mid-



day or when the wind is blowing, coupled with the altitude of the field, makes take-off conditions rather dangerous. Two small wooden hangars and a brick building to be used as an operations office are located on the field. One antiquated training plane and another built by one of the local officers were the only planes seen.

### 3. Salvador.

#### a. Ilopango.

About ten miles east of the city of San Salvador and located in terrain that is very rugged for many miles around is the comparatively small flying field of the Air Service of Salvador. It is approximately two thousand feet above sea level and slopes gently toward a precipitous and deep ravine on the south side making landing across the narrow part of the field exceedingly dangerous; this makes the field practically a two-way one. The principal runway is ample for the operation of any type of plane and is in the direction of the prevailing wind.

A few small wooden hangars are located at one end of the field and twelve (12) planes were seen, six (6) being in such a deteriorated condition that they could not possibly be flown. The other six planes were principally of the training type.

The soft beach at Amapala, Honduras, necessitated leaving the planes at anchor and the servicing and maintenance work had to be done while standing in the water.



#### 4. Honduras.

##### a. Tegucigalpa.

On the outskirts of Tegucigalpa there is located a very small field with one small wooden hangar. This field has been used for commercial operations with very light types of planes. It is located over a mile above sea level and has a very short runway in one direction only. The field is absolutely unsuitable for any type of aircraft without considerable work being done on it. The rough character of this country makes it practically impossible except along the coasts to find a field that can be used by all types of airplanes.

#### 5. Nicaragua.

##### a. Managua.

A small field adjacent to the city which had been used by the Central American Flight was considered for use by the Pan American Flight but was found to be too small and deep with dust. No facilities exist at this field.

#### 6. Costa Rica.

##### a. San Jose.

A very good level field nearly a mile long by quarter of a mile wide is located just on the edge of the city. It is thirty-

eight hundred feet above sea level and has very poor surroundings. A tall radio mast with numerous guy wires forms a very serious obstacle. There are no facilities and Costa Rica has no Air Service.

7. Panama.

a. David.

Photographs and a description of the excellent field at this city are on file in the office of the Chief of Air Corps, as well as similar descriptions of the numerous emergency fields that have been located in the Republic of Panama west of the Canal Zone.

b. France Field.

A regularly established Air Corps station, but the buildings at the far end of the field directly in line with the take-off form a serious obstacle for heavily loaded planes. These buildings were so much of an obstacle for the planes of the Pan American Flight that it was considered advisable to launch the planes and take off from the water.

8. Colombia.

a. Barranquilla.

No landing field known, but the country appears to be well adapted to the preparation of a good field. One of the terminal stations of the Seadta organization operating seaplanes up and down

down the Magdalena River is located at this city. The hangars are on the bank of a small estuary off the main river and a concrete ramp runs into the water. Excellent accommodations and service are available.

b. Girardot.

The terminal of the Scadta organization at the upper reaches of the Magdalena River is located at this city. The landing facilities are very poor. It is necessary to land in the tortuous river between high banks with a very swift and eddying current to combat. The runway from the hangars, which is located approximately fifty feet up the river bank, is very steep and considered dangerous for use by the amphibian planes. There is only one hangar.

The take-off from the Magdalena River at Girardot is particularly dangerous. The Scadta planes start down stream and must have flying speed by the time they pass under the bridge and then climb out of the canyon before reaching the right angle turn in the river a few hundred yards further on. The amphibian planes did not attempt this feat but went up the river a considerable distance to make their take-off.

c. Bogota.

The capital city is located on a plateau eight thousand five hundred and sixty feet above sea level. Several miles to the west of the city is the Air Service flying field. This was not visited but

from what was seen of the country the surroundings appeared to be excellent as the whole plateau extends for many miles and is practically level farming land. We were informed there were hangars and shops with several planes but we saw only one obsolete training type airplane in the air.

9. Ecuador.

a. Guayaquil.

When visiting Guayaquil we were informed that the Ecuadorian Air Service field, located a few miles above the city, had been flooded by the high waters of the river and that it was impossible to use it at that time. We did not visit this field.

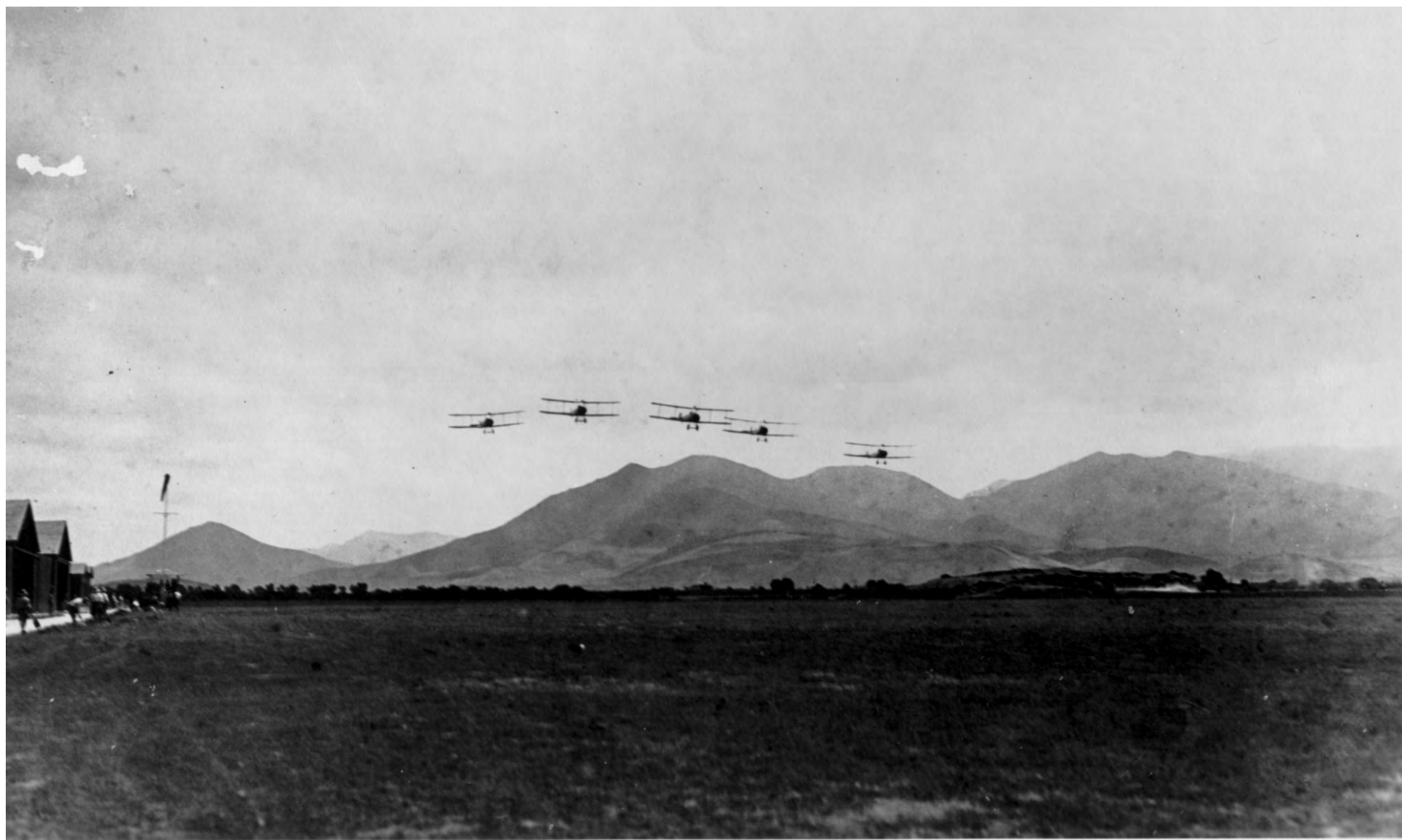
10. Peru.

a. Lima.

The Army Air Service field is located at Las Palmas, approximately ten miles south of the capital city. It is practically a two-way field, quite rough, but suitable for use by all types of planes. Several wooden hangars with concrete floors are located on the west side of the field, together with shops, operations building and club building. Several officers and a group of less than fifty mechanics constitute the personnel of the Air Service but they were enthusiastic, had some DH training type planes and a few special planes

The Army flying field at Las Palmas, about ten miles from Lima, Peru. A flight of local planes escorted the Pan-American flyers to the airdrome.





which seem to be flown considerably. A formation of five training planes from this field met the Pan American Flight when approaching Lima.

b. Ancón.

About fifteen miles north of Lima is the Naval Air Station. There is a small group of buildings with a few planes and an ideal bay in which to land.

c. Arequipa.

We visited the field on the outskirts of this city which had been selected for our use but which, on account of the altitude of seventy-five hundred feet and reports of soft sand, we had condemned. The field needs a great deal of preparation and the removal of a few surrounding obstacles. It cannot be considered as more than an emergency landing field at the present time.

11. Bolivia.

a. Alto.

At an elevation of thirteen thousand five hundred feet above sea level and on a plateau above the capital city of La Paz, is located the only Bolivian Air Service station. Two modern brick buildings in which ten planes are housed and in which ground instruction is carried on are located on the edge of a very large

flat field. The country for miles around, except in the direction of La Paz, is fairly level but covered with stones to such an extent as to make landings dangerous. The small group of officers and mechanics at this station were very enthusiastic and seem to have their planes in excellent condition and enjoy flying in spite of the handicap of altitude under which they operate. The planes, of course, required a very long run before they could get into the air. Two Breguet observation planes of the latest type, two Fokker light bombers, and four training type planes were in commission. We were informed that a contract, effective June 1, 1927, had been signed with Captain Lemaître of the French Air Service to take charge of air instruction in Bolivia. It will be remembered that Captain Lemaître was the pilot of the Breguet observation plane that won the race at Mitchell Field a few years ago.

12. Chile.

a. Arica.

In passing over Arica a couple of small wooden hangars were noticed on the edge of a sandy barren field. Surroundings excellent.

b. Antofagasta.

Planes land on a field near this city. Information indicated it is an emergency field only.

c. Ovalle.

We were informed that at this city, which is located slightly southeast of Coquimbo, there is an air station with limited facilities but that the field is a very good one.

d. Quintero.

This is the Naval Air Station of Chile, located about fifteen miles north of Valparaiso. A small bay is ideal for seaplane operations and there is on the east a small group of buildings. Two planes were anchored in the water when we passed over.

e. Santiago.

At El Bosque, eight miles south of the capital city, is located the principal Air Service station of the Chilean Army. It is nearly two thousand feet above sea level but amply large for operation of all types of planes. It is bordered by trees on two sides which form somewhat of an obstacle and reduce the size of a good portion of the field. It is capable of expansion to very large proportions as the surrounding fields are level and make good emergency landing places. Numerous wooden hangars border one side of the field and a group of steel hangars with concrete floors extend the line and house several planes of observation type that we were not permitted to see. Training planes filled the wooden hangars, two to a hangar. Six large, new, tri-motored Junker bombing planes sat out in the open all assembled but only one

had been flown by the mechanic sent to set them up. There were no hangars large enough to house them. Nine P-1 pursuit planes had been purchased from the Curtiss Company. Only one training type of plane was flown during our stop and we were informed that not a great deal of flying was done. Numerous Air Service officers were present when we arrived and a small group of mechanics was seen.

