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ANNUAL REPORT

OF THE

U. S.

CHIEF OF THE REVENUE MARINE BUREAU

FOR

THE FISCAL YEAR ENDING JUNE 30, 1873,

SHOWING

THE OPERATIONS OF THE REVENUE MARINE AND THE
LIFE-SAVING SERVICE.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1873.

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1872/73

REVENUE MARINE.

TREASURY DEPARTMENT,
Revenue Marine Bureau, November 20, 1873.

SIR: I have the honor to submit the following report of the operations of the Revenue Marine, and of the Life-Saving Service, for the fiscal year ending June 30, 1873, together with a statement of their present condition :

REVENUE MARINE.

During the fiscal year ending June 30, 1873, the vessels belonging to the Revenue Marine were stationed and employed along the sea and lake coasts of the United States as follows :

ATLANTIC AND GULF COASTS.

The Mosswood, propeller, 140 tons, headquarters at Eastport, Maine, with cruising-grounds extending from the St. Croix River to Mt. Desert.

The J. C. Dobbin, schooner, 174 tons, headquarters at Castine, Maine, with cruising-grounds from Mt. Desert to Rockland.

The Hugh McCulloch, side-wheel steamer, 530 tons, headquarters at Portland, Maine, with cruising-grounds from Rockland to Portsmouth, N. H.

The Levi Woodbury, (formerly Mahoning,) propeller, 375 tons, headquarters at Boston, Mass., with cruising-grounds from Portsmouth to Holmes' Hole.

The Moccasin, propeller, 196 tons, headquarters at Newport, R. I., with cruising-grounds from Holmes' Hole around Block Island to Stonington.

The Active, schooner, 120 tons, headquarters at New Bedford, Mass., with cruising-grounds extending over Buzzard's Bay and Vineyard Sound.

The James Campbell, schooner, 140 tons, headquarters at New London, Conn., with cruising-grounds from Block Island to Montauk Point and New Haven.

The Bronx, side-wheel steamer, 220 tons, headquarters at New York, with cruising-grounds in Long Island Sound.

The U. S. Grant, propeller, 350 tons, headquarters at New York, with cruising-grounds from Block Island to Great Egg Harbor.

The Schuyler Colfax, side-wheel steamer, 250 tons, headquarters at Philadelphia, Pa., with cruising-grounds from Great Egg Harbor to Chincoteague, including Delaware River and Delaware Bay, until September, 1872; afterwards, headquarters at Baltimore, Md., with cruising-grounds from Chincoteague to Hatteras Inlet, including Chesapeake Bay.

The Alexander Hamilton, propeller, 250 tons, headquarters at Philadelphia, Pa., with cruising-grounds from Great Egg Harbor to Chincoteague, including Delaware River and Delaware Bay, from September, 1872, to January 16, 1873; from January 16, 1873, headquarters at Boston, Mass., with cruising-grounds from Portsmouth, N. H., to Holmes' Hole, until May 20, 1873, when she returned to her former station.

The Northerner, side-wheel steamer, 320 tons, headquarters at Baltimore, Md., with cruising grounds from Chincoteague to Hatteras Inlet, including Chesapeake Bay, until September, 1872; afterwards, headquarters at Key West, Fla., with cruising-grounds from Cape Canaveral around the Dry Tortugas to Cedar Keys.

The E. A. Stevens, propeller, 131 tons, headquarters at New Berne, N. C., with cruising-grounds in waters of Pamlico and Albemarle Sounds.

The William H. Seward, side-wheel steamer, 240 tons, headquarters at Wilmington, N. C., with cruising-grounds from Beaufort, N. C., to Georgetown, S. C.

The Racer, schooner, 120 tons, headquarters at Charleston, S. C., with cruising-grounds from Georgetown to St. Helena Sound.

The Nansemond, side-wheel steamer, 340 tons, headquarters at Savannah, Ga., with cruising-grounds from St. Helena Sound to Brunswick, and occasionally as far as Fernandina.

The Rescue, schooner, 120 tons, headquarters at Fernandina, Fla., with cruising-grounds from Brunswick to Jacksonville.

The Petrel, schooner, 120 tons, headquarters at Pensacola, Fla., with cruising-grounds from Cedar Keys to St. Andrews.

The Louis McLane, (formerly Delaware,) side-wheel steamer, 350 tons, headquarters at Mobile Ala., with cruising-grounds from St. Andrew's to Biloxi.

The John A. Dix, (formerly Wilderness) side-wheel steamer, 350 tons, headquarters at New Orleans, La., with cruising-grounds from Biloxi to Sabine Pass.

The Relief, schooner, 120 tons; headquarters at Galveston, Texas, with cruising-grounds from Sabine Pass to the Rio Grande.

PACIFIC COAST.

The Wayanda, propeller, 487 tons, headquarters at San Francisco, Cal., with cruising-grounds on the coast of California.

The A. Lincoln, propeller, 550 tons, headquarters at Port Townsend, Washington Territory, with cruising-grounds in the waters of Puget Sound, and on the coast of Washington Territory and Oregon.

The Reliance, schooner, 240 tons, headquarters at Sitka, Alaska Territory, with cruising-grounds on the coast of Alaska.

THE LAKES.

The S. P. Chase, side-wheel steamer, 550 tons, headquarters at Oswego, N. Y., with cruising-grounds in waters of Lake Ontario and St. Lawrence River.

The Commodore Perry, side propeller, 404 tons, headquarters at Erie, Pa., with cruising-grounds in waters of Lake Erie.

The W. P. Fessenden, side-wheel steamer, 477 tons, headquarters at Detroit, Mich., with cruising-grounds from head of Lake Erie to and in the waters of Lake Huron.

The A. Johnson, side-wheel steamer, 500 tons, headquarters at Milwaukee, Wis., with cruising-grounds in waters of Lake Michigan.

Besides the vessels above named, the following small steamers were employed in harbor service at the ports named :

The H. Hamlin, propeller, 80 tons, at Boston, Mass.; the Uno and Jasmine, propellers, 111 tons each, at New York; the James Guthrie, propeller, 105 tons, at Baltimore, Md.; the Search, steam launch, 15 tons, at Philadelphia, Pa.; and the Discover, steam launch, 15 tons, at Savannah, Ga.

The following-named vessels were out of service, undergoing examination and repairs, and in winter quarters, as follows, viz :

The Albert Gallatin, laid up for alterations and in winter quarters since July 1, 1872.

The W. P. Fessenden, in winter quarters from November 23, 1872, to May 1, 1873.

The S. P. Chase, in winter quarters from November 30, 1872, to May 20, 1873.

The Commodore Perry, in winter quarters from December 18, 1872, to May 27, 1873.

The A. Johnson, in winter quarters, and undergoing repairs, from November 30, 1872, to July 26, 1873.

The Mosswood, undergoing repairs from July 1 to 21, 1872, and from June 11 to August 9, 1873.

The Levi Woodbury, undergoing repairs from December 24, 1872, to July 12, 1873.

The Louis McLane, undergoing repairs from February 4, 1873, to June 18, 1873.

The Moccasin, undergoing repairs from May 15, 1873, to July 7, 1873.

The John A. Dix, undergoing repairs from September 7, 1872, to July 19, 1873.

The Nansemond, undergoing examination and repairs since June 6, 1873.

The E. A. Stevens, undergoing examination and repairs since June 6, 1873.

The W. H. Seward, undergoing examination and repairs since June 17, 1873.

The following table exhibits the services of the several vessels in commission during the last fiscal year; and a list of the vessels assisted in distress, with their places of ownership, is appended :

Statement of services performed by revenue vessels during the year ending June 30, 1873.

Names of revenue vessels.	Description.	No. of vessels assisted in distress.	No. of vessels seized for violation of law.	No. of miles sailed.	No. of vessels boarded and examined.	No. of lives saved.
Active.....	Schooner.....	7	12	3,186	1,369	.....
Bronx.....	Steamer.....	9	16	6,190	789	2
Chase.....	do.....	5	5	6,487	266	6
Colfax.....	do.....	11	6	10,131	352	1
Campbell.....	Schooner.....	6	37	5,220	2,999	1
Dix.....	Steamer.....	1	.....	3,956½	.....	.....
Dobbin.....	Schooner.....	6	6	6,442½	3,894	.....
Fessenden.....	Steamer.....	5	77	7,080	3,217	.....
Guthrie.....	do.....	4	.....	14,114	784	.....
Grant.....	do.....	6	79	5,376	813	2
Hamilton.....	do.....	8	7	7,329	750	.....
Hamlin.....	do.....	1	.....	5,492	1,715	.....
Jasmine.....	do.....	1	534	.....	3,265	1
Johnson.....	do.....	8	16	5,869	4,123	10
Lincoln.....	do.....	7	1	4,374	212	.....
McCulloch.....	do.....	11	12	7,597	862	.....
McLane.....	do.....	9	17	6,262½	146	3
Moccasin.....	do.....	27	5	6,840	768	47
Mosswood.....	do.....	15	11	6,988	1,120	.....
Northerner.....	do.....	9	8	13,463	176	.....
Nansemond.....	do.....	4	11	10,571	163	2
Perry.....	do.....	6	62	3,157½	631	.....
Petrel.....	Schooner.....	2	7	5,912	275	2
Rescue.....	do.....	2	1	4,932	313	1
Reliance.....	do.....	.....	1	1,080	15	.....
Relief.....	do.....	3	3	1,613	150	.....
Racer.....	do.....	5	3	4,414	210	1
Stevens.....	Steamer.....	9	1	6,549	88	.....
Seward.....	do.....	8	12	8,674	417	2
Uno.....	do.....	3	580	.....	2,461	.....
Wayanda.....	do.....	11	46	5,063½	769	27
Woodbury.....	do.....	1	29	1,365	1,134	1
Total.....	.....	210	1,605	185,668½	30,543	109

VESSELS ASSISTED IN DISTRESS.

By the Active :

Schooner Monitor, Providence, R. I.
 Schooner Charlie and Willie, Rockland, Maine.
 Schooner Richard Vaux, Philadelphia, Pa.
 Brig Athalaska, Liverpool, Nova Scotia.
 Brig Onana, Shelbourne, Nova Scotia.
 Schooner Richard S., Tisbury, Massachusetts.
 Schooner Knight Templar, Gloucester, Mass.

By the Bronx :

Sloop Margaret, Orient, L. I.
 Sloop Pilot, New Haven, Conn.
 Schooner Teazer, Freeport, Maine.
 Schooner Almeda, Buffalo, N. Y.
 Schooner Empress, Rockland, Maine.
 U. S. light-ship, Stratford Shoal.
 Schooner M. E. Graham, Portland, Maine.
 Schooner Surf, Trenton, N. J.
 Schooner Herald, Rockland, Maine.

By the Chase :

Barge Martin, Montreal.
 Schooner Cortes, Oswego, N. Y.
 Schooner Madeira, Oswego, N. Y.
 Schooner George Henry, Brooklyn, Maine.
 Schooner S. H. Lathrop, Detroit, Mich.

By the Colfax :

Ship Royal Charlie, Androssan.
 Brig L. L. Wadsworth, Eastport, Maine.
 Brig Maggie Vail, Halifax, Nova Scotia.
 Schooner Addie Fuller, Thomaston, Maine.
 Bark Lord Baltimore, Bermuda, West Indies.
 Ship Cuba, Richmond, Maine.
 Barkentine Mary, Helsinburg, Sweden.
 Schooner Hannah Little, Philadelphia, Pa.
 Ship Antoinette, Bremen, Germany.
 Schooner Father and Son, Baltimore, Md.
 Barkentine Mary, Helsinburg, Sweden ;
 (second time.)

By the Campbell :

Schooner Nettie Cushing, Thomaston, Maine.
 Sail-boat.
 Schooner James Henry, Rockland, Maine.
 Steamer Bronx, U. S. R. M.
 Schooner Oliver Jameson, Rockland, Maine.
 Schooner Caroline and Cornelia, Somerset, Mass.

By the Dix :

Schooner Linda, New Orleans, La.

By the Dobbin :

Schooner Phebe Ann, Brookville, Maine.
 Schooner Watson Baker, Dennis, Mass.
 Schooner Empress, Eastport, Maine.
 Schooner Spy, Castine, Maine.
 Schooner H. C. Cushman, Mount Desert, Maine.
 Schooner Sarah, Rockland, Maine.

By the Fessenden :

Steamer Sherman, Detroit, Mich.
 Schooner Juno, Cleveland, Ohio.
 Schooner James Platt, Oswego, N. Y.
 Steamer Russia, Buffalo, N. Y.
 Schooner Belle, U. S. Light-house Establishment.

By the Guthrie :

Schooner Levering, Baltimore, Md.
 Steamship Falcon, Baltimore, Md.
 Steamer Heliotrope, U. S. Light-house Establishment.
 Sloop Bivalve, Baltimore, Md.

By the Grant :

Brig Morning Light, New Haven, Conn.
 British bark Ceylon.
 Brig Tamerlane, Greenock, Scotland.
 Brig Ugo, London, England.
 Steamer Bronx, U. S. R. M.
 Sail-boat, capsized.

By the Hamilton :

Schooner Celeste Clarke, Boston, Mass.
 Schooner Jessie Wilson, Philadelphia, Pa.
 Austrian brig Lepa Barkarha.
 Schooner Rapidan, Philadelphia, Pa.
 Bark Sylphide, Norway.
 Brig E. H. Oaks, Liverpool, Nova Scotia.
 Schooner Oceanus, Gloucester, Mass.
 Schooner E. L. Rowe, Gloucester, Mass.

By the Hamlin :

Steamer Texas, Liverpool, England.

By the Jasmine :

Steam-tug Rocket, U. S. Navy.

By the Johnson :

Barge Wyoming, Grand Haven, Mich.
 Schooner York State, Ashtabula, Ohio.
 Schooner Cecelia, Chicago, Ill.
 Schooner Hamilton, Chicago, Ill.
 Scow Wright, South Haven, Mich.
 Schooner Mary Helen, Whitehall, Mich.
 Scow Monitor, Milwaukee, Wis.
 Schooner Meridian, Chicago, Ill.

By the Lincoln :

Ship Isaac Jeans, Seabrook, W. T.
 Bark Dublin, San Francisco, Cal.
 Steamer Libby, Seattle, W. T.
 Tug Goliath, Port Gamble, W. T.
 Ship Transita de Alvarez, Valparaiso, Chili.
 Steamer Politkofsky, Port Madison, W. T.
 Bark Tidal Wave, Port Madison, W. T.

By the McCulloch :

Schooner Nellie, Belfast, Maine.
 Steamer Katahdin, New York.
 Schooner Evangeline, Gloucester, Mass.

Brig Chimborazo, Boston, Mass.
 Schooner Antelope, Tiverton, R. I.
 Schooner Majestic, Gouldsboro', Maine.
 Schooner Mary Louisa, Portland, Maine.
 Schooner Julia Clinch, St. Andrews, New Brunswick.
 Schooner Dobbin, U. S. R. M.
 Schooner Telegraph, Bangor, Maine.
 Schooner M. L. Varney, Bath, Maine

By the McLane:

Steamer Ella May, New Orleans, La.
 Spanish brig Observation.
 Schooner George Peabody, Baltimore, Md.
 Schooner Island City, Boston, Mass.
 Schooner J. S. and L. G. Adams, Great Egg Harbor, N. J.
 Steamer Annie, Mobile, Ala.
 Brig Clytie, Searsport, Maine.
 Sloop Effie May, New Orleans, La.
 Sloop Effie Ma., (second time)

By the Moccasin:

Steamer Metis, Providence, R. I.
 Steamer Wilmington, Philadelphia, Pa.
 Yacht Tidal Wave, New York.
 Yacht Columbia, New York.
 Yacht Dauntless, New York.
 Schooner Sarah J. Bright, Camden, N. J.
 Bark Hesperus, Saint Andrews, Nova Scotia.
 Steamer Kansas, U. S. Navy.
 Steamer Newport, Newport, R. I.
 Steamer Stephen S. Lee, New Bedford, Mass.
 Steamer Zoe, Providence, R. I.
 Steamer H. T. Hedges, Sag Harbor, N. Y.
 Schooner Clara Jane, Lubec, Maine.
 Schooner Tangier, Boston, Mass.
 Schooner Frank Maria, Ellsworth, Maine.
 Schooner Angeline, Gloucester, Mass.
 Schooner Niles, Rockland, Maine.
 Schooner Silas McLoon, Rockland, Maine.
 Brig Athalaska, Liverpool, Nova Scotia.
 Schooner Lucy, Eastport, Maine.
 Schooner Charles L. Lovering, Taunton, Mass.
 Schooner Ella Francis, Mount Desert, Maine.
 Schooner Eliza and Rebecca, Philadelphia, Pa.
 Brig Isabel Burman, Boston, Mass.
 Schooner R. C. Thomas, Rockland, Maine.
 Schooner A. Hammond, Boston, Mass.
 Schooner Active, U. S. R. M.

By the Mosswood:

Steamer New England, Eastport, Maine.
 Steamer Norwich, Calais, Maine.
 Schooner Gipsev, St. John's, New Brunswick.
 Schooner Bertha J. Fellows, Pembroke, Maine.
 Brig Harold, St. John's, New Brunswick.
 Schooner Percy, Eastport, Maine.
 Schooner Lottie C., St. John's, New Brunswick.

Schooner Willie Harris, Columbia Falls, Maine.
 Schooner H. S. Bridges, Pembroke, Maine.
 Steamer Queen, Eastport, Maine.
 Bark Euroca, Glasgow, Scotland.
 Schooner Amelia, St. John's, New Brunswick.
 Ship Humber, London, England.
 Schooner Chas. A. Bovey, St. John's, New Brunswick.
 Schooner L. A. Johnson, New York.

By the Northerner:

Schooner Alvira, Millville, N. J.
 Schooner Emma P. Douglass, Wilmington, Del.
 Schooner Maria C. Fry, New York.
 Brig F. J. Henderson, New Orleans, La.
 Ship West Derby, London, England.
 Steamer Shawmut, U. S. Navy.
 French bark Camansac.
 Brig F. J. Henderson, New Orleans, La.
 Steamer Arbutus, U. S. Light-house Establishment.

By the Nansemond:

Schooner Donna Anna, Newport, R. I.
 Ship Francis Hilyard, Yarmouth, Nova Scotia.
 Ship Caduceus, London, England.
 Sail-boat, capsized.

By the Perry:

Schooner Wild Rover, Cleveland, Ohio.
 Schooner Geo. H. Waud, Chicago, Ill.
 Schooner Citizen, Detroit, Mich.
 Schooner Kate L. Bruce, Chicago, Ill.
 Steamer Java, Buffalo, N. Y.
 Schooner E. A. Nicholson.

By the Petrel:

Schooner Ella May, Mobile, Ala.
 Yacht Comet, Pensacola, Fla

By the Rescue:

Schooner J. C. Nash, Aldison, Maine.
 Schooner Aggie, Fernandina, Fla.

By the Relief:

Schooner Henry William, New Orleans, La.
 Schooner Texas, Galveston, Texas.
 Schooner Geo. F. Marshall, New Orleans, La.

By the Racer:

Yacht, capsized, Charleston, S. C.
 Schooner Sam'l E. Fabens, Newburyport, Mass.
 Spanish brig Jesus Maria and Joseph.
 Steamer Agnes, Charleston, S. C.
 Boat with large party of ladies.