### 13. Argentina.

#### a. Puerto Belgrano.

This is the location of the principal Naval Air station of the Argentine Republic. It is a thoroughly modern station in every respect with permanent buildings, numerous hangars, quarters and barracks and a fairly large complement of planes. We saw principally the F5L seaplane, similar to those used by our own Navy, and Dornier-Wahl seaplanes. Two excellent wooden ramps run down into the water and a concrete roadway extends entirely along the front of the hangars. Adjacent to the reservation is a small field which was being improved for the operation of land planes. There were two Curtiss training planes using the field at the time of our visit. A fine spirit prevails at this station and it is the most progressive air station visited on the whole flight.

b. Mar del Plata.

A small Naval station is being built at this place. A large concrete base with an excellent ramp running into the water and a small reservation surrounded by a high wire fence is the only construction that was completed at the time of our visit. The protected area inside of the breakwater forms an excellent place for landing.

c. Palomar.

The Army Air Service station at this place is about ten to fifteen miles northwest of Buenos Aires. A long line of brick buildings and hangars, all permanent, in first-class shape, house the planes and personnel. Several other buildings were being constructed. The station is modern in every respect. The field is somewhat rough and uneven and care must be taken in its use. On account of the accident occurring to the Pan American Flight at this station, an opportunity did not come for a complete inspection of the buildings and planes.

d. Mendoza.

This city is slightly over one hundred miles east of Santiago, Chile, at the eastern foothills of the Andes. Landings have been made in a field here on numerous occasions. The elevation is not much above sea level.

14. Uruguay.

a. Montevideo.

Five miles north of the capital city is located the small Air Service station of Uruguay. A number of hangars and buildings for personnel, as well as numerous shops, provide this station with all the facilities of a modern field. The flying field itself is rough and rolling and could not be considered for use by the amphibian planes. A great deal of antiquated equipment was seen, much of it could never be flown again. It was interesting to note at this place that several of the planes had been built in their own shops.

15. Brasil.

a. Florianopolis.

This is a Naval Air Station in the course of construction. Two very large steel and concrete hangars were almost completed. No other facilities existed. An excellent bay, well protected, provides the landing place but no ramp had yet been constructed from the hangars to the water.

b. Santos.

Although no facilities exist at this city, the long, wide beach has been used on numerous occasions for landing.

c. Sao Paulo.

A small field on the outskirts of this city is used by a detachment of the Army Air Service and for commercial operations. It is somewhat swampy and quite restricted but is capable of improvement so that planes of any type may operate therefrom. Work was in progress to extend the field. This field is approximately three thousand feet above sea level. A few planes of the Curtiss JM type were seen.

d. Rio de Janeiro.

Eight miles west of the city and on Ilha do Governador is located the principal Naval Air Service station of Brazil. There are numerous permanent brick buildings for housing both personnel and equipment. Smooth water on practically three sides of the station provides a good landing area. The field on which the buildings are located is suitable for landing on the two prepared runways at the present time, but is none too large. It is capable of expansion so that land planes of any type might operate therefrom. A number of planes of a fairly modern type were seen in the hangars.

About fifteen miles west of the city is located the principal Army Air Service station. Although we did not visit this field, we were informed both verbally and by photographs of the several hangars, excellent landing area and twelve to fifteen planes that they have.



The Naval Air Station at Rio de Janeiro is located on an island, Ilha do Governador, about eight miles from the heart of the city. It is thoroughly modern and provides both land and water areas for landing aircraft.



e. Pernambuco.

It is understood that this city, because of its position with reference to air travel along the Brazilian coast, as well as across the Atlantic Ocean, is contemplating the establishment of a very large modern field for land planes and suitable facilities for seaplanes.

16. British Guiana.

a. Georgetown.

An English commercial company has built a small hangar with a wooden runway leading into the river and operates a Fairey seaplane for the usual pleasure riding or for trips to points up the river.

17. Venezuela.

a. Maracay.

The Venezuelan Army air training station is located at this city. It was not visited but it was learned that the field is very good, has a couple of hangars and a few very poor training planes. Three of the Caudron type were seen in the air.

There appears to be no suitable landing area in the vicinity of Caracas, the capital.

The cleared area just back from the beach at Fort de France, Martinique, which was provided for use by the flight.



b. Valencia.

A hydro-airplane has been operating on the lake at this city and we were informed a small hangar for this plane had been erected.

18. Porto Rico.

a. San Juan.

A field adjacent to the city of San Juan has been used by light planes but was too small to be considered for use by the Pan American Flight. We were informed that no facilities existed at this field.

19. Haiti.

a. Port-au-Prince.

The Marine Corps is operating from a small field on the outskirts of this city but it was considered too small for use by the amphibian planes. We landed in the bay on the west side of the city and taxied up the old concrete ramp at the seaplane station which had been located at this place several years ago.

20. Cuba.

a. Guantanamo.

A U.S. Naval air station is located in the bay at this place.

At Port-au-Prince, Haiti, at the site of the old Marine  
seaplane station.





b. Havana.

The military flying field of the Cuban Air Service is about ten miles west of the city. An inspection of the field showed that it was too rough and restricted for safe use by the amphibian airplanes. The flying field is capable of expansion into a very excellent one capable of use by all types of planes. A number of hangars, shops, barracks and quarters, some of permanent and others of a temporary type, have been constructed. DH observation planes and training planes were seen. A formation of three DH planes met the flight about forty miles outside of Havana.

21. Commercial Aviation.

a. In Mexico, a line using two or three planes operates out of Tampico, principally to Mexico City. Passengers are carried to the capital city in from three to four hours, whereas the train trip requires thirty-six hours. Trips to other points in Mexico are also made. The usual pleasure rides over the city and vicinity form part of the daily operations.

b. Mention has been made of the small operations at Tegucigalpa, Honduras. It is understood that this was not successful and that the activity has been practically abandoned.

c. The activities of the Scadta organization along the Magdalena River constitute one of the outstanding examples in the world of an efficient commercial operation of aircraft. Their present equipment consists of a few Junker type all-metal seaplanes, but they are planning to expand and use the large Dornier-Wahl seaplanes in trips to Curacao, and perhaps then around the Islands of the West Indies or even westward via the Panama Canal and the east coast of the Central American countries to Havana. This latter route has already been investigated. They carry practically all the mail out of the interior of Colombia and are booked up for weeks ahead in carrying passengers. They issue their own air mail stamps. It is understood this line has paid as high as 12% dividend to its stockholders and has made enough money to completely renew its equipment and purchase additional equipment for the expansion of its activities. It has practically no competition, the river boats being very unsatisfactory and taking from two to three weeks to make the trip up the river, whereas the flying time is only seven hours. The principal operation of the Scadta organization is along approximately six hundred miles of the Magdalena River from Barranquilla to Girardot, but trips are made much further up the river when necessary.

d. At Lima, Peru, a commercial line operated with a Curtiss Oriole has been engaged in business for the last few years

carrying passengers, not only for pleasure rides, but to distant points from the capital city.

e. The Huff-Daland Company has extended its activities in Peru, and former Lieutenant Harold Harris of the Army Air Corps with a few airplanes is in charge of the spraying and dusting operations in fighting insect pests.

f. An air mail and passenger carrying line has operated irregularly between La Paz and Santa Cruz, Bolivia, but its activities are now suspended. There is a possibility of an air line connecting Santa Cruz with Buenos Aires via the many rivers, and negotiations with this in view have been in progress at times.

g. A contract has recently been let by the Chilean Government for the carrying of mail between Santiago and Valparaiso. The Company will also undertake the carrying of passengers. Due to the excellent train service, taking only three hours between these two cities, it would appear that the mail business will be a failure, but on account of the wonderful mountain scenery between the cities the passenger carrying business, especially for pleasure, may develop profitably.

h. A couple of Dornier-Wahl seaplanes are engaged in

commercial operations between Buenos Aires and Montevideo, a distance of approximately one hundred and thirty miles. Their trips are made irregularly and they appear to have no facilities at either end for the maintenance of their planes. We were informed, however, that it was contemplated using this type of plane in commercial operations as far north as Rio de Janeiro.

i. While the Pan American Flight was in progress, it was learned that a French Company had been awarded the contract for carrying the mail from Buenos Aires up the South American coast to Pernambuco, from which place it would be shipped by steamer to Africa pending the development of reliable seaplanes to make this trip, and thence delivered by airplane to destination in Europe. This same company is further considering the extension of its operations along the northeast coast of South America and through the West Indies to connect with the air mail lines of the United States.

j. Small training type planes have been used near Para, Brazil, to fly low over the jungle and locate new stands of rubber trees but without much success due to their limited range of operation.

k. The operation of the Fairey seaplane at Georgetown has already been mentioned. The trips of this plane are made as the demand arises, both for pleasure purposes locally and for business purposes up the Demerara River.

22. Remarks.

a. In general, the countries of Latin American are poorly equipped for air combat. There are very few modern planes. Most of the planes in Latin America are of European manufacture and only a comparatively small number are products of the United States.

Mexico has practically no modern equipment. That of Central America is negligible. Colombia, Paraguay, the Dominican Republic and Haiti have no planes. Colombia has had some officers trained in our country and at the present time contemplates the purchase of two airplanes. The air equipment of Ecuador, Venezuela and Uruguay is negligible. Peru is struggling along with antiquated types but has plans which indicate the establishment of a comparatively modern service, though, of course, very small. Bolivia has only four modern war planes.

Chile has the most modern equipment of any of the South American countries. Six tri-motored Junker bombing planes, absolutely new, were sitting on the field. This country has purchased nine of the Curtiss P-1 pursuit airplanes and is contemplating the purchase of fifteen more. They have some old DHs and there were some other planes that from a distance appeared to be observation type and in very good condition, but these we were not permitted to see.

The Argentine Republic has a number of land and

water type planes but for the most part are equipment manufactured several years ago. Brazil has equipment similar to that of the Argentine Republic, but the progressive attitude of this country would indicate that their Air Service will be greatly improved, and especially so since the Naval Air Service is in charge of the Naval Mission from the United States.

b. Except for the commercial operations up the Magdalena River in Colombia and for the small organizations operating in Mexico and in Peru, it appeared there were no commercial activities in Latin America that were definitely established and paying propositions. However, it is believed that this is a great field for the operation of aircraft due to the lack of other reliable means of transportation and to the great amount of time required for travel where railroads and steamship lines do exist. Such commercial operations, however, would undoubtedly not pay for themselves during the initial period of their activity, and it might take a considerable time for the people of these countries to accept this new and rapid means of transportation in business life, since it seems to be inherent in their make-up not to be in a hurry.

c. It is sometimes thought that the Andes form an absolute barrier for transportation east and west. They undoubtedly

do at certain points but we learned that no more powerful a plane than a Curtiss JN had traveled through the Andes in Peru from the Pacific Ocean to the upper reaches of the Amazon River. A route through Bolivia, via La Paz, appears perfectly feasible for transport airplanes. South of Santiago in Chile and particularly at the point where the Pan American Flight crossed, the elevations are wholly practicable for commercial operations.