By the Stevens:

Schooner Delmar, New Berne, N. C.
 Schooner Annie Megee, Philadelphia, Pa.
 Schooner D. J. Foley, Baltimore, Md.
 Schooner A. M. Bliss, Boston, Mass.
 Steamer J. A. Gary, Baltimore, Md.
 Schooner Hattie, Washington, N. C.
 Schooner Virginia Dare, Baltimore, Md.
 Schooner Hetzel, U. S. Coast Survey.
 Large flat, loaded with wood.

By the Seward:

Bark Geo. S. Hunt, Bucksport, Maine.
 Schooner Sarah Bowen, Wilmington, N. C.
 Steamer Mingo, Georgetown, S. C.
 Schooner J. M. Morals, Bucksport, Maine.
 Brig Open Sea, Bangor, Maine.
 Brig C. S. Packard, Camden, Maine.
 Schooner Maria G. Frye, New York.
 British Bark Jehu.

By the Uno:

Yacht Lillie May, New York.
 Steamer Wilderness, U. S. R. M.
 Sloop Comet, New York.

By the Wayanda:

Yacht Red Cloud, San Francisco, Cal.
 Schooner Mary Deleo, San Francisco, Cal.
 Schooner Golden Fleece, San Francisco, Cal.
 Ship Hamilton, Boston, Mass.
 Bark Josefa, Bremen, Germany.
 Ship Elizabeth Kimball, San Francisco, Cal.
 Bark Louisa.
 Ship Hamilton Fish, New York.
 Bark Gold Hunter, San Francisco, Cal.
 Schooner Santa Rosa, San Francisco, Cal.
 British ship Patrician.

By the Woodbury:

Schooner Sarah J. Bright, Camden, N. J.

In addition to their regular duties, valuable special services have been rendered in various ways by several of the vessels, as is shown by the following statement, compiled from the reports of commanding officers:

THE ACTIVE.

On the 9th of October, 1872, an officer and ten men were sent ashore from this vessel to assist in extinguishing a fire near the village of Tisbury, Mass.

THE BRONX.

On the 11th day of July, 1872, this vessel conveyed Mr. Alexander, special Treasury agent, from New York to Cold Spring Harbor, L. I., on official business.

On July 30, 1872, a lighter laden with petroleum had caught fire, and, having passed up through Hell Gate, was rapidly drifting towards the docks of Port Morris, a mass of flames, when the Bronx coming up attached hose to her pumps, and playing upon her own wood-work and crew while they were engaged in the work, succeeded on the second attempt in dropping the port anchor into the burning mass and dragged it into the middle of the stream, thus saving the docks and adjacent property, and probably the town, from destruction.

On the 26th, 27th, and 28th of March, 1873, the Bronx was employed in transporting officers of the Life-Saving Service with life-saving apparatus to Sandy Hook for the purpose of testing the apparatus.

THE COLFAX.

On the 7th of December, 1872, the Colfax conveyed from Hatteras to Norfolk seven shipwrecked seamen belonging to the schooner J. F.

Farland, of Brookhaven, N. Y. They had been six days on shore on Hatteras Spit.

On the 10th of February, 1873, the Colfax conveyed the United States deputy marshal and a detective of the United States Post Office Department from Baltimore to Piankatank, Md., for the purpose of arresting two men charged with robbing the post office. Returned with officers and prisoners.

THE DIX.

From November 18th to 23d, 1872, the Dix was employed in conveying and distributing outfits, &c., to life-saving stations on the Long Island coast; and from December 9th to 11th, 1872, was engaged in conveying goods for life-saving stations to Hunter's Point and Williamsburg.

THE DOBBIN.

August 24, 1873, a fire having been raging in Belfast, Maine, for several hours with great violence, the cutter Dobbin, then lying at Castine, took on board a fire company and engine and proceeded to the former place. The engine carried by the Dobbin was the first arriving from abroad and was of great service in arresting the conflagration. The next day, the fire having been extinguished, the Dobbin returned with the company and engine.

THE GUTHRIE.

During the months of January and February, 1873, the Guthrie, on various occasions, rendered assistance to light-house keepers at Seven-foot Knoll, Fish, Carroll, and Hawkins' Points.

THE GRANT.

July 19, 1873, the Grant transported articles for life-saving station to Narragansett Pier, R. I.

On several occasions in July and August, 1873, assisted Dr. Woodworth, Commissioner of Emigration, in examining emigrant ships.

August 26, 1873, the Grant took on board officers of the Life-Saving Service, with a life-boat, rockets, and other apparatus, and conveyed them to Narragansett station. An officer and nine men were detailed from the vessel to aid in experimenting with the English life-boat and rocket apparatus until the 30th.

THE HAMILTON.

On the 19th of February, 1873, the Hamilton received on board nine surf-boats at Gloucester, Mass., and conveyed and distributed them to life-saving stations on the coast of Cape Cod.

On the 21st of March, 1873, the Hamilton took from light-ship Shovelful seven of the crew of the late American bark Celeste Clarke, from Liverpool, which went ashore and foundered on Little Round Shoal.

On the 27th of March, 1873, went to the scene of the wreck of the bark Josephine, to prevent depredations on its cargo.

THE LINCOLN.

On the 4th of August, 1872, the Lincoln proceeded to Neah Bay, W. T., to protect settlers in anticipated troubles with the Indians.

October 26, 1872, conveyed General Milroy, Indian commissioner, and party to Victoria, B. C., Port Angelos, and Neah Bay, on official business.

On the 20th of December, 1872, conveyed Governor Ferry from Port Townsend to Whatcome, Bellingham Bay, Fidalgo Island, and San Juan, and back to Port Townsend.

On the 2d of March, 1873, the Lincoln started on a cruise in search of the wreck of the steamer Geo. S. Wright. The cruise extended through the waters of the Straits of Fuca, Discovery Passage, Meresby Passage, Active Pass, Gulf of Georgia, Seymour Narrows, and Johnston Straits to Fort Rupert Harbor, Vancouver's Island, where the vessel arrived on the 7th. Owing to heavy gales the vessel was unable to proceed until the 9th, when the cruise was renewed in the direction of Cape Caution through Christus Passage and New Channel. The cruise continued fifteen days and the distance sailed was 700 miles.

April 24, 1873, furnished transportation to Captain Spotts, United States Navy, and Major Roberts, United States Army, from Olympia to Seattle, on official business.

June 20, 1873, conveyed oil to Tatoosh light-house for Light-house Establishment.

July 17, 1873, conveyed Major Roberts to various light-houses, to enable him to inspect the same; also conveyed oil to light-houses.

On the 5th of August, 1873, the Lincoln again sailed in further search for tidings of the passengers and crew of steamer Geo. S. Wright, but, with the exception of finding some pieces of the wreck, this cruise was no more successful than the former one. The Lincoln returned to Port Townsend on the 23d, having continued the search nineteen days and sailed 982 miles.

THE M'CULLOCH.

From July 6th to 14th, 1873, the McCulloch was employed in assisting officers of the Life-Saving Service in locating life-saving stations at various points on the coast of Maine.

THE M'LANE.

December 22, 1872, conveyed Treasury special agent from Southwest Pass to Pass a l'Ouvre.

On the 18th of February, 1873, the McLane sent a launch and boat's crew to assist in recovering the body of a citizen of Mobile, lost overboard from a steamer on the night of the 17th.

THE MOCCASIN.

On the 8th of July, 1872, the steamer Moccasin seized the Cuban war schooner Pioneer, and was employed until August 6th in guarding her.

THE MOSSWOOD.

On the 21st July, 1872, the steamer Queen, at Eastport, Maine, caught fire and commenced to burn rapidly. Sent crew to assist in working engines.

During the months of August and September, 1872, the Mosswood, on various occasions, assisted Professor Baird, United States Commissioner of Fish and Fisheries, in making scientific investigations.

November 17, 1872, conveyed Governor Perham and General Duane, U. S. A., from Eastport to Calais, engaged in investigation of Government claims.

In September, 1873, conveyed Captain Merryman, U. S. R. M., Inspector of Life-Saving Stations, to various points on the coast of Maine, on business connected with the Life-Saving Service.

THE NORTHERNER.

March 4th to 8th, 1873, the Northerner was engaged in cruising in search of a missing boat with six persons, blown from shore.

August 31 and September 12, 1873, conveyed physicians and nurses from Key West to Dry Tortugas, together with medicines and supplies for troops sick with yellow fever.

THE NANSEMOND.

April 24, 1873, the Nansemond conveyed officers of the Life-Saving Service from Savannah, Ga., to Fernandina, Fla., on official business.

April 29, 1873, conveyed deputy United States marshal and six prisoners (seamen) to Doboy Sound, and put prisoners on board the vessel from which they had deserted.

THE PERRY.

On the 18th and 19th, and from the 22d to the 27th of June, 1873, the Perry was engaged in removing the wreck of the schooner Citizen, which had sunk in the channel off Fairport Harbor, Ohio.

July 7, 1873, assisted wrecking company in attempt to remove the wreck of the steamer *Atlantic*, sunk off Long Point, Canada, which impeded navigation.

August 19, 20, and 21, 1873, engaged in searching for the wreck of the barge *J. D. Morton*. Found most of its cargo and numerous pieces of its hull and deck-house.

September 13, 1873, searched for a vessel reported by telegraph to be on fire.

THE PETREL.

July 16th to 19th, 1872, the *Petrel* assisted the United States marshal in detaining the ship *Massachusetts* which was under libel and threatened to put to sea.

In January, 1873, transported army stores from Town Point, Mobile Bay, to Cedar Keys, and United States mail to Fort Morgan.

THE RESCUE.

On December 9, 1872, an officer and most of the crew were sent ashore at Fernandina, Fla., to assist in extinguishing a fire and saving property.

On the 3d of March, 1873, at the request of the mayor of Fernandina, sent an armed boat's crew to aid the civil authorities.

THE RELIANCE.

On September 12, 1872, this vessel received on board Captain H. S. Hays and one seaman of the American whaling-ship *Oriole*, and Captain F. S. Barker and one seaman of the English whaling-ship *Japan*, (those vessels having been lost in the Arctic Ocean,) and conveyed them from Onalaska to Sitka.

THE STEVENS.

On the 28th of January, 1873, this vessel, having received intelligence that the keepers of Brant light-house were suffering from want of food, took on board a quantity of provisions and conveyed the same to the light-house.

On the 7th of February, 1873, conveyed Mr. Mossman, of the United States Coast Survey, and an astronomical party from New Berne to Portsmouth, N. C.

On March 8, 1873, conveyed Long Shoal light-keeper and family from New Berne to light-house.

On the 5th of May, 1873, conveyed Mr. Whitney, of the United States Coast Survey, from New Berne to Pungo River.

THE SEWARD.

On the 15th of August, 1872, the Seward conveyed Major Canby, U. S. A., from Wilmington to Fort Johnson and back.

On November 13, 1872, transported baggage belonging to troops stationed at Fort Johnson from that point to Wilmington.

On the 17th of November, 1872, transported Company M, 2d United States Artillery from Wilmington to Fort Johnson.

From the 13th to the 18th of December, 1872, the vessel was engaged in searching for five pilots lost on the 11th.

January 19, 1873, conveyed a prisoner from Fort Johnson to Wilmington.

January 21, 1873, conveyed recruits to and from Fort Johnson and Wilmington.

March 21, 1873, conveyed Colonel H. B. Reese, U. S. A., from Wilmington to Fort Johnson and back.

March 30, 1873, conveyed Major General McDowell, U. S. A., and Lieutenant Jones, U. S. A., from Wilmington to Fort Johnson and back.

May 7, 1873, conveyed a portion of Company M, 2d United States Artillery, from Fort Johnson to Wilmington.

June 1, 1873, crew went ashore at Smithville to assist in extinguishing a fire.

THE WAYANDA.

On the 10th of October, 1872, the Wayanda received on board, at San Francisco, Professor George Davidson, of the U. S. Coast Survey, and party, to convey to Shelter Cove.

On October 25, 1872, received on board and conveyed Count H. Van Armin and suite to Santa Cruz.

THE WOODBURY.

On the 10th and 11th of November, 1872, the officers and crew were engaged in saving life and property at the great fire in Boston.

July 21 and 22, 1873, cruising on duty connected with the Life-Saving Service.

September 3, 1873, the Woodbury sailed for the Gulf of St. Lawrence for the relief of American vessels wrecked in the late storm. Returned September 13, with thirty-eight shipwrecked fishermen on board.

The three steamers in process of construction at the date of my last report have been completed. They are the *George S. Boutwell*, propeller, with twin-screws, 250 tons, built by David Bell, of Buffalo, N. Y.; the *Oliver Wolcott*, propeller, 235 tons, built by the Risdon Iron Works, of San Francisco, Cal.; and the *Manhattan*, propeller, 147 tons, built by Charles A. Weidner, of Chester, Pa. They were constructed upon plans and specifications prepared by Captains J. H. Merryman and J. W. White, Consulting Engineer Charles E. Emery furnishing those of the steam machinery. The same officers—assisted by First Lieutenant W. S. Simmons, Second Lieutenant John Brann, and Chief Engineers J. T. Wayson and J. Madison Case—superintended their construction. They are excellent vessels and reflect much credit both upon the builders and superintendents.

With the appropriation of \$200,000, made for the purpose by act of Congress, June 10, 1872, three other vessels are now being built—two propellers of 250 tons each, by the Atlantic Works of East Boston, Mass., and one propeller of the same burden by the Portland Machine Works, Portland, Maine—under the supervision of Captains Merryman and J. A. Henriques, assisted by Second Lieutenants T. K. Travers and Eugene Biondi; Consulting Engineer Emery and Chief Engineers Walter Scott and F. H. Pulsifer superintending the steam machinery. They are to be completed the coming spring. Two schooners, the *Racer* and *Petrel*, and one steamer, the *Wayanda*, being no longer valuable to the service, have been sold.

The service now consists of twenty-eight steamers and six sailing vessels, carrying sixty-two guns, and commanded and manned by one hundred and ninety-eight officers and eight hundred and sixty men.

During the year, two examinations were held for the promotion of officers and for admission to the service. The first was held in September, 1872, by a board of engineers consisting of Consulting Engineer Emery and Chief Engineers Charles G. Dale and M. T. Chevers, for the examination of candidates for the several grades in the Engineer force; the second was held in November, for promotions to first and second lieutenantcies and for admission to the grade of third lieutenant. Captains George R. Slicer, J. A. Henriques, and A. A. Fengar composed the board of examiners. Dr. H. W. Sawtelle, of the Marine Hospital Service, was joined to both boards to conduct the physical examination of the candidates.

A new and excellent feature of these examinations was their practical character, the candidates being required, in addition to their oral and written examination, to exhibit their skill in the use of the instru-

ments and tools of their professions, the engineers being taken to the shop for this purpose.

The promotions were made strictly in accordance with the new regulations, upon merit and professional qualifications, without regard to seniority, and those admitted to the service were appointed and placed upon the roster in the order of the excellence of their examinations.

The reorganization of the service upon the plan recommended by the Commission appointed in 1869, whose report was submitted to Congress May 26, 1870, (Ex. Doc. 93, 41st Congress, 2d session,) is nearly completed, and continues to be productive of gratifying results both as to economy and efficiency.

The running expenses for the fiscal year ending June 30, 1873, were \$995,308 88, being from \$200,000 to \$300,000 less than was formerly annually required, while the services performed very largely exceed those of any former year.

The officers who successfully passed the recent rigid general examination, and those who have been admitted into the service under the regulations now in force, constitute an able and efficient corps; and the seven new steamers built from the appropriations made by Congress for the purpose have enabled the Department to supply localities in need of protection, and to replace vessels unsuited to the service and expensive to maintain, with those better adapted to the duties required of them, and more economical to support.

Upon the completion of the three vessels now building, the appropriations referred to will be exhausted.

The great increase of our imports since 1869, when the Commission made its estimate of the sums required to properly reconstruct the fleet, makes necessary a larger number of vessels to enforce the revenue laws than was then anticipated. But had the prices of ship-building material and labor remained as then, the sums appropriated would have proved sufficient to supply all present need. Both, however, have greatly advanced; yet it is believed to be necessary to ask an appropriation for only a single additional steamer. A careful examination has made it apparent that one should be stationed at the mouth of the Columbia river, with cruising-grounds extending up and down the coast from that point; and I respectfully recommend that Congress be asked to appropriate the requisite amount.

The act of July 25, 1861, limits the number of line officers to one of each grade for each revenue vessel in the service. Owing to this limitation, and the absence of a retired list, great embarrassment is experienced in supplying the vessels with the officers necessary for their safe and proper management.

The nature of the service requires three or four captains and an equal number of lieutenants to be constantly engaged upon special service, in superintending the construction and repairs of vessels, upon inspection duty, and in examining into matters requiring professional experience and skill, while more than five per cent. of the entire corps of officers are totally incapable of performing active duty on account of permanent disability incurred in the service, and remain therefore unassigned. Several are kept upon active duty, whom humane considerations and the interests of the service require should be relieved. The exigencies of the service demand either the removal of the limitation as to number, the establishment of a retired list, or the dismissal of a large number of unfortunate men, who have devoted the best years of their lives, in war and in peace, to the faithful service of their Government, at a meagre compensation, and who have been therein overtaken by infirmity and decrepitude, that their places may be filled with men capable of active duty. The practicable, as well as humane measure is to establish a retired list similar to that of the Navy.

I cannot, in justice to the officers and seamen belonging to this service, omit to again represent the unjust discrimination made by existing laws between them and officers and seamen of the Navy, in regard to pensions. The act of April 18, 1814, is the only one granting pensions to persons attached to this service. It authorizes the placing of an officer or seaman on the Navy pension list, only after having been wounded or disabled in the line of duty whilst co-operating with the Navy in war, and allows only the rate provided by law for the officers and seamen of the Navy at that time, while the pensions of the latter have been largely increased and are extended to their heirs after death. Nor is there any distinction between disability incurred by them in war and that incurred in peace.

By law the Revenue Marine is subject to co-operate with the Navy in time of war, and is liable to the same service, and its duties in time of peace are certainly no less arduous or dangerous. Revenue vessels are the only ones which "cruise upon the coast in the severe portion of the season, to afford such aid to distressed navigators as their circumstances and necessities may require," in accordance with the act of December 22, 1837. Annually, from the approach of winter until the advent of mild weather in the spring, those vessels whose cruising-grounds cover dangerous portions of the coast, properly supplied with means of affording succor, cruise for the relief of vessels in distress, under instructions to follow the coast as closely as is consistent with

their safety, and not to go into port except when compelled to do so for want of supplies, or for some other unavoidable cause.

It is an exceptional thing for a vessel of the Navy to be exposed to such hazard and discomfort in time of peace, as this winter-cruising imposes.

The list of vessels succored, appended to the table showing the services of the revenue vessels during the past year, and the statement of the number of lives saved, attest the value of this aid to commerce and humanity. It should also be recollected that the service required of the Revenue Marine, in the discharge of its regular duties in protecting the revenue, is constant.

I earnestly ask that the recommendation made last year, that the Navy pension laws be made applicable to the Revenue Marine, may be renewed.

It is with pleasure that I acknowledge the co-operation of the officers in every effort intended to advance the welfare of the service, and especially their zeal and activity in the performance of duty, which has enabled me to present the most gratifying record of a year's work of the Revenue Marine ever made.

LIFE-SAVING SERVICE.

The Life-Saving Service, as at present constituted, comprises eighty-one stations, which are located upon the coasts of Cape Cod, Rhode Island, Long Island, and New Jersey, and are divided into three districts—the coast of Cape Cod, from Race Point to Monomoy, forming the first; the coasts of Rhode Island and Long Island, from Narragansett pier to Coney Island, the second; and the coast of New Jersey, from Sandy Hook to Cape May, the third.