The biggest barriers to the operation of commercial aircraft are the long stretches of deserted barren country or jungle wastes in which there are no communications and which would be a decided menace in case of forced landings. Any company contemplating operations of an extensive nature should certainly have an airplane or two in reserve to go to the rescue of a stranded plane that might be so unfortunate as to be forced to land in these desolate regions.

d. The regularity with which the Pan American Flight made the greater portion of its trip in conformity with a schedule, wherein was announced thousands of miles ahead the dates and even the approximate hours of arrival, should be an encouragement to commercial aviation of the practicability of regular operation in Latin America.

## CHAPTER XIV.

## POLITICAL, DIPLOMATIC AND SOCIAL ASPECTS.

(CONFIDENTIAL)

1. Mission.

The full text of the letters carried by the Pan American Flight from the President of the United States to the presidents of the various countries visited is set forth in Chapter I. Those letters state in part:- "I trust that Your Excellency will see in the visit of these American fliers another evidence of the ardent desire of the Government and people of the United States to promote good understanding and better acquaintance between the two Governments and peoples, an object which was the chief motive inspiring the undertaking of the voyage."

Thus the Pan American Flight came to be known as the "Good Will Flight" for our principal mission was "to promote good understanding and better acquaintance".

The nine officers selected by the Chief of Air Corps to assist the flight leader in the accomplishment of that important mission could not have been more helpful. By their fine characters,



excellent deportment, smart appearance and ability to adapt themselves to the various social customs, as well as by their expertness in flying and knowledge of mechanical maintenance of their equipment, they were fine representatives of our army and our nation and they made a profound impression on those with whom they came in contact. Their burden was heavy; they carried it well.

A great amount of anti-American propaganda had been spread throughout Mexico, all countries of Central America, Colombia, Chile and the Argentine Republic, in many cases instigating a boycott of the Pan American Flight. This at once placed us under a handicap in the accomplishment of our mission.

The State Department in Washington had issued instructions to their representatives that Americans in the countries visited should be discouraged from entertaining the members of the flight, stepping aside so that the local government authorities might have precedence in this respect. This possibly caused an impression in some quarters that we were not supported by our own countrymen and, consequently, detracted from a full realization of the purpose of the flight. Furthermore, the comparison that at once sprang up in the minds of all, especially the local citizens, when they saw foreign visitors from other countries advertised extensively far in advance of their coming and then received and entertained lavishly by the

local colony, could not but have an unfavorable reaction toward the Pan American Flight.

The flight of the Italian, Marquis de Pinedo, attracted a great amount of attention, especially in South America, and appeared to be so timed as to counteract, in part at least, the influence of the Pan American Flight. This mission of de Pinedo became more apparent as his flight progressed. In Santiago, Chile, there was speculation as to whether he would cross the Andes on a direct line from Buenos Aires or go further south and follow the route taken by the Pan American Flight. At Valdivia, Chile, preparations were being made for his reception. He arrived at Buenos Aires while our flight was at Asuncion Paraguay, and then, much to the surprise of many, did not visit the western coast of South America at all but pursued a course direct to Asuncion and then to Para, Brazil, where he was present in the city at the same time as the Pan American Flight, arriving almost at the same hour. It was at this latter city that conversation with him brought out his dependence upon messages from Italy as to the exact course he should pursue next. His coming was advertised with whole pages of the newspapers and during his visits publicity ran wild. In one city, during the presence of the Pan American Flight, no less than half the newspaper, eight pages, contained accounts of his proposed visit several days hence, while the Pan American Flight took a second place. This was due largely to

the activities of the local Italian colonies, and investigation showed much of it to be paid for either by these colonies or by a reported advance agent. In the face of this, the American colonies remained passive in compliance with the instructions of the State Department. There is no doubt the flight of de Pinedo became another serious obstacle in the accomplishment of the mission of the American fliers.

Numerous lesser handicaps sprang up in addition to all the natural barriers. However, it is apparent from the many reports received by the State and War Departments, as well as from personal messages sent to the members of the flight, that success attended the effort made to carry out the good will mission assigned by the President.

## 2. Assistance rendered by State Department.

Prior to the final decision to make the flight, the State Department was requested to obtain the necessary authority from the countries concerned for the passage of the flight and the free entry of supplies. Accordingly, permission was secured from the twenty-three sovereign states whose territory was to be visited.

Several conferences were held with the representatives of the State Department, especially those of the Latin American section, and numerous suggestions with reference to conduct in and progress through the various countries were received. The attitude of the

countries was discussed, equipment to be carried by the flight, the route, special trips, courtesy visits and diplomatic calls, foreign customs, etc.

Instructions with reference to the flight were issued to all the representatives of the State Department in the countries to be visited. Copies of these instructions were never furnished the flight leader, but they were possibly responsible for the dictatorial attitude on the part of some representatives in the early part of the journey. The flight was acting under instructions of the War Department and it proved an embarrassment to the commanding officer not to also be familiar with the instructions issued by the State Department.

Generally, the representatives of the United States gave valuable help and not only greatly facilitated the passage of the flight through the various countries but also completed preliminary arrangements and did much subsequent to the departure. Special incidents in connection with these representatives will be discussed in paragraph 4 under the country concerned.

### 3. Diplomatic and social calls and functions.

As mentioned in Chapter I, the flight leader made calls in Washington on the ambassadors, ministers and military attaches of all the countries to be visited and discussed with them freely questions about the flight, furnished them maps of the route and photographs of

the plane to be used, and secured from them information about their countries.

The flight was generally greeted upon arrival in each country by a welcoming committee, often including the president of the country or members of his cabinet. Large enthusiastic crowds would watch the ceremonies. An aide to the flight commander was sometimes designated and assistance rendered in guarding and caring for the planes. Upon departure, a number of officials were often present, as well as a gathering of local residents.

Before making calls on foreign officials the flight leader, often accompanied by other members of the flight, invariably paid his respects to the representatives of the United States. The diplomatic calls that appeared desirable were then made in company with the ambassador, minister, consul or military attache, and arrangements completed for the delivery of the letter from President Coolidge to the president of the country being visited.

There was generally a program of entertainment for the flight at each stop. The principal parts of these programs were the official banquets and receptions, where an opportunity was afforded to come in contact with the high officials and better class of citizens and observe incidents that indicated the attitude of the country toward the United States. Speeches of welcome and toasts were also a part of these functions and, in most cases, helped materially in forming opinions.

The following is a table of official and social functions attended by the flight. All of these had a bearing on the accomplishment of the mission. It was the policy to have all members of the flight attend all functions, insofar as possible. Occasionally work on the planes or temporary illness prevented. The flight leader also kept a careful watch on the members of the flight and when the strain was getting too heavy for any individual he was excused from attendance.

<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>United States</u> Brownsville	Dec. 21	Evening	Dinner & dance	Chamber of Commerce
<u>Mexico</u> Tampico	Dec. 22	Afternoon	Reception	U.S. Consul General
	Dec. 22	Evening	Banquet	American Legion
	Dec. 23	Morning	Call	Mayor of Tampico
	"	"	"	Military Commander, State Troops.
	"	"	"	Military Commander, Local Troops.
	"	"	"	Port Captain.
	"	"	"	Collector of Customs.
<u>Mexico City</u>	Dec. 25	Morning	Call	U.S. Ambassador.
	"	"	"	U.S. Military Attache.
	"	"	"	U.S. Asst. Mil. "
	"	Noon	Luncheon	U.S. Military "
	"	Evening	Dinner	U.S. Ambassador
	Dec. 26	Morning	(Flying exhi- bition, (Breakfast.	(Host not present. (Guests left.
	"	Noon	Luncheon	U.S. Consul General.
	"	Afternoon	Reception	Mexico City Country Club.
	"	Evening	Reception	American Club.

<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Mexico</u>				
Mexico City (Contd.)	Dec. 27	Morning	(Flying exhibition, (Breakfast	Mexican Air Service.
	"	Noon	Luncheon	Prominent American Banker.
	"	5.00 P.M.	Call	President of Mexico.
	"	Evening	Dinner	U.S. Military Attache.
	"	"	Annual ball	U.S. Ambassador.
	Dec. 28	1.00 P.M.	Call	Secretary of War.
	"	Noon	Luncheon	U.S. Asst. Mil. Attache.
Vera Cruz	Dec. 30	Afternoon	Call	Local Military Commander
	"	"	"	Mayor of Vera Cruz.
	"	"	"	Collector of Customs.
	"	"	"	Port Captain
	"	Evening	Dinner	U.S. Consul.
<u>Guatemala</u>				
Guatemala City	Jan. 2	Afternoon	Call	U.S. Minister
	"	Evening	Dinner	" "
	Jan. 3	4.00 PM.	Call	President of Guatemala.
	"	Afternoon	"	Minister of War.
	"	"	"	Minister, Foreign Affairs.
Antigua	Jan. 4	Noon	Luncheon	Chief, President's Staff.
Guatemala City	Jan. 4	Afternoon	Reception	U.S. Minister
	"	Evening	Banquet	Minister of War.
San Jose	Jan. 7	Noon	Luncheon	U.S. Consular Agent.
<u>Salvador</u>				
San Salvador	Jan. 11	Afternoon	Call	U.S. Minister.
	Jan. 12	4:00 P.M.	"	President of Salvador.
	"	Afternoon	"	Minister of War.
	"	"	Reception	U.S. Minister.
	"	Evening	Banquet	Minister of War.







<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Honduras</u>				
Amapala	Jan. 13	Afternoon	Call	Commanding General
Tegucigalpa	Jan. 14	Morning	"	U.S. Minister
"	"	"	"	Minister, Foreign Affairs
"	"	10:00 A.M.	"	President of Honduras
"	"	Morning	"	Minister of War.
"	"	"	"	Minister of Hacienda
"	"	11:00 A.M.	Reception	Government
"	"	Noon	Luncheon	U.S. Minister
<u>Nicaragua</u>				
Managua	Jan. 15	Morning	Call	U.S. Minister
"	"	"	"	Minister, Foreign Affairs
"	"	"	"	President of Nicaragua
"	"	Noon	Luncheon	U.S. Minister
<u>Costa Rica</u>				
San Jose	Jan. 16	Afternoon	Call	U.S. Minister
"	"	3:00 P.M.	"	President of Costa Rica & his Cabinet.
"	"	Afternoon	Reception	U.S. Minister
"	"	"	"	Union Club
"	"	Evening	Banquet	President of Costa Rica & his Cabinet.
<u>Panama</u>				
Panama	Jan. 19	Morning	Call	U.S. Minister
"	"	"	"	Minister, Foreign Affairs
"	"	"	"	President of Panama
"	"	Noon	Luncheon	Commanding General
"	"	Afternoon	Call	Postmaster General
Colon	Jan. 19	Afternoon	Reception	France Field
"	Jan. 20	Morning	Call	Governor of Colon
"	"	Evening	Dinner	C.O., France Field
Panama	Jan. 21	Noon	Luncheon	President of Panama
<u>Colombia</u>				
Barranquilla	Jan. 23	Afternoon	Reception	Governor of Atlantico
"	"	Evening	Dance	Local Club

Upon arrival at Bogota, Colombia, the flight personnel were met by a large gathering of officials and citizens.