The following lists show the locations of the several stations, the numbers by which they are designated, and the names of the persons in charge:

Life-Saving Stations, District No 1, Coast of Cape Cod.—Benjamin C. Sparrow, East Orleans, Massachusetts, Superintendent.

No.	Name of station.	Name of keeper.	Remarks.
1	Race Point.....	Lewis A. Smith.....	One mile east of light-house.
2	Peaked Hill Bar.....	David H. Atkins.....	Three miles from No. 1.
3	Highlands.....	Edwin P. Worthen.....	One mile north of light-house.
4	Parmet River.....	Nelson Weston.....	Three miles southward of Highlands.
5	Cahoon's Hollow.....	Wm. C. Newcomb.....	Three miles southward of Parmet.
6	Nausett.....	Marcus M. Pierce.....	One mile southward of lights.
7	Orleans.....	Solomon Linnell.....	Beach, east of Ponchet Island.
8	Chatham.....	Alpheus Mayo.....	One mile southward of lights.
9	Monomoy.....	Geo. W. Baker.....	Two miles east of lights.

Life-Saving Stations, District No. 2, Coasts of Rhode Island and Long Island.—Henry E. Huntington, Bridgehampton, New York, Superintendent.

No.	Name of station.	Name of keeper.	Remarks.
1	Narragansett Pier	Benjamin Macomber.....	Southwest point of island. Light-house keeper.
2	Block Island.....	Samuel Allen.....	
3	Montauk Point.....	Jonathan Miller.....	
4	Ditch Plain.....	Samuel T. Stratton.....	
5	Hither Plain.....	Geo. H. Osborn.....	New Inlet.
6	Napeague.....	Elijah M. Bennett.....	
7	Amagansett	Charles J. Mulford.....	
8	Georgica.....	Jonathan F. Gould.....	
9	Bridgehampton	Baldwin Cook.....	
10	Southampton.....	Charles White.....	
11	Shinnecock.....	Lewis R. Squires.....	
12	Tyana.....	Edw'd H. Ryder.....	
13	Quogue.....	Mahlon Phillips.....	
14	Tanner's Point.....	Franklin C. Jessup.....	
15	Moriches.....	William Smith.....	
16	Fargo River.....	Sidney Penny.....	
17	Smith's Point.....	Joseph H. Bell.....	
18	Bellport.....	Geo. W. Robinson.....	
19	Blue Point.....	Dan'l A. Nevens.....	
20	Lone Hill.....	Edmund Brown.....	
21	Point of Woods.....	Geo. W. Rogers.....	
22	Fire Island.....	Leander Thurber.....	
23	Oak Island, (east end).....	Henry Oakley.....	
24	Oak Island, (west end).....	Prior Wicks.....	
25	Jones' Beach, (east end).....	Augustus C. Wicks.....	East end Coney Island.
26	Jones' Beach, (west end).....	Townsend Verity.....	
27	Meadow Island.....	Leander Lozee.....	
28	Long Beach, (east end).....	Daniel W. Smith.....	
29	Long Beach, (west end).....	Charles Wright.....	
30	Hog Island, (west end).....	Joseph Langdon.....	
31	Rockaway Beach, (east end).....	Daniel Mott.....	
32	Rockaway Beach, (west end).....	Isaac Skidmore.....	
33	Sheep's Head Bay.....	Cornelius Van Nostran.....	

Life-Saving Stations, District No. 3, Coast of New Jersey.—W. W. Ware, Cape May City, New Jersey, Superintendent.

No.	Name of station.	Name of keeper.	Remarks.
1	Sandy Hook.....	C. W. Patterson.....	Light-house keeper.
2	Spermacetti Cove.....	Samuel Warner.....	
3	Seabright.....	Charles West.....	
4	Monmouth Beach.....	Edward Wardell.....	
5	Long Branch.....	Hamilton Taber.....	South end Long Beach. Short Beach.
6	Deal.....	Abner Allen.....	
7	Shark River.....	Wm. A. Harvey.....	
8	Wreck Pond.....	Samuel Ludlow.....	
9	Squan Beach.....	E. H. Jackson.....	
10	Point Pleasant.....	John C. Clayton.....	
11	Swan Point.....	James Numan.....	
12	Green Island.....	Wm. P. Chadwick.....	
13	Tom's River.....	Wm. N. Miller.....	
14	Island Beach.....	Jos. F. Reed.....	
15	Forked River.....	John Parker.....	
16	South end Squan Beach.....	D. D. Herring.....	
17	Barnegat.....	Sam'l Perine, jr.....	
18	Loveladies Island.....	Charles Cox.....	
19	Harvey Cedars.....	Charles Martin, jr.....	
20	Ship Bottom.....	Henry Lamson.....	
21	Long Beach.....	W. H. Crane.....	
22	Bond's.....	Thomas Bond.....	
23	Little Egg.....	J. B. Rider.....	
24	Little Beach.....	Jos. P. Shrouds.....	North end Peck's Beach.
25	Brigantine.....	W. Holdzkorn.....	
26	South Brigantine.....	C. A. Holdzkorn.....	
27	Atlantic City.....	Burton Gaskill.....	
28	Absecon.....	Thomas Rose.....	
29	Great Egg.....	John Bryant.....	
30	Beazley's.....	Rich'd B. Stiles.....	
31	Peck's Beach.....	John Stiles.....	
32	Corson's Inlet.....	Sylvanus Corson.....	
33	Ludlam's Beach.....	David Townsend.....	
34	Townsend's Inlet.....	Henry T. Willetts.....	On Five-mile Beach.
35	Stone Harbor.....	John W. Gandy.....	
36	Hereford Inlet.....	Maurice Creese.....	
37	Turtle Gut.....	Eli Barnett.....	
38	Two-mile Beach.....	Joseph L. Creese.....	
39	Cape May.....	Geo. Hildreth.....	
40	Bay Shore.....	Swain S. Reeves.....	

The stations in Districts Nos. 2 and 3, except the one at Block Island, were in operation during the entire season. Those in District No. 1 and the Block Island station were not completed and equipped until in January.

The number of wrecks which have occurred since the date of the last annual report, upon the coasts where stations were in operation, as shown by the wreck reports of the keepers of stations, is as follows :

In District No. 1	9
In District No. 2	10
In District No. 3	13
	<hr/>
Total number of wrecks	32
	<hr/> <hr/>
Number of lives imperilled	235
Number of lives saved	234
Number of lives lost	1
Number of shipwrecked persons sheltered in station-houses	33
Number of days' shelter afforded	77
Total value of property imperilled	\$832, 230
Total value of property saved	581, 201
Total value of property lost	226, 029

The appended Table of Wrecks gives all material particulars of each wreck.

The cost of maintaining the service during the fiscal year ending June 30, 1873, exclusive of the amount expended in the construction and establishment of new stations, was \$87,893 83.

Congress, at its last session, having appropriated \$100,000 "for the establishment of new life-saving stations upon the coast of the United States," contracts have been made for the construction of twenty-one new stations, at the following points :

On the coast of Maine :

- West Quoddy Head, (near Carrying Point Cove.)
- Cross Island, (Machias Bay.)
- Browney's Island, (near Jonesport.)
- Whitehead Island, (Penobscot Bay.)
- The Pool, (Saco Bay.)

On the coast of New Hampshire :

- Rye Beach, (near Straw's Point.)

- On the coast of Massachusetts :

Plum Island, (Sandy Beach.)

Davis' Neck, (Ipswich Bay.)

Gurnett Point, (near light-house.)

Manomet.

"Surf Side," (south side of Nantucket.)

On the coast of Virginia :

Cape Henry.

On the coast of North Carolina :

Dan Neck Mills.

False Cape.

Jones' Hill.

Caffrey's Inlet.

Kitty Hawks' Beach.

Nag's Head.

Trent Woods.

Chicamacomico.

Little Kinnakeet.

Arrangements are also being made for the building of two other stations—one to be located on Block Island, the other at a point on the Virginia or North Carolina coast. A boat-house and life-boat will be placed on Cranberry Island, and probably a house of refuge on Matinicus Seal Island, in Maine. It is expected that ten of the stations will be ready for occupancy by the first of February; the remainder will be pushed to completion as rapidly as practicable. They are building under the supervision of Captains Faunce and Merryman, who were designated as superintendents of construction, in accordance with the act of June 10, 1872.

It has been necessary, during the past summer, to remove three station-houses on the New Jersey coast from the sites upon which they were built, namely, Nos. 3, 4, and 26, located respectively at Seabright, Monmouth Beach, and South Brigantine. No. 3, when built, only two years ago, was placed at a considerable distance from the water, but to save it from being washed away by the encroachment of the sea, it became necessary, last summer, to move it. No. 4 stood upon land of the "Monmouth Building Company," and, being in the way of contemplated improvements, it was moved, at their request, to a site equally suitable, generously donated by them.* No. 26, on account

* All the owners of the property upon which the new station-houses are being erected have expressed their intention to donate the sites to the Government. The names of all are not now at hand, but due acknowledgment of their generous action will be made.

of the rapid approach of an inlet on the north, was removed to a more permanent site, some three hundred yards to the southward

Under the direction of General Albert J. Myer, the Chief Signal Officer of the Army, the connection of the storm-signal system of the Signal Service with the Life-Saving Service, provided for by the act of March 3, 1873, which appropriated \$30,000 for the purpose, has been effected at several of the stations on the New Jersey coast, and through it the Department is placed in direct telegraphic communication with the stations at Sandy Hook, Monmouth Beach, Squan, Barnegat, Atlantic City, Peck's Beach, and Cape May. The system is also being extended to the new stations on the North Carolina coast.

This combination cannot fail to be productive of great benefits. The stations are so located that signals displayed from them may be seen by many of the coasters passing in their usual tracks at sea, and can warn them of approaching storms in time to enable them to take refuge in the nearest harbors. The ready means of communication it establishes with the Department and between the stations will also be of great value in giving early notice of disasters, and in summoning assistance when needed. The coming winter will afford opportunity to fully test the value of the connection of the two services, and it is believed that the anticipations of the projectors will not only be fully realized, but that additional advantages will be developed.

On the 11th of January, regulations for the government of the service, based upon the several acts of Congress relating to the subject, were promulgated, which effected a complete organization of the service, and which, with such changes as its growth will compel, it is believed, will be adequate to its proper and efficient government. They divide the stations into convenient districts, each to be cared for by a superintendent, and provide for an appropriate supervision of them all by an inspector. They specify the duties of each person connected with the service, and provide for the proper care of all the stations and their appurtenances. They include a simple, but ample code of signals, devised by the inspector, for intercommunication between the stations; instructions and drill in the use of the apparatus; hints as to the management of boats; instructions for saving drowning persons by swimming to their relief, and directions for restoring the apparently drowned. A complete set of the forms in use is also added. To show the present organization of the service and the plan of its management, a copy of the Regulations is annexed.

Immediately after the promulgation of the Regulations, Captain J. H. Merryman, of the Revenue Marine, was designated as inspector. His experience as a superintendent of the construction of stations had

given him considerable familiarity with the nature of the service, and he has since his assignment to the present office, labored with much devotion and success to extend his knowledge and to render the service effective.

The Royal National Life-boat Institution of England has been many years in existence, and has been fostered by the nobility and benevolence of the English nation. By its numerous surprising achievements in rescuing the shipwrecked, it has won an enviable reputation and stands foremost among all similar institutions in Europe. With a view of deriving whatever benefit might be possible from its experience in the use of a great variety of life-saving apparatus which it has had the means and opportunity to test, it was thought advisable to purchase a sample of the articles most highly approved. After their arrival, the inspector was directed to take them to the station at Narragansett, and to test and compare them with the corresponding apparatus in use with us, by trial as in case of actual shipwreck. His report of the trial is herewith submitted. It is gratifying to learn, in view of our limited experience, that, as regards some of the most essential of life-saving appliances, our own contrivances excel those most approved and in general use in Europe.

The extension of the service to the coasts of Maine, New Hampshire, Virginia, and North Carolina, will necessitate the establishment of two more districts, for which superintendents should be authorized. It is essential that Congress should make early provision for their employment, as also for that of keepers and crews for the new stations.

I desire, in this connection, to call attention to the inadequacy of the compensation now allowed by law to the keepers of stations. The rate was fixed in 1854 at \$200 per annum, and has never been increased. If it was not too much then, it is certainly too little now, in view not only of the diminished purchasing power of money, but of their multiplied duties and responsibilities. But it never was enough. The keepers are selected for their known intrepidity and their expertness as surfmen. They are captains of their respective crews, and, in order to maintain necessary discipline and enforce obedience, they must be men of such character as to command their confidence. They peril not only their own lives, but in a measure become responsible for the lives of their crews and of those whom they seek to rescue. The Regulations hold them to a strict accountability for the care and good order of their stations and of everything therein. They also compel most of them to live at the stations, away from their families during the winter months, and preclude their giving much attention to other business. Among the many underpaid servants of the Government, I believe these heroic men have the best cause of complaint, and it is

hoped that Congress, which has of late shown so earnest a purpose to enhance the efficiency and extend the scope of this humane enterprise, will not fail to be just to those upon whose fidelity its usefulness chiefly depends.

I believe that in all foreign countries where similar institutions are maintained, those persons attached to them who distinguish themselves by unusually brilliant or heroic achievements in the performance of perilous duty, are rewarded with medals of honor. These are held in the highest esteem by those who win them, and are found to be most powerful incentives to gallant deeds. It is recommended that the bestowment of similar rewards be authorized in this service. It may reasonably be expected to be productive of excellent results, and the expense will be merely trifling.

The record of the year furnishes ample proof of the efficiency of the superintendents in charge of the several districts, and of the courageous fidelity with which the sturdy surfmen have performed their perilous duty in patrolling the beaches in wind and storm and in battling with the billows for the lives of their fellow-men.

The Life-Saving Service has now been in operation under a somewhat systematic plan two years on the coasts of New Jersey and Long Island, and nearly one year on the coast of Cape Cod—the most dangerous portions of the Atlantic seaboard. We have the record of fifty-three wrecks which have occurred upon them, in which four hundred and forty-one lives have been jeopardized, and property to the amount of a million and a half dollars has been endangered. But a single life has been lost, and only about \$400,000 of property. It is a record of which we may justly be proud, and is probably unsurpassed by that of any similar institution. A continuance of the same measure of success can hardly be expected. When the great number of lives and the vast amount of property which have been sacrificed upon the shores of New Jersey and Cape Cod are considered, it seems as if disasters must come which will thwart all efforts of our human weakness to mitigate. But the results of the past two years have demonstrated the great usefulness of this institution, and has proved it worthy of being extended to all dangerous localities on our coast.

The examination of the sea and lake coasts with the view to ascertain where the interests of commerce and humanity would be best subserved by the establishment of life-saving stations, contemplated by act of March 3, 1873, has been completed and will be the subject of a special report to be submitted hereafter.

Much of whatever success has been realized in the conduct of the business of the office is due to the clerks who have been associated with me, and they deserve much commendation for the faithful manner in which they have severally discharged their duties.

I have the honor to be, very respectfully, your obedient servant,

S. I. KIMBALL,
Chief of Bureau.

Hon. WILLIAM A. RICHARDSON,
Secretary of the Treasury.

Date.

1872.
Dec. 27

1873
Jan. 3
Jan. 11
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Feb. 1
Feb. 1
Feb. 1
Mar. 23
Mar. 23
July 7

1872.
Nov. 22
Nov. 30
Dec. 3

1873.
Jan. 27
Feb. 21
Mar. 11
Mar. 11
Mar. 16
July 25
Sept. 30

1872.
Oct. 25
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Nov. 24
Dec. 23

1873.
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Aug. 23
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Dec. 3

1873.
Jan. 27
Feb. 21
Mar. 11
Mar. 11
Mar. 16
July 25
Sept. 30

1872.
Oct. 25
Nov. 16
Nov. 24
Dec. 23

1873.
Feb. 21
Feb. 24
Feb. 24
Mar. 3
Mar. 23
May 23
Aug. 23
Oct. 8
Oct. 27

Number
Total v
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Total n
Number

APPENDIX.

REPORT OF EXPERIMENTS WITH LIFE-BOAT AND ROCKET APPARATUS.

OFFICE OF INSPECTOR OF LIFE-SAVING STATIONS,
No. 16 Broadway, New York, September 1, 1873.

SIR: I have the honor to submit the following report of experiments made at Station No. 1, 2d District, Narragansett Pier, between the 25th and 30th ultimo.

Under the letter of authority dated August 16, I had conveyed to the station by the revenue steamer Grant, the life-boat and rocket apparatus recently received from England. I also proceeded in the Grant, which anchored off the station on the morning of the 25th. A detachment of nine men was landed by Captain Slicer, and placed at my disposal, there being no regular crew of surfmen attached to the station. After getting the rocket apparatus into order, and assigning the men to their proper stations, I proceeded to instruct them in a drill which I had modified from the English method.

The English rocket apparatus used consists of the following articles:
Boxer rockets.

Rocket frames to hold rocket for firing.

Rocket signal, red and white.

Rocket sticks to attach to rockets.

Rocket pins, of iron, to secure sticks to rockets.

Washers, of India rubber and metal, to attach line at head of rocket for taking up jerk when fired.

Detonating tubes for igniting rockets.

Fuzes for igniting rockets, if detonating tubes fail.

Signal lights.

Three rocket lines, each 530 yards in length, made of Italian hemp laid up loosely.

Three boxes fitted with faking pins, in which to store rocket lines.

A hawser of 3-inch manila, right-handed rope, 120 fathoms long.

A whip of 1½-inch manila line laid up loose, left-handed, 280 fathoms, rove through a single-tailed block, sheave brass-bushed, the tail 2 fathoms long, ends of the whip spliced together, connecting it in an endless rope.

A sling life-buoy, with petticoat breeches, in which to place the person to be rescued and haul him ashore.

A traveller, or inverted block with a brass sheave, to be attached to the sling and carry it along the hawser.

A double-block tackle-purchase, for setting taut the hawser, one of the blocks being fitted with two tails to bend on the hawser.

A tripod of iron, fitted with a swivel snatch-block, through which the hawser can be passed to raise it above the water.

An anchor with one fluke, to be buried in the earth, sand, or shingle, to which to set up the hawser by means of the tackle-purchase.

A red flag, attached to a staff, to be used in making signals by day.

A red lantern, for the same purpose at night.

A spade and pickaxe, to be used as occasion may require.

Three sets of tally-boards; each set consisting of two boards of hard wood, about nine inches long by five inches wide and three-quarters inch thick. These boards have the words quoted below painted on them in white letters on a black ground, English on one side and French on the other, viz:

No. 1. Tally-board to be attached to the whip: "Make the tail of the block fast to the aft mast, well up; if masts are gone, then to the best place you can find; cast off rocket-line, see that the rope in the block runs free, and show signal to the shore."

No. 2. Tally-board to be attached to the hawser: "Make this hawser fast, about two feet above the tail block; see all clear and that the rope in the block runs free, and show signal to the shore."

Long lights—one box of Colonel Boxer's, to be used as occasion may require.

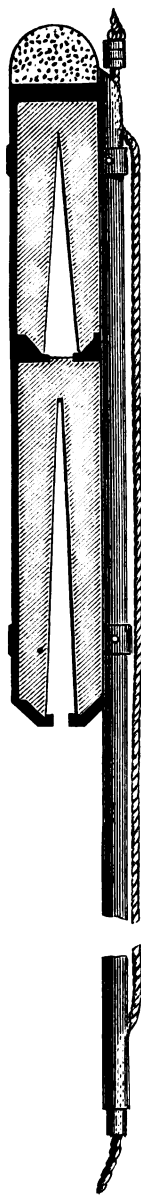
Signal rockets—eighteen, throwing white and red stars.