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Colombia - Contd.</u>				
Esperanza	Jan. 24	Evening	Dinner	Government
Bogota	Jan. 25	Morning	Call	U.S. Minister
	"	"	Reception	U.S. Minister
	"	12:30 P.M.	Call	President of Colombia
	"	Noon	Luncheon	Minister of War
	"	Afternoon	Call	Minister, Foreign Affairs
	"	"	"	Minister of War
	"	5:00 P.M.	"	President of Colombia
	"	Afternoon	Reception	Latin-American Club
Cartagena	Jan. 26	Evening	Dinner	Governor of Atlantico
	Jan. 27	Morning	Call	" " "
Buenaventura	Jan. 29	Evening	Dinner	State of Cauca
Tumaco	Jan. 30	Evening	Reception	Mayor of Tumaco
<u>Ecuador</u>				
Guayaquil	Feb. 1	Afternoon	Call	Governor of Guayas
	"	Evening	Banquet	" " "
	Feb. 2	Morning	Call	" " "
	"	"	"	Mayor of Guayaquil
	"	"	"	Local Military Commander
	"	"	"	U.S. Consul
<u>Peru</u>				
Paita	Feb. 2	Evening	Dinner	Peruvian Government
Lima	Feb. 3	Afternoon	Reception	Peruvian Air Service
	Feb. 4	Morning	Call	U.S. Ambassador
	"	"	Reception	" "
	"	Noon	Luncheon	Peruvian Air Service
	"	6:00 P.M.	Call	President of Peru
	"	Afternoon	"	Minister of War
	"	"	"	Minister of Marine
	"	"	Reception	Phoenix Club
	"	Evening	Banquet	(Minister of War, (Minister of Marine.
	Feb. 5	Morning	Call	Minister of Marine

The President of Peru pays a visit to the flying field to see the Pan-American Flight planes.



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Peru - Contd.</u>				
Mollendo	Feb. 8	Afternoon	Reception	Mayor of Mollendo
	"	Evening	Dinner	Peruvian Government
Arequipa	Feb. 9	Morning	Call	Prefecto of Arequipa
	"	"	"	Mayor of Arequipa
	"	"	"	Local Military Commander
	"	Afternoon	Reception	Mayor of Arequipa
	Feb. 10	Evening	Reception	Arequipa Club
	Feb. 11	Noon	Luncheon	Prefecto of Arequipa
<u>Bolivia</u>				
Guaqui	Feb. 12	Evening	Reception	2nd Cavalry Regiment
La Paz	Feb. 12	Evening	Reception	La Paz Club
	Feb. 13	Morning	Call	President of Bolivia
	"	"	"	U.S. Minister
	"	"	"	Minister, Foreign Affairs
	"	"	"	Minister of War
	"	Noon	Luncheon	Strangers Club
	"	Afternoon	Reception	Bolivian Government
	"	Evening	Banquet	President of Bolivia
	Feb. 14	Morning	Flying Ex- hibition	Bolivian Air Service
<u>Chile</u>				
Antofagasta	Feb. 17	Evening	Reception	Andean Club
Coquimbo	Feb. 18	Noon	Luncheon	U.S. Consul
Santiago	Feb. 18	Afternoon	Reception	Chilean Air Service
	Feb. 19	Morning	Call	U.S. Ambassador
	"	"	"	U.S. Military Attache
	"	"	"	Minister of Interior
	"	"	"	Minister, Foreign Affairs
	"	"	"	Minister of Marine
	"	"	"	Minister of War
	"	"	"	Chief of Staff
	"	"	"	Military-Civil Officials
	"	"	"	3 Principal Newspapers
	"	Evening	Dinner	U.S. Ambassador



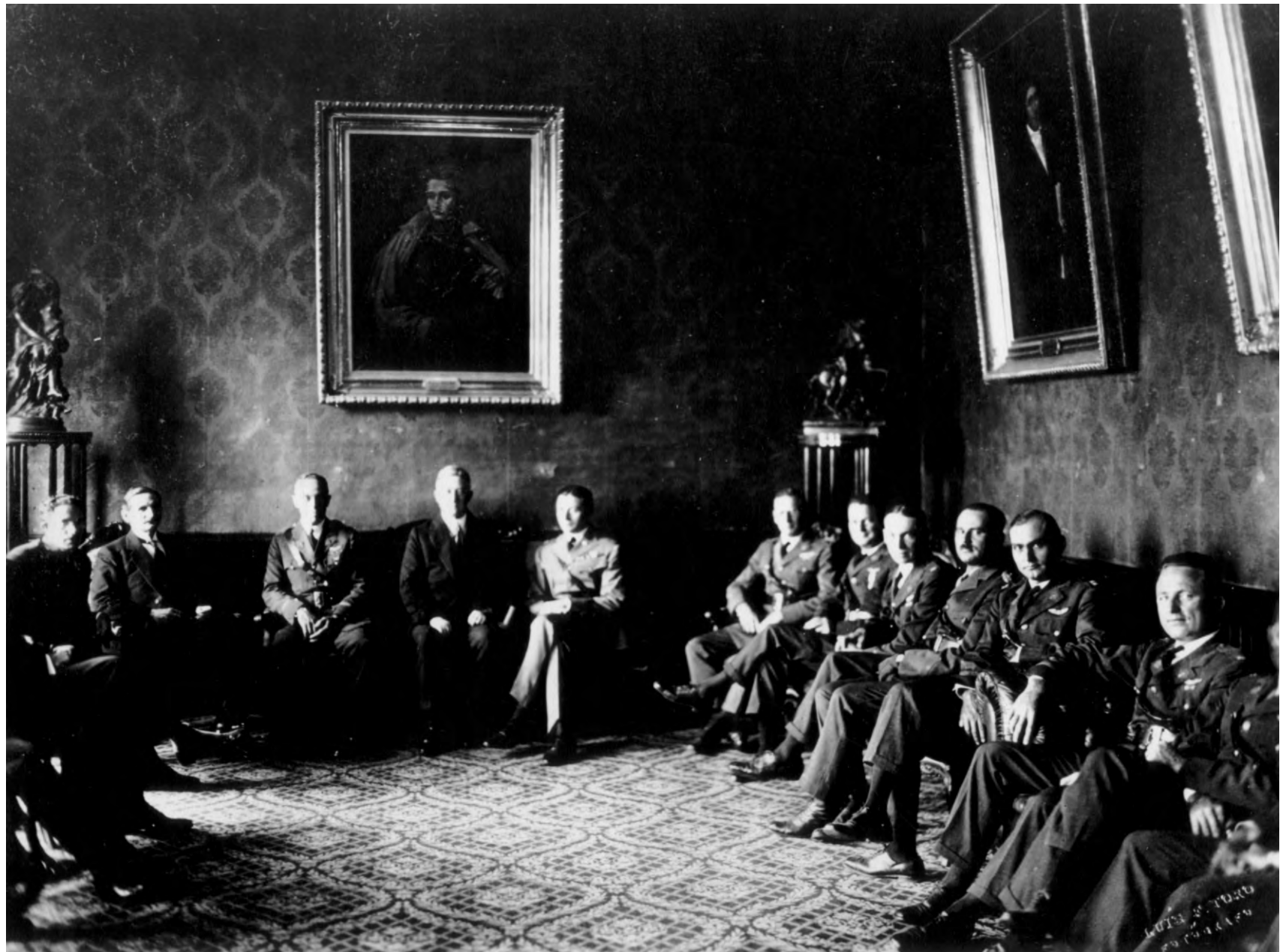
<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Chile - Contd.</u>				
<u>Santiago</u> (Contd.)	Feb. 20	Evening	Dinner	U.S. Military Attache
	Feb. 21	Noon	Luncheon	Chilean Air Service
	"	Afternoon	Reception	Casino Militar
	Feb. 22	10:30 A.M.	Call	President of Chile
	"	Morning	P.p.e. calls	Several Officials
<u>Valparaise</u>	Feb. 22	Afternoon	Reception	Naval Club
	"	Evening	Dinner	U.S. Consul General
<u>Talcahuano</u>	Feb. 23	Noon	Luncheon	Naval Officers
<u>Valdivia</u>	Feb. 23	Evening	Dinner	Officials of Valdivia
<u>Argentina</u>				
<u>Puerto Belgrano</u>	Feb. 24	Evening	Dinner	Naval Air Officers
	"	"	Reception & dance	Officers Club
	Feb. 25	Morning	Call	Admiral in Command
<u>Mar del Plata</u>	Feb. 25	3:00 P.M.	Call	President of Argentina
	"	3:30 P.M.	Luncheon	Golf Club
	"	Evening	Dinner & dance	Club Mar del Plata
<u>Buenos Aires</u>	Feb. 26	Afternoon	Reception	Minister of Marine
	Feb. 28	"	Call	U.S. Charge d'Affairs
<u>Paraguay</u>				
<u>Asuncion</u>	Mar. 2	Evening	Dinner	U.S. Minister
	"	"	Reception	" "
	Mar. 3	Morning	Call	President of Paraguay
	"	"	Calls	All Cabinet Ministers
	"	Noon	Luncheon	Minister of War
	"	Afternoon	Tea	British Minister
	"	"	Review	Boy Scouts
	"	Evening	Dinner	U.S. Minister
	"	"	Reception	" "

At the Flying School at Montevideo, Uruguay. The Pan-American Flight personnel were escorted completely through this establishment.



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Uruguay</u>				
Montevideo	Mar. 4	Evening	Reception	Local Officials
	Mar. 5	11:00 A.M.	Call	President of Uruguay
	"	Morning	"	Minister of War
	"	"	"	Mayor of Montevideo
	"	Evening	Dinner	U.S. Minister
	Mar. 6	Afternoon	Reception	U.S. Minister
	Mar. 7	Afternoon	Call	U.S. Minister
	"	Evening	Dinner	Local Officials
<u>Brazil</u>				
Rio Grande do Sul	Mar. 8	Evening	Dinner	Local Officials
Sao Paulo	Mar. 9	Evening	Dinner	U.S. Consul
	Mar. 10	Morning	Call	President of Sao Paulo
	"	"	"	Mayor of Sao Paulo
	"	"	"	Local Military Commander
	"	"	Review	Military Troops
	"	"	Inspection	Military Hospital
	"	"	Call	U.S. Consul
Rio de Janeiro	Mar. 10	Afternoon	Reception	Local Officials
	Mar. 11	Morning	Call	U.S. Ambassador
	"	Afternoon	"	Mayor of Rio de Janeiro
	"	"	Calls	All Cabinet Ministers
	"	"	Call	Chief of Staff
	"	"	"	Head of Naval Mission
	"	"	Calls	Other Officials
Petropolis	Mar. 13	Noon	Luncheon	U.S. Ambassador
	"	6:00 P.M.	Call	President of Brazil
Rio de Janeiro	Mar. 15	Afternoon	Reception	Country Club
	"	Evening	"	Aero Club of Brazil
	Mar. 16	Afternoon	P.p.c. calls	Clubs and Officials

The Pan-American Flight personnel making an official call  
in Caracas.



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Brazil - Contd.</u>				
Victoria	Mar. 18	Noon	Luncheon	Local Officials
Porto de Pedras	Mar. 19	Evening	Dinner	Chief of Police
Pernambuco	Mar. 20	Noon	Luncheon	Local Officials
Natal	Mar. 20	Evening	Banquet	Governor of Rio Grande do Norte
Para	Mar. 21	Evening	Dinner	Local Officials
	Mar. 22	Morning	Call	Governor of Para
	"	"	"	Mayor of Para
	"	"	"	Port Captain
	"	"	"	Local Military Commander
	"	"	"	Inspector of Customs
	Mar. 23	Noon	Luncheon	(Governor of Para
	"	Afternoon	Call	(Mayor of Para
	"	Evening	Dinner	Marquis de Pinedo
				(Governor of Para
				(Mayor of Para
<u>French Guiana</u>				
Cayenne	Mar. 25	Evening	Call	Governor-General
	"	"	Dinner	French Officers
<u>Dutch Guiana</u>				
Paramaribo	Mar. 26	Afternoon	Call	Governor-General
	"	Evening	Banquet	" "
<u>British Guiana</u>				
Georgetown	Mar. 27	Afternoon	Call	Governor-General
	"	Evening	Dinner	" "
<u>Trinidad</u>				
Port of Spain	Mar. 28	Evening	Dinner	U.S. Vice-Consul
	Mar. 29	Morning	Call	" " "
	"	"	"	Governor-General
	"	"	"	Venezuelan Consul-General
	"	"	"	Constabulary Commander
	"	"	"	Postmaster General
	"	Noon	Luncheon	Governor-General
	"	Evening	Banquet	American Colony

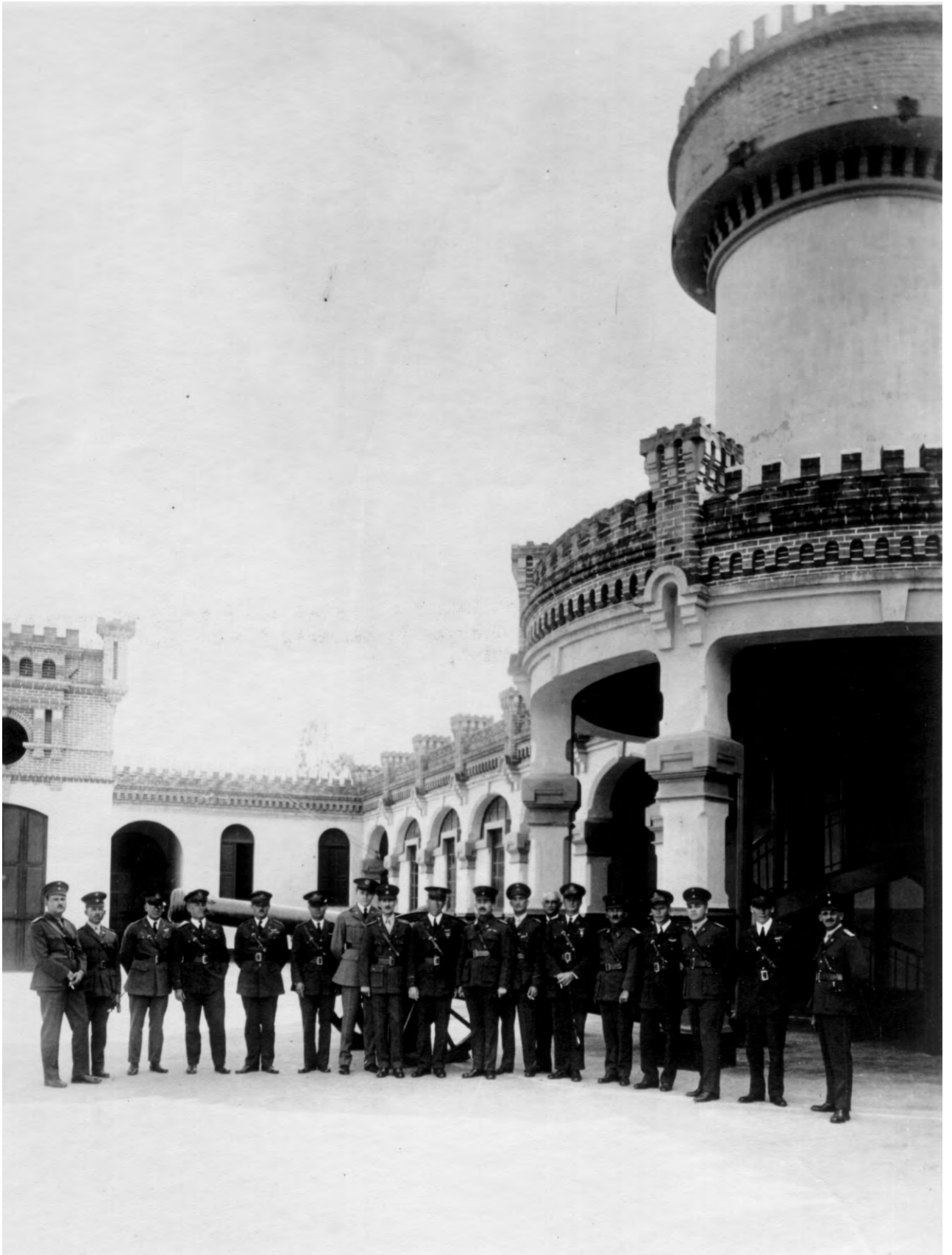
The Pan-American Flight personnel placed a wreath at the foot of the tomb of Bolivar' in Caracas, Venezuela.





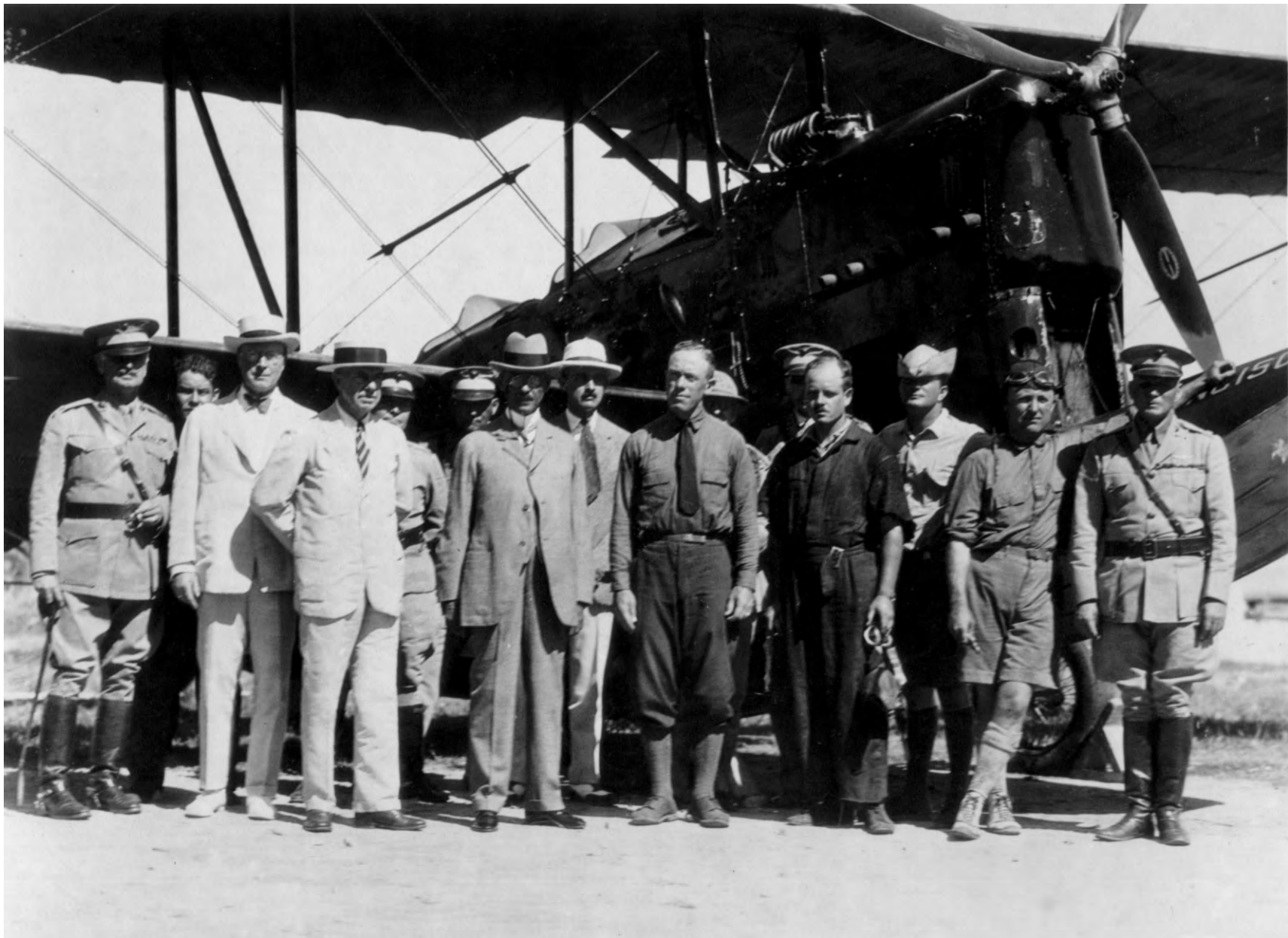
<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Venezuela</u>				
Puerto Cabello	Mar. 30	Evening	Reception	Local Officials
Caracas	Mar. 31	Morning	Call	U.S. Minister
"	"	Noon	Luncheon	Military College
"	"	Afternoon	Call	Minister of Interior
"	"	Evening	Dinner	U.S. Minister
"	Apr. 1	Afternoon	Call	Governor of Miranda
"	"	"	"	Mayor of Caracas
"	"	"	"	Minister of War
"	"	"	"	Commanding General
"	"	"	"	Tomb of Bolivar
"	"	"	Reception	German Minister
Maracay	Apr. 2	10:30 A.M.	Call	President of Venezuela
Valencia	Apr. 2	Noon	Luncheon	Governor of Carabobo
Puerto Cabello	Apr. 2	Afternoon	Call	Local Military Commander
"	"	"	"	Collector of Customs
"	"	"	"	Mayor of Puerto Cabello
"	"	"	"	Local Navy Commander
"	Apr. 3	Afternoon	"	U.S. Vice-Consul
<u>Trinidad</u>				
Port of Spain	Apr. 5	Morning	Call	Governor-General
"	Apr. 6	Morning	Luncheon	Officials at Asphalt Lake
<u>Grenada</u>				
Georgetown	Apr. 7	Morning	Call	Local Administrator
"	"	Evening	Dinner	" "
<u>St. Vincent</u>				
Kingstown	Apr. 8	Afternoon	Tea	Tennis Club
"	"	"	Call	Governor-General
"	"	Evening	Dinner	" "
<u>Martinique</u>				
Fort de France	Apr. 9	Afternoon	Call	Governor
"	"	"	"	Soldiers Monument
"	"	"	Luncheon	U.S. Consul
"	"	"	Reception	Military Club
"	"	"	"	Civilian Club.

The Pan-American Flight personnel and a group of Venezuelan officers at the Military College in Caracas, Venezuela. This school corresponds to our West Point.