Two heaving sticks and lines, to be used as occasion may require.

A tarpaulin, to cover over the apparatus and stores in the cart when the apparatus is not in use, and fitted with becketts and tent pegs to secure it on the beach or shore for coiling the whip on when the apparatus is in use.

The rocket for carrying the line is that in general use on the coasts of Great Britain for life-saving purposes, by the Royal National Life-boat Institution, and was invented by Colonel Boxer of the Royal Army. It is a double rocket, with two charges of composition in the same plane, contained in an iron case of $\frac{3}{16}$ inch. Its length is two feet: diameter, $2\frac{5}{8}$ inches; weight, 14 pounds. A stick, 10 feet long, is

attached to the case, and secured by an iron pin when the rocket is to be used. The form of the rocket will best be understood by referring to the accompanying sectional sketch.



After the first charge has expended its force, the second charge at the head of the rocket is immediately ignited and the rocket is driven with accelerated force on its errand. The whole apparatus was easily stowed in a hand-cart belonging to the station, and was readily hauled up and down the beach by the rocket party from the Grant. The drill was quickly understood by the men, and in a short time they were able to unload the cart and set up the apparatus ready for firing in five minutes after the command "Action" was given. After familiarizing the party in the use of the apparatus without firing, experiments were begun to determine the range of the rockets by firing along the line of the beach. The following results were obtained:

The first rocket, fired at an elevation of 37 degrees, carried the line 349 yards along the beach, but in running off the faking pins in the box the line fouled in three places. The rocket went wide of its aim and dropped just in the edge of the surf, wetting about 100 yards of the line.

The same line, wet and clogged with sand, was "French-faked" on the sand, and the second rocket fired at an elevation of 35 degrees, carrying the line 275 yards. A dry line was then attached to the third rocket and was carried, by an elevation of 30 degrees, 350 yards; while the fourth rocket, at same elevation, carried the same line 410 yards. The fifth, sixth, and seventh rockets, at same elevation, carried the line, respectively, 300, 385, and 375 yards. After firing the first rocket, the range was got under better control, and each succeeding one was sent more accurately in the direction desired. The apparatus was then tried in actual practice by throwing a line over the Grant, lying 350 yards from the rocks, and a seaman belonging to the vessel was landed safely on shore in forty-seven minutes from the time the rocket was fired. The breeches

buoy was used on this occasion, but it was impossible to haul the hawser taut enough, with the vessel swinging to her anchors and rolling in the swell of the sea, to keep the buoy, with the man in it,

wholly out of the water. After landing the man, one person could have been hauled ashore every eight minutes. The rocket apparatus was next tried, with the Grant 350 yards from the beach in front of the station, using the American life-car instead of the English breeches buoy, and one of the crew of the Grant was hauled on shore and landed "dry-footed" in thirty-one minutes from the firing of the rocket. As the car is capable of carrying four persons, and could be hauled back and forth in six minutes, it will be seen that many more persons could be landed from a wreck within a given time by this means than by the English plan.

Incidental to the experiments with the English rockets, the Lillien-dahl rocket, with which Station No. 1 is supplied, was also tried, but with not very satisfactory results. Its flight is too rapid, starting from its frame with such velocity as to endanger the line. It lacks the accelerating qualities of the Boxer rocket, and consequently is much inferior to the latter.

The experiments with the English rocket apparatus at Narragansett developed its value as a means of establishing communication with wrecked vessels far beyond any line rocket ever before used in this country; but no greater range was obtained than has also been effected by the 5-inch mortar in use on our coasts, which is not only much more simple in its parts, and consequently more easily handled, but also a cheaper method—the Boxer rocket apparatus costing \$635, while the cost of the mortar, with the necessary balls, ammunition, lines, &c., will hardly exceed \$550. The mortar is always ready for use, and in practising the crews the balls can be recovered, while the rocket is expended altogether, in actual service or in drill. As the Boxer rockets cannot be manufactured in this country, and their merits do not exceed the mortar apparatus sufficiently to justify their importation, they are not recommended for use on our coasts. In my opinion, the mortar and balls now in use will meet the wants of the service until some better device is obtained. I propose, however, as an addition to the mortar apparatus, a light hand-cart, for transporting the mortar, balls, lines, &c., along the beaches.

I had conveyed to Narragansett, also by the Grant, the life-boat lately received from the Royal National Life-boat Institution of Great Britain. At no time during my stay at the station was an opportunity presented to test the boat in a heavy sea, but several trials were made with her in smooth water. She was found to pull easily under eight oars, double-banked, answered her helm readily and displayed most excellent qualities for a surf-boat. She was capsized after considerable effort on the part of ten men aided by tackles, but righted instantly,

full of water, freeing herself entirely within twenty-five seconds. The boat is built of two courses of mahogany boards one inch thick, fastened together diagonally. Her length is 30 feet, with extreme beam of 7 feet 1 inch, and a depth of 3 feet 6 inches. There are four thwarts for eight rowers, double-banked, and the deck upon which their feet rest is $3\frac{3}{4}$ inches above the water-line, with a full crew and all the gear on board. The deck is perforated by four discharge pipes $3\frac{1}{2}$ inches in diameter, moving down to the keel, and each provided with a valve of peculiar pattern which opens to a downward pressure of water running from the deck, but closes against an upward pressure and prevents the water from surging up through the pipes. The bow and stern are provided with capacious air-chambers raised above the sheer of the gunwales, and are for the purpose of tripping her when capsized and causing her to right at once. To add to her buoyancy, when filled for the moment with water, under the thwarts along the sides, there are shifting air-tanks of wood, covered with light canvas and marine glue. Although the model of this boat seemed almost perfect for the purpose intended, she was found to be too heavy (weighing nearly 4,000 pounds) for use on our flat beaches by the light crews at present attached to the stations. It is thought, however, that boats of smaller dimensions, say 26 feet long, and properly proportioned, similar in design to the Royal National Life-boats, would be found very useful at points on our coasts, including the great lakes, where they could be launched at once into deep water, and pulled out of harbors or from behind piers. A transportation carriage was sent with the life-boat from England. It is altogether too heavy for use in this country, but is admirably contrived for launching purposes.

There seems to be no doubt that the life-saving institutions of Europe, particularly those of England, France, and Germany, have perfected boats and many other appliances for rescuing shipwrecked persons, far superior to our own; and it is respectfully submitted for the consideration of the Department, whether the interests of the Life-Saving Service may not be advanced by an examination of all the foreign systems, either by the personal inspection of a commission sent for the purpose, or through the agents of the United States abroad.

Very respectfully, your obedient servant,

J. H. MERRYMAN,

Captain R. M. S., and Inspector.

S. I. KIMBALL, Esq.,

Chief of the Revenue Marine Bureau,

Treasury Department, Washington, D. C.

REGULATIONS FOR THE GOVERNMENT OF THE LIFE-SAVING SERVICE OF
THE UNITED STATES.

ORGANIZATION.

1. The line of coast upon which the Life-Saving Service is established under authority of the acts of December 14, 1854, April 20, 1871, June 10, 1872, and January 11, 1873, is divided into three districts, and includes all the life-saving stations embraced within their limits, as follows:

First District—Coast of Cape Cod, Massachusetts, from Race Point to Monomoy.

Second District—Coast of Rhode Island and Long Island, from Naragansett Pier, R. I., to Coney Island, N. Y.

Third District—Coast of New Jersey, from Sandy Hook to Cape May.

2. The stations in each district will be distinguished by numbers, from one upwards, beginning with the most northerly or easterly, and also by such names as will best indicate their locality. Each district will be under the immediate charge of a Superintendent, to be appointed by the Secretary of the Treasury, in conformity with law and the regulations hereinafter contained.

3. Each station will be in charge of a Keeper, to be appointed by the Secretary of the Treasury upon the nomination of the Superintendent of the district wherein the station is situated, and in accordance with the method hereinafter prescribed.

4. To such stations as it is deemed necessary will be attached a boat's crew of six Surfmén, to be employed and governed in the manner hereinafter provided.

5. The three districts will be under the general supervision of a Captain in the Revenue Marine Service, to be designated by the Secretary of the Treasury, and to be known as Inspector of Life-Saving Stations, and the entire service will be in charge of the Chief of the Revenue Marine Bureau.

6. All persons receiving appointments as Superintendents or Keepers will immediately take and subscribe the oath prescribed by law, and forward it, with a letter of acceptance, to the Secretary of the Treasury.

7. The pay of Superintendents and Keepers will commence from the dates of their oaths of office.

EXAMINATION.

8. No person will be appointed as Superintendent or Keeper until he shall have produced satisfactory evidence of good moral character and sober and correct habits, and passed the examination herein prescribed.

9. Examining boards for the examination of persons designated for the positions of Superintendents and Keepers will be convened by the Department whenever it may be necessary. For the examination of candidates for Superintendents, the board will consist of two persons, one of whom shall be the Inspector of Life-Saving Stations. For the examination of Keepers, the board will consist of three persons, one of whom shall be the Inspector above named, and another a physician of respectable standing in his profession.

10. Candidates for Superintendents must be not less than twenty-five nor more than fifty-five years of age. They must be able to read and write the English language correctly, and have some knowledge of the elementary principles of book-keeping. They must be familiar with the line of coast embraced within their particular district, and be conversant with the proper management of surf-boats and life-saving apparatus.

11. Candidates for Keepers must be not less than twenty-one nor more than fifty-five years of age, and able to read English and write a fair, legible hand. They must also have a knowledge of notation, numeration, and the four elementary rules of arithmetic. They must possess a thorough knowledge of the management of the surf-boats and of the use of the various apparatus used in the service.

12. Surfmen for the several stations will be selected by the Keepers thereof from able-bodied and experienced Surfmen residing nearest to the station at which they are to be employed. They will be employed for the term of one year, under the articles of engagement prescribed in Form 2, hereto annexed.