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Guadeloupe</u>				
Pointe-a-Pitre	Apr. 10	Morning	Call	U.S. Consul
"	"	"	"	Governor
"	"	"	"	Soldiers Monument
"		Noon	Luncheon	Mayor of Pointe-a-Pitre
"	"	Afternoon	Reception	Civilian Club
"	"	Evening	Supper	U.S. Consul
<u>Virgin Islands</u>				
St. Thomas	Apr. 11	Noon	Luncheon	Governor
"	"	Afternoon	Reception	Local Officials
"	"	Evening	Dinner	" "
"	"	"	Dance	Tennis Club
<u>Porto Rico</u>				
San Juan	Apr. 12	Noon	Luncheon	Rotary Club
"	"	Afternoon	Call	Governor
"	"	"	"	Mayor of San Juan
"	"	Evening	Dinner & dance	C.O., 65th Infantry
"	Apr. 13	Afternoon	Reception	Local Officials
<u>Dominican Republic</u>				
Santo Domingo	Apr. 14	4:00 P.M.	Call	President of Dom. Republic
"	"	Afternoon	"	U.S. Minister
"	"	Evening	Banquet	Country Club
"	Apr. 15	Afternoon	Calls	Local Officials
"	"	Evening	Dinner	U.S. Minister
<u>Haiti</u>				
Port-au-Prince	Apr. 16	Afternoon	Calls	Local Officials
"	"	Evening	Dinner	High Commissioner
"	Apr. 17	Morning	Reception	President of Haiti
"	"	Noon	Luncheon	Government
"	"	Afternoon	Reception	Minister, Foreign Affairs
"	"	Evening	Dinner	U.S. Charge d'Affairs

President Borno (fourth from left in front row) of Haiti and local officials get out to the planes early to wish the flyers "bon voyage".



<u>Place</u>	<u>Date</u>	<u>Time</u>	<u>Function</u>	<u>Entertained by</u>
<u>Cuba</u>				
Santiago	Apr. 18	Afternoon	Reception	Local Officials
	"	Evening	Special meeting	City Council
	"	"	Dance	Local Officials
Havana	Apr. 19	6:00 P.M.	Call	President of Cuba
	Apr. 20	Morning	"	U.S. Ambassador
	"	"	"	Secretary of State
	"	"	"	Mayor of Havana
	"	Afternoon	Reception	U.S. Ambassador
	Apr. 21	Noon	Luncheon	Rotary Club
	"	Evening	Banquet & dance	American Legion
Apr. 22	Noon	Luncheon	Associated Organizations	
	Afternoon	Call	Secretary of War	
	"	"	Chief of Staff	
	"	"	Reception	Military Club
<u>United States</u>				
Miami	Apr. 23	Afternoon	Reception	Local Officials
	"	Evening	Dinner & dance	Coral Gables Country Club
Jacksonville	Apr. 26	Evening	Dinner	Local Officials
Savannah	Apr. 26	Noon	Luncheon	Local Officials
	"	Afternoon	Review	Confederate Parade
	Apr. 27	Afternoon	Barbeque	Local Officials
"	Evening	Dinner	Army & Navy Club	
Wilmington	Apr. 28	Evening	Dinner	Local Officials
Langley Field	Apr. 29	Evening	Dinner & dance	Officers' Club
Washington	May 2	Afternoon	Homecoming	Bolling Field



In several places where lack of time did not permit the flight leader to make all the calls that appeared desirable, cards were left to be sent around by the United States representative. This was the procedure particularly in the case of pour prendre congé calls.

#### 4. Attitude of the countries visited.

Although there was ample evidence of much anti-American propaganda spread throughout Latin America, it appeared generally that the government authorities and better classes of citizens were sincere in their demonstrations of friendship for the United States. The discussions in the following paragraphs will include exceptions to this attitude rather than a complete rehearsal of all the evidences of good will.

##### a. Mexico.

No more unfriendly acts occurred in any country than in Mexico. The hostility of this republic toward the United States was made evident on several occasions. Practically nothing was done by the government authorities in recognition of the presence of the flight in the country.

The two generals from Matamoros were invited to attend the dinner and dance given the Pan American fliers at Brownsville the evening of December 21st; both accepted in writing; neither appeared.

Pablo Sidar, a favorite flier of the country and representing the President of Mexico, flew from Mexico City to Tampico to

welcome the flight. He made a short address at the banquet given by the American Legion the evening of December 22nd. The Mayor of Tampico and a few city officials were also present at this function. There was no particular cordiality shown.

General Nelson, commanding the troops of the state of Tamaulipas, accepted the invitation to the banquet; it was after 10:00 p.m. and he had not yet arrived when it was decided not to wait longer; an excuse arrived rather late that he was sick. The flight commander called on General Nelson at his headquarters the following morning and found him a healthy, robust soldier.

Five officers from the flight visited Mexico City, arriving early Christmas morning. General Amesqua, Chief of Mexican Air Service, scheduled an exhibition of flying and breakfast for 7:30 the next morning in honor of the American fliers. We all went to the Balbuena Flying Field but no Mexicans appeared. After waiting twenty minutes, we left and later in the day were requested to be present again the next morning. The decision with regard to acceptance was left to the military attache for it appeared proper to the flight leader not to accept. We were present at 7:30 the next morning and the full program was carried out with many apologies for the failure of the day before.

The only social function of the four day visit in Mexico City that brought the flight personnel in contact with the Mexicans was

a luncheon given by a prominent American banker at noon on December 27th. The guests included several members of the prominent old time Mexican families - good, staunch and conservative citizens. However, they did not hesitate to condemn openly the present administration in Mexico and show their lack of sympathy, especially with the church and agrarian laws.

At 5:00 p.m. on the 27th, the members of the flight in Mexico City, accompanied by the military attache, called on President Calles. The meeting was most formal and there was a noticeable absence of cordiality. The secretary and interpreter for the President, Mr. de la Torre, acted as if he were being forced to go through something very disagreeable. The hiatus in conversation that occurred after the members of the flight were presented to the President caused the flight commander to deliver at once the message from President Coolidge. General Serrano, reported to be one of the stable members of the Government, was in the room and stared at the President as if demanding that he say the right thing to the Americans present. The whole visit took less than five minutes.

In the evening at the Ambassador's annual ball, it appeared almost as if a boycott were being carried on, for among the large number of guests there were present only half a dozen of the many Mexicans invited.

Upon arrival at Vera Cruz, General Armulfo Gomez, a prospective candidate for next president of Mexico, seemed quite disturbed that no formal banquet was to be held for the flight but was relieved of his embarrassment (if such it were) by the flight leader's statement that the fliers needed rest. General Gomez insisted that the military band play in front of the hotel where the flight remained over night. The band appeared during the informal dinner given by the consul but did not play a piece.

It is significant that in Mexico not a single call was made by any of the government or local officials on the members of the flight, though such was the custom in the other countries visited.

There was little doubt in the minds of the flight that the attitude of Mexico was unfriendly.

b. Guatemala.

The President and all members of his cabinet, as well as a large number of military officers, were present at the flying field to greet the flight when it landed at Guatemala City on January second.

The flight leader called on the United States minister in the afternoon and learned that a reception was to be held at the legation during the late afternoon of January 4th on the occasion of the visit of the flight and in honor of President Chacon. This was

rather embarrassing since a message had been sent from Mexico City several days before giving that as the date of departure for Salvador. Upon the insistence of the Minister and after careful consideration, especially since the reception was to be in honor of the President, the flight commander decided to delay departure until the 5th, and change the schedule throughout the other Central American countries accordingly. Had the flight carried out the original schedule of departing on the 4th, which was an excellent flying day, there is little doubt that the added embarrassment of the accident which occurred on the 5th would have been avoided.

A dance was held for the flight at the American Club and we were informed that a double guard had been placed around the club.

We were told that before the flight's arrival, an anti-American demonstration had occurred in front of the legation and that the papers carried much propaganda against the Americans, some suggesting a boycott of the Pan American Flight. The government authorities were most cordial and seemed to make a special effort to show their friendship for the United States.

c. Salvador.

The press of Salvador carried anti-American propaganda similar to that which had appeared in Guatemala, which indicated

that some organized work was being carried on along this line. Propaganda in other countries was in many cases almost identical, and we were informed that it emanated from Mexico. We later learned that a number of Mexican propagandists were in many sections of Latin America working to the detriment of the United States.

d. Honduras.

Perhaps no country throughout the entire flight demonstrated its friendship more than Honduras. After members of the flight, in company with the American Minister, had called on the President and members of his cabinet, a large reception was held in the International Club in Tegucigalpa. The Congress of Honduras recessed to attend this reception at which were present also the President, his cabinet, and many military and civil officials. The expressions and acts of hospitality appeared most sincere.

e. Nicaragua.

The flight stopped for only three hours at the capital city of Nicaragua, due to the turbulent state of affairs existing at the time.

It was impossible during this hasty visit to come to any conclusions with regard to the attitude of the people toward the Americans.

f. Costa Rica.

In San Jose, the same sort of anti-American propagan-  
da was seen in the press as appeared in Guatemala City and San Salvador.  
Anti-American demonstrations were being provoked and the government author-  
ities stopped one that was scheduled to occur during the visit of the  
flight. These disturbing influences were believed to be due mostly to  
organized propaganda from outside the country and limited only to a  
radical element. The officials of the government demonstrated a strong  
feeling of friendship for the United States.

g. Panama.

The little contact had with the Panamanians indicated  
only friendship for the United States and absolute confidence in her  
motives.

h. Colombia.

The landing at Barranquilla on January 23rd was made  
for refueling and to stop over night en route to Bogota. The United  
States consul met the flight and attempted to dictate that all members  
of the flight proceed at once to a reception at the governor's. Ex-  
planations that it was late in the day and that the planes must be  
serviced before dark and gotten ready for an early departure in the  
morning were not sufficient in the consul's judgment to excuse any  
members. The flight leader attempted to reason with the consul but

his overbearing attitude soon showed the uselessness of attempting to satisfy him. Accompanied by one of his companions, (there were only four members of the flight present) the flight leader proceeded at once to the reception at the governor's while the other two officers remained with the planes to do the necessary servicing and maintenance work.

The only person who appeared offended by this procedure was the consul and he made a cable report of the affair to the State Department. The flight commander, upon his return to Panama, was called upon for an explanation and at once forwarded a cable setting forth the details of the incident. A reply was received stating the explanation was satisfactory.

The landing in the river at Girardot was practically unnoticed by the local population and it was understood some propaganda had been spread to boycott the flight.

It appeared at Bogota as if an unusually large number of police were at the station to guard the flight personnel upon their arrival. Derogatory articles were published in the press. A strike of the boatmen along the Magdalena River was being used to incite anti-Americanism. Sympathetic strikes were being instigated. The Panama Canal question was still being agitated. The United States was criticized for its activities in Nicaragua. The impression gained from the



visit to the capital city was one of unfriendliness.

An overnight stop at Cartagena brought to light the activities of five Mexicans, two of them generals, who were spreading propaganda in that city against the Americans.

At Buenaventura, a railroad strike prevented the scheduled trip to Cali. The natives assumed quite an air of indifference toward the presence of the flight in the city.

i. Ecuador.

Although Ecuador was not recognized by the United States, the State Department was very desirous that an informal visit be made at Guayaquil. We had no letter to deliver to the President of Ecuador. The visit appeared to be a complete success. Only evidences of friendship were noted.

j. Peru.

Except for two days, the flight was in Peru from February 2nd to 17th. During this entire time the many courtesies rendered the flight and the pleasant relations with the people everywhere left an impression only of sincere friendship.

k. Bolivia.

The two-day visit to La Paz was characterized by the most enthusiastic welcome and functions of the whole flight. The

proposal of the United States with regard to the Tacna-Arica problem had just been announced which probably accounted in large part for the great demonstration of friendship.

l. Chile.

The undiplomatic remarks made in speeches by the Chilean officers in Santiago with reference to their history and their small but well trained army could not help but show the unfriendly attitude of these people. They were polite enough to our faces but many of our supplies and tools disappeared while we were absent from the planes, even though Chilean soldiers walked guard. Little assistance was offered during the four day stay in the capital city, where a great deal of work was done on the planes. There was a marked reserve and a decided lack of cordiality.

m. Argentina.

The accident, resulting in the death of two members of the Pan American Flight, certainly brought out more than anything else possibly could, the true feeling of the people of the Argentine Republic toward the United States. The demonstration of sympathy, led by President Alvear, was most sincere. As regrettable as this sad accident was, the sacrifice of the lives of two of America's noblest airmen undoubtedly did more to bring not only Argentina but

all the countries of South America into closer relationship with the United States than any other single event.

n. Paraguay.

A most sincere friendship for the United States appeared to exist in this little country.

o. Uruguay.

Some reserve in entertainment may have been felt in Montevideo on account of the loss that the flight had sustained in Buenos Aires. This possibly curtailed the authorities from having any extensive program of official or social functions. However, the visit of nearly four days left an impression of doubtful friendship.

p. Brazil.

Not once did anything come up during the several stops in this large country to indicate any lack of cordial relations.

q. French Guiana.

A most enthusiastic welcome was given by the small and isolated colony of Frenchmen.

r. Dutch Guiana.

A demonstration of genuine friendship was shown by the Dutch colony.

s. British Guiana.

Very cordial hospitality was shown the flight.

t. Venezuela.

The many expressions of friendship and acts of courtesy toward the flight in Puerto Cabello, Maracay and Caracas seemed to be tempered with genuine sincerity.

u. Trinidad, Grenada and St. Vincent.

These are English possessions where the flight was received with a great deal of enthusiasm.

y. Martinique and Guadeloupe.

The cordial reception of the flight in these French possessions left nothing to be desired.

w. Dominican Republic.

Only the most cordial friendship was shown, though profuse apologies were made for the lack of official entertainment for the flight on account of its being Holy Week. Urgent requests were made for the flight to arrive earlier or stay longer, so that appreciation of the visit might be shown officially. The effect of the American occupation on this republic is clearly evident.

x. Haiti.

An impression of cordial relations was gained in this little republic, though the present American occupation undoubtedly has a marked effect on the situation.

y. Cuba.

The cordial relations existing between the United States and Cuba were fully demonstrated during the four-day visit of the flight in the capital city.

5. Remarks

The presence of United States naval missions in Peru and Brazil is certainly an evidence of the confidence of those countries in our institutions. These missions appear to be one of the best methods of increasing the influence of the United States in Latin America. Perhaps if more attention were given to having military and commercial missions in some of these countries as well, the prestige of the United States might be increased to that point where it could stand somewhat better the attacks of the anti-Americanists. Furthermore, the trade relations might be developed so as to overshadow those of the European countries now so vitally interested in South America.

## CHAPTER XV.

## CONCLUSIONS AND RECOMMENDATIONS.

(CONFIDENTIAL)

1. Mission.

It is believed the Pan American Flight accomplished its mission as set forth in Chapter I.

It is recommended, however, that too large a mission be guarded against on similar flights. The mission in this case was not considered too heavy under the circumstances that existed, but it can well be conceived that the accomplishment of a primary mission involving international relations might be seriously handicapped by the assignment of a secondary mission contemplating the service test of major items of equipment, such as plane and motor.

On a flight in the interests of international amity, worries about equipment should be reduced to a minimum and, if possible, both plane and motor should be standard articles, well established by service and reliability, so that the maximum amount of time during stops might be given to contact with the local authorities and peoples rather than to maintenance of equipment.

The successful accomplishment of the flight and the regularity with which the schedule was carried out after completion of the first division should certainly be an encouragement to commercial aviation and demonstrate the feasibility of air routes through Central and South America.

Much valuable training was received by the personnel of the flight both in the operation of the amphibian type of airplane on land and water and in the maintenance of equipment on long flights cut off at times from bases of supplies. The training in the organization and conduct of such flights is of inestimable value.

Both plane and motor received an extensive service test and proved their durability and reliability when properly maintained. Some adverse comment was heard because the flight was equipped with both an experimental plane and an experimental motor, and that this at once prejudiced the success of the flight. It is believed bad practice in general to send experimental equipment on long flights outside the territorial limits of a nation, especially where such flights attract international attention, for should some inherent defect develop to make the flight a failure, it would have a tendency to react unfavorably and detract from the nation's prestige in the air. In the case of the Pan American Flight, it is believed both motor and plane had shown their worth to such an extent as to fully warrant their use,

one officer and reducing slightly the expense.

### 3. Advance Officers

The work of the advance officers was generally very well performed considering the handicap of lack of practical knowledge of the plane. None of the advance officers had any experience in flying the Loening amphibian, with the result that arrangements made in a few cases were absolutely unsuitable. The failure of landing arrangements made in advance to properly care for the flight upon its arrival not only reflected upon the organization of the flight but interfered with local programs and caused much extra work to be placed upon the flight personnel.

It is not necessary for the advance officers to speak the language of the countries visited. A flight agent was appointed by the advance officers at each of the stops. This agent spoke the native tongue and was familiar with the locality. By selecting such agent before any arrangements are made, all work can be carried on through him; this was the normal procedure. It is believed better to have given preference in the selection of advance officers to those of experience in flying the plane, particularly in take-offs and in getting it out of the water after landing.



#### 4. Flight Organisation and Training.

The officers selected to assist the flight leader in the accomplishment of the mission of the flight were of the finest type and well suited for the work to which they were assigned. Each had his particular function on the staff of the commanding officer and performed it well.

All officers lacked a knowledge of the amphibian type of plane and, in fact, none could be termed expert in its handling prior to the start. Neither the training received nor the time for training were ample; the personnel lacked a knowledge of the limitations and capabilities of the plane, especially in making getaways from the water under various conditions of load, wind, current and surface roughness. The training which all expected to get during the last month prior to departure was seriously interrupted by the necessity for making numerous changes in the planes. A longer training period would have been decidedly advantageous.

Five planes were too many to participate in the flight; three would have been better. Five may perhaps be a more impressive sight, but give cause for many delays that would not occur with three. It is recommended that three be considered the maximum number to participate in any future flight of such an extent.

Five planes would appear to always insure a flight of three

getting through, but the adverse effect of innumerable delays and stragglers occasioned by the larger number is an important consideration in favor of the smaller number of planes.

To have taken enlisted mechanics on this flight when the capacity of the planes was greatly limited would have been a mistake. The fact that all were officers and actually did the mechanical as well as the administrative work and still found time to participate in the great number of social and official functions, made a deep impression at the various stops. Especially was this the case at places where motors were changed or other major maintenance work was performed.

However, on future expeditions of this character it is recommended a plane be used which is capable of carrying three persons with their baggage, in addition to all the supplies needed immediately with the flight; the commander of each plane to be an officer pilot and during stops have little to do with the servicing or maintenance of the planes, his principal duty being social and diplomatic; an enlisted mechanic to be a member of each crew who, together with the enlisted mechanics of the other planes, will take care of all servicing and maintenance work under the supervision of the engineer officer of the flight; the third member of the crews to be, in plane number 1 an assistant pilot and engineer officer, in

plane number 2 a publicity man, and in plane number 3 a photographic man who might also be in charge of finance and supply. This contemplates the ideal flight to be composed of three multi-motored planes with reliability comparable to that of the Fokker transport type. The publicity man should probably be a civilian of experience with both diplomatic and press training, - the importance of his job on a diplomatic mission should not be underestimated.

It would be a decided advantage to have one or two officers who had participated in an extended flight outside the United States as a part of the personnel of any future undertaking of this character.

The pairing of officers into flight teams is one of the most important functions of the leader. This must be done only after careful consideration of all the personnel and then teams of equal balance throughout should be secured if possible. No team should have a marked superiority over any other.

The Pan American Flight did not get fully organized until the first division was completed, - it took that long to get fully acquainted and to work well as a unit.

In the selection of personnel, pilot ability is the major consideration.

The alternate pilots should train with the flight personnel so as to be ready for any change that might appear desirable, or in case of any emergency arising requiring a change.

## 5. Plane and Motor.

Both plane and motor proved to be suitable for this flight though both developed minor troubles that can easily be corrected. All these troubles are discussed in Chapter IX with suggestions as to necessary changes. One of the most serious troubles was corrosion from the salt water,-- this is worthy of special consideration by manufacturers of aircraft that are to be used on the water.

The addition of an extra sixty gallon fuel tank and a five gallon water tank, as well as the large quantities of supplies and personal baggage, caused loads far above the normal to be carried. This greatly reduced the performance characteristics and handicapped the flight, particularly in getaways, at many of the stops. However, the plane was considered the most suitable in existence for the undertaking and, when carrying a normal load, had excellent performance.

A motor of the Packard type giving considerably more horsepower would probably have removed some of the difficulties encountered.

The operation of the amphibian plane when landing on the water and taxiing out on a beach was cause for much comment and served to add to the interest created by the flight.

The amphibian type of plane gave a peculiar advantage to the flight and added greatly to its safety. An option of landing on land or water was given and exercised several times. The greater part of the flight was made within reach of water along the coast or

over rivers where safe landings could be made in emergency. For long flights over water or along coasts where the land for great distances is not suitable for use by planes, some means of landing on the water should be provided.

The advantages of the present type of transport plane developed as a hydroairplane are worthy of consideration. For a flight such as the Pan American Flight, where at least ninety per centum of the distance flown is over water and eighty-five per centum of the stops involve water landings, the advantages of using a hydroairplane of superior performance and limiting the flight to water landings only should be considered. However, the amphibian characteristic may prove the means of saving a plane when damage is sustained on a water landing and it becomes necessary to get the plane on land in a hurry. This characteristic proved a decided advantage and is one of the primary reasons leading to the conclusion that the Loening amphibian was the most suitable plane for the flight.

It is believed the present tri-motored transport plane of the Air Corps could make the flight around Latin America as a land plane without difficulty and visit all capital cities by air, except possibly Tegucigalpa and Quito.

The Loening amphibian and the inverted Liberty motor received an excellent service test on the flight.

## 6. Schedule.

The schedule was too strenuous. It would have been far better to allow six months for the flight. A diplomatic mission should not be hurried. The daily routine was to fly several hours, service the planes and do maintenance work and attend the social and diplomatic functions; practically no time was left for the flight personnel to use as it pleased. Four months of these programs caused a heavy drain on the physical resistance though all members of the flight stood up remarkably well under the strain; no serious sickness developed.

The announcement of the flight schedule for the whole route caused considerable embarrassment. The leader of the flight made a special recommendation before departure that the schedule be treated as confidential and be made known only to the diplomatic representatives of the United States, the daily schedule to be announced to the public at the beginning of each division of the flight.

A total of twenty days was lost en route, but all were made up by the time the flight had completed the fourth division. In order to get back on the announced schedule it was, of course, necessary to reduce the length of stay at some of the stops. This caused misunderstanding and rearrangement of programs even though the length of contemplated stay was telegraphed ahead several days in advance of the arrival of the flight.

At least in one division the advance officer led the authorities to believe the flight would be several days behind the announced schedule and then when the flight arrived on time or nearly so there was further explanation to be made.

Had the announcement of the details of the schedule been left to the flight leader, many of the difficulties arising in connection therewith might have been avoided. However, there appeared to be a general lack of appreciation of the simple problems of flight on the part of the United States representatives in many cases, - time required to travel from one point to another, slower progress when heads winds were encountered, helpful effect of favorable winds, time required for servicing and maintenance work, possible effect of bad weather, necessity for keeping up to schedule, etc.

It was the policy of the flight leader to announce as far in advance as practicable, sometimes as much as twenty-five hundred miles, the details of arrival at and departure from the various stops and it is a tribute to the reliability of the equipment and the effort put forth by the flight personnel that these schedules were closely followed with very few disappointments occurring. The regularity with which these schedules were dispatched, especially on that part of the flight from Rio de Janeiro to Washington, caused much favorable comment.

It is significant that only once did the flight turn back after starting the day's journey, and then the departure was again made within half an hour and the trip completed.

The extra time added on the schedule by reason of the change in date of completion of the flight from April 26th to May 2nd was never considered necessary to provide for possible delays. The flight could have been completed according to the original schedule on April 26th. This change was made, however, to have the completion of this undertaking occur on the opening day of the Pan American Congress.

The arrival of the Pan American Flight in Washington at 5:00 P.M., May 2, 1927, was exactly according to schedule. It was the completion of the pioneer trip by air around Latin America.

#### 7. Weather.

Never once did unfavorable weather prevent departure, force the flight to turn back or cause a landing. The time of the year chosen to make the flight was undoubtedly correct.

Heavy weather did cause difficulty and slight delay but this was overcome. The planes passed through the most severe downpours of rain, fought adverse winds and flew through clouds. Occasionally, storms were circled but caused little extra time to be taken for the trip. The coast of Brazil appeared to be in its rainy season.



Head winds accounted for the principal delays due to weather. Winds favored the flight at the higher altitudes on the western coast of South America, and were generally opposed to the flight on the eastern coast; in Mexico and Central America they were variable; in the West Indies they were generally from the east or northeast.

Only one night landing was made. It is bad policy to attempt night landings in unknown places.

The weather throughout the whole route is certainly not an unsurmountable obstacle to the operation of aircraft at the period of the year the Pan American Flight was made, but the local storms in some sections are liable to be a serious menace, the same as they are in most all parts of the world.

#### 8. Supply.

The assembly, packing and shipment of the supplies by the Fairfield Air Intermediate Depot is to be commended. Much credit is due Mr. Kennedy of the Field Service Section for the part he took in the determination of the items of supply and the quantities of each to be shipped. Distribution to the various bases was satisfactory. The packing was excellent, the numerous articles being readily accessible and each placed uniformly in the various boxes. However, the large boxes containing the wings were too heavy as they also held

many items that could have been packed separately. In Latin America handling and transportation facilities for large heavy boxes are not as common as in the United States and much added expense and difficulty in moving these boxes consequently resulted.

Too many supplies were shipped to all bases, but this was the result of lack of experience with this particular type of plane.

The Loening Aeronautical Engineering Corporation accelerated production of the six planes used by the flight and cooperated to the utmost in making desired changes. Their force put in much overtime work, including Sundays. They assisted materially in expediting the departure of the flight. For all of this much credit should be given.

The Allison Engineering Company did excellent work on the preparation of the inverted Liberty motors, and likewise deserve much credit for their cooperation.

No radio equipment was carried in the flight; there were not sufficient stations with which to operate to warrant carrying this extra weight and the necessity for radio is not so apparent when a number of planes are in the flight, - the necessity diminishes with the increase in number. There proved to be no need for this equipment.

#### 9. Publicity.

In Latin America the publicity was excellent and contributed much to the success of the good will part of the mission. The establish-

ment of good will probably varies almost directly with the amount of favorable press comment.

In the United States the publicity was comparatively poor and indifferent and tended to detract from the principal object of the flight, leaning more toward the difficulties and delays that were encountered than toward the encouragement of more friendly relations with the countries south of the Rio Grande.

It would have been better to have one office in the Office of the Chief of Air Corps receive and release all information for the press than the system used. A proper background could then have been given to the brief statements of fact contained in cables, and the people of our nation received a correct impression of the Pan American Flight. Such an organization is recommended for the handling of publicity on future flights.

A man, well experienced through press and diplomatic training, should accompany any similar flight and have no other duty than to handle all press relations including the preparation of news cables. Captain I. C. Baker performed this duty very well but lacked the proper background of training and, besides, had numerous other duties to perform.

Numerous photographs should form a part of the publicity and a reserve of them should always be available to fill calls. The for-

warding of photographs and certain other material to the countries visited assisted the press materially.

Good will is sometimes paid for in cash and the situation existing should dictate the advisability of paid publicity. Money was, apparently, used to good advantage in this manner before and during the flight of Marquis de Pinedo. A similar procedure in the case of the Pan American Flight was perhaps a matter for the judgment of the State Department.

Local colonies can do much to secure favorable publicity and their efforts should not be throttled but rather encouraged.

10. Political, Diplomatic and Social Relations.

It is believed the flight did considerable good in all countries visited, but more time spent at certain of the scheduled stops would have been advantageous in creating better relations.

An unsettled condition exists in many of the Latin American countries. All seem to have a wholesome respect for the United States though showing it in rather strange ways at times.

The flight was received cordially in all countries though apparently with a great lack of sincerity and perhaps with tolerance in Mexico, Colombia and Chile.

The local American colonies should be encouraged to take the lead in bringing the flight to the attention of the people and assisting in the accomplishment of its mission.

The effect on the local authorities and citizens of army officers actually doing all maintenance work, even to changing motors, was marked and served to create a greater respect for Americans and their methods.

The flight occurred at an opportune time to combat some of the anti-American propaganda that was being spread.

Efforts were made to satisfy all demands of authorities so far as possible; this worked to the detriment of the flight at times. The necessity for a flight Officer of the Day was not apparent except at Girardot, Colombia, and Ilo, Peru, where the members of the flight were absent from the planes for a considerable period. A guard for the planes, however, was always considered necessary.

Living conditions at several of the stops of the flight were very unsanitary and the food very poor.

It is recommended that a non-stop flight of nine pursuit planes be made from a point in the United States to Mexico City and that a flying demonstration of these planes be carried on for a few days at that place. It is believed this might serve to dispel some of the false notions of the people of that country and help to change their attitude toward the United States.

#### 11. Flying Policies.

In the early part of the flight it was the policy to have

all planes keep together and not leave any stop until all could go. It early became apparent that many departures from schedule were liable to occur and, before completing the first division, this policy was changed so that those planes which were ready would maintain the schedule and any delinquent plane would catch up during the stop of the main part of the flight. This proved to be an excellent policy with one exception and enabled the flight to maintain the schedule. There were only five occasions where it was necessary to follow this procedure, the delayed flight of the SAN ANTONIO being the most outstanding. In this case, the absence of the plane from the flight for a whole month was not productive of good results.

During the daily flight it was the policy to fly in loose formation, always retaining relative positions and keeping well within sight of each other. This was the least strain on all the personnel and assisted materially in keeping all the planes located, as well as quickly spotting any plane in distress. Planes on an expedition of this sort must be kept well in hand so that assistance might be rendered in case of sudden emergency.

When approaching the destination of the day, the flight would close formation and circle over the city before landing. The exact formation flown by the planes made a very favorable impression on the spectators. The planes were never allowed to get so close as to introduce an undue element of danger.

In case it became necessary for any plane to land en route, the others would circle while the leader went down to determine whether assistance was required. In the six cases that occurred, the signal was given for the flight to proceed. It is necessary to have some well prepared plan of procedure on such occasions.

When the signal for landing was given, the policy was for the flight leader to at once proceed to the landing while the other planes formed in column and circled above observing the landing and watching for signals. As soon as the leader landed, the next plane in order would land and so on. This method of breaking formation and landing amply proved its wisdom.

The set of signals developed by the flight for its use proved ample for all occasions that arose. The signals were simple and easy to give.

Flight discipline is most important to success and safety. It is particularly important that all planes follow the leader and hold their assigned positions in flight. It is the commander's responsibility to lead the flight; the others must conform to his directions and movements.

## 12. Finance.

According to figures compiled in the Finance Section, the cost of the flight, less than \$100,000.00, is not considered large.

evidence and it is hardly probable a way out could be found except by rescue aircraft.

The weather does not appear to be a barrier to commercial operation of aircraft in most sections of Latin America.

14. General.

The flight as a whole was well conceived and planned. Except for publicity, the arrangements were generally complete and satisfactory. The equipment was the best obtainable and considered by the flight superior to any other plane for the purpose.

The accident at Buenos Aires had a marked effect on the personnel of the flight and on the countries visited. The flight personnel felt the loss keenly but were determined to carry on. The various countries were greatly impressed and the sincerity of their friendship was demonstrated.

The value of diaries, both official and personal, cannot be estimated. It is essential that an official record of some sort be kept to compile the official report, and personal diaries are valuable to refresh the memory and serve as a personal record of events.

The amphibian demonstrated its utility on the Pan American Flight. It is recommended that it be considered standard equipment for use in the island possessions, the Panama Canal and in coast defense operations.



In foreign countries much time and trouble are saved if accounts are made out and paid in United States money; this practice was generally followed on the flight. The work of the finance officer would have been greatly facilitated had some arrangement been made to have the local State Department official settle the account, or had authority been given to draw checks on the Treasury or against credits established with some banking agency.

The designation of one officer in each plane an agent finance officer proved beneficial, especially when the finance officer of the flight was left behind at Tumaco.

15. Commercial Aviation.

Transportation by air has not yet become popular in Latin America but there are fields for its development that give excellent indications of endeavors in this line being successful.

On account of the location of the centers of population, the coastal and river routes for air development will probably be the first to be established.

Along the western coast of Central and South America, with very few exceptions, there were many trails in evidence, even in some of the most desolate regions, and it would appear that the personnel from stranded aircraft might find their way out. On the eastern coast the jungle regions, particularly around the Amazon and the Orinoco, have quite the opposite situation. There are no trails in

A great deal of credit is due Captain Ross G. Hoyt, Air Corps, for the preparation of the greater portion of the project and detailed plans for the Pan American Flight.

Special mention is made of the personnel of the San Antonio Air Intermediate Depot for the painstaking effort put forth by them and the great service rendered in preparing the planes for the flight.

All the personnel of the flight repeatedly expressed their appreciation of the confidence reposed in them by the Chief of Air Corps and the honor of being selected to carry out such an important flight.

A mission sent to South America in the interests of commercial air development would undoubtedly prove of great benefit to the United States in bettering trade relations and advertising the products of the airplane industry.

The Pan American Flight should be the forerunner of many similar flights in the interests of international amity to all countries of the world. The airplane is one of the greatest means of bringing nations into closer communication and removing the barriers of misunderstanding. It is recommended that its potentiality in this direction be utilized to the maximum. The Army Air Corps should lead the way.