DUTIES OF OFFICERS.

Inspector.

13. The Inspector will exercise a general supervision over the several districts. He will make a thorough personal inspection of every station along the coast of the different districts, at least once in each year, and and at such other times as the Department may direct. In the annual inspections he will be accompanied by the Superintendent having charge of the district to be inspected. At every inspection each sta-

tion will be minutely examined; all the apparatus, boats, boat-carriages, cars, hawsers, and gear, with the public property of every description, will be closely inspected and compared with the inventory, to see that every article is on hand or properly accounted for. A note will be made of the condition of each article. He will give timely notice of his intended visit to each station, in order that the Surfmen may assemble to meet him. He will inspect the appearance of the men and cause them to be exercised in the use of the boat and car, by launching and going and returning through the surf; also in the use of the mortar and rocket apparatus; all in the same manner as if actually engaged in saving life. He will superintend the exercises in person, and see that the various manœuvres are properly conducted according to the prescribed form for exercise and drill.

14. As much of the success in the use of the apparatus depends upon the promptness with which it is brought into action, and on the precision and efficiency of the first attempt, the Inspector is required to make himself thoroughly acquainted with the use and application of all its parts, and will take care that this is also understood by the Keepers and Surfmen.

15. After each annual inspection, the Inspector will make a report in detail of the condition of the station-houses, boats, apparatus, fixtures, &c.; and, also, of the efficiency of the Keepers and Surfmen in the performance of their duties, and will furnish such other information as may appear to him to be important or interesting to the Department; and, also, such recommendations as to repairs of houses or apparatus as may be necessary.

16. The Inspector will examine all requisitions for repairs and supplies made by the Superintendents, and approve or disapprove the same, and forward them to the Department, with such observations as he may think proper to present. He will forward to the Department all reports of inspection he may receive from the Superintendents, with such comments and recommendations as he may deem proper.

Superintendents.

17. The Superintendent of each district will exercise general superintendence over the several stations embraced therein. He will visit every station within his district at least twice during the winter months, (or from December 1st to March 31st,) and three times during the remainder of the year, to wit, during the months of April, July, and October, for the purposes hereinafter named. He will also visit

any particular station, whenever, in his judgment, it may be necessary or whenever directed by the Inspector or the Department.

18. He will, as soon as may be, after entering upon his duties as Superintendent, prepare a schedule of the particular days in the above-named months, when he will visit each station, as required in the preceding regulation, and cause a printed copy of the same to be posted in every house.

19. At each visit, he will examine into the condition of the house, and will carefully inspect all the apparatus, books, and furniture therein. He will also muster and inspect the men attached to the station, and cause them to be thoroughly exercised in the use of the boats and apparatus, according to the prescribed form for drill and exercise.

20. After each visit he will make a full report of his examination of each station, according to Form 4, and forward the same to the Department through the Inspector.

21. Whenever repairs, supplies, or outfits are required for any station, the Superintendent will make requisition upon the Department through the Inspector in accordance with Form 5.

22. On the receipt of the report (Form 3) of a wreck, the Superintendent will examine the same to see if it contains all the required particulars, and should any be omitted he will immediately obtain the same from the Keeper, complete the report and forward it to the Department through the Inspector. All other reports of Keepers will be forwarded in like manner.

23. Whenever a vacancy shall occur among the Keepers, the Superintendent will notify the Department, and make nomination of some person to fill it; pending the appointment of whom, he will temporarily employ a proper person to discharge the duties.

24. Superintendents are vested with the powers and duties of Inspectors of Customs, by the act of December 14, 1854, and are required to exercise due vigilance in the prevention and detection of smuggling.

25. Superintendents will also perform such other duties as are hereinafter indicated.

Keepers.

26. Keepers will be held to a strict accountability for the proper care, preservation, and good order of the apparatus, boats, buildings, and their appurtenances, and for the economical use of all supplies of

every kind placed in their charge. They will be careful to prevent waste, theft, and misapplication of all public property intrusted to their care and management, and the value of all articles not satisfactorily accounted for will be deducted from their pay.

27. Keepers are strictly forbidden to keep or allow to be kept, coal oil, lucifer matches, greasy rags or cloths, or any other articles of a combustible character, about the premises, where they might, by accident or spontaneous combustion, become ignited.

28. Keepers will enter upon their journals, daily, all the transactions occurring, according to Form 1. They will also keep in the receipt books correct accounts of all articles of supplies received at the stations, and note accurately in the expenditure-books all articles expended, with a statement of the manner and purpose in and for which the same were used.

29. When anything whatever belonging to the station is lost or destroyed, the fact and attendant circumstances must be immediately reported to the Superintendent.

30. Monthly reports of the condition of the station must also be forwarded to the Superintendent.

31. Keepers are prohibited from carrying on any business or trade which will or may require them to be often absent from the premises in their charge, during the winter season especially, or which would cause them to neglect their proper duties.

32. Keepers are forbidden to sell, or allow to be sold, on the premises in their charge, any intoxicating liquors; nor will they permit any intoxicated person, or any one under the influence of intoxicating drinks, to enter the station-house, or remain upon the premises.

33. Keepers will be courteous and polite to all visitors who conform to the regulations, and otherwise behave in a proper manner, but they must not permit them to handle the apparatus, or deface the houses, by writing, scratching, or in any other manner.

34. Keepers will at all times see that the regulations regarding the patrol of the beach are strictly complied with; and during stormy or thick weather they are required to give their whole time and constant attention to the important duty of discovering such vessels as may be in distress, or stranded, and in need of assistance.

35. Immediately upon the discovery of a wreck or vessel in distress, signals will be made to the adjoining stations, in the manner hereinafter prescribed; and having made such signal, the Keeper will then proceed to prepare the boats, apparatus, &c., for instant service.

36. On boarding wrecks, the preservation of life will be the Keeper's first consideration, (or that of the person in charge of the boat for the time being,) and he will on no account take in goods or merchandise which may endanger the safety of his boat and the lives of those intrusted to his charge, and should anything of the kind be brought in contrary to his remonstrances, he is fully authorized to throw it over-board.

37. In all cases of stranded vessels, Keepers will exercise a watchful care over such portions of the cargo as may be landed or come on shore, in order to preserve the same as far as possible for the owners thereof, as also to protect the revenue.

38. Keepers will keep as accurate an account as possible of the cargo landed and make a return of the same to the Superintendent, who will forward it to the Collector of Customs within whose collection district the wreck may have occurred.

39. As soon as possible after the occurrence of a wreck, the Keeper of the nearest station will enter all the required particulars on the journal, and will carefully fill up and forward the requisite report, according to Form 3, to the Superintendent.

40. On returning from service, the boat is not to be left in the surf on the beach, but, as soon as possible, will be got upon her carriage and placed in the boat-house. On the first fine day after use, the boat will be drawn out, that any dampness that may remain about her may be dried up. Any damage will be immediately made good.

41. After the apparatus has been used, either in actual service or for exercise, each Keeper will see that every part thereof is restored to its proper place in the house, after being cleansed of sand or dirt. All metallic substances are to be wiped dry, and all lines and hawsers thoroughly dried at the first opportunity of fair weather.

42. In order to preserve the lines from rot, and for the purpose of properly ventilating the houses, Keepers will frequently avail themselves of fair weather, to open all doors and windows during the day-time to permit the free passage of air throughout the houses, and will use every available means to disperse whatever dampness or moisture that may have accumulated.

43. Keepers are to render every assistance in their power to all officers of the service who may officially visit the stations to which they are attached. They will assign to all such proper accommodations in the houses for sleeping, and furnish them with subsistence, for which they will be entitled to receive reasonable compensation.

44. Keepers will see that their crews are duly assembled at the several stations, for muster, inspection, and drill, upon the days named in the Superintendent's schedule, posted in each station-house.

45. Keepers are required to remain at their stations from the 1st of December of each year to the 1st of April following, absenting themselves from the premises only on such occasions and at such times as are allowed by the regulations. They will have charge of the keys, and make frequent visits to their stations during the summer months.

46. At the close of the winter season each Keeper will prepare a complete inventory, in duplicate, according to Form 9, of all property belonging to his station on the 31st of March; one copy of which he will forward to the Superintendent of the District, who will transmit the same to the Department through the Inspector; the other will be retained at the station.

47. Keepers will have command and sole control of the Surfmen belonging to their stations, when on duty, and are enjoined to so conduct themselves as to win the respect and confidence of their subordinates.

48. Should any keeper become incapacitated to properly discharge the duties appertaining to his station through sickness or accident, during winter service, information will be conveyed to the nearest station, by signal or otherwise, and the Keeper thereof will exercise control over the former station, in addition to his own, until the disabled Keeper may recover or another one be nominated by the Superintendent.

49. Where two or more Keepers with their crews may be present at the scene of any wreck, they will be expected and required to unite harmoniously in their efforts to save life and property, selecting the most experienced one of their number to assume the general direction of their efforts.

50. Station and watch-bills will be prepared by the Keeper and kept always in view at each station; and each Surfman will have his particular number, with his duties specified.

51. Keepers are required to make themselves familiarly acquainted with these regulations and the instructions for drill with the apparatus, and, also, in the use of the code of signals.

Surfmen.

52. Upon employment, Surfmen will be required to sign articles, in accordance with Form 2, binding themselves to a faithful performance of the duties required of them.

53. Implicit obedience to all lawful orders from superiors will be exacted of them.

54. No Surfman will absent himself from the station to which he belongs, during the winter months, without permission of the Keeper, which will only be granted in extreme cases, such as sickness.

55. As the efficiency of a life-saving station depends upon the good training and discipline of the crew, the strictest attention must be paid by the members thereof to the directions of the Keeper on all occasions.

56. During the winter months the beach will be regularly patrolled by the Surfmen every night.

57. The patrol will consist of two men from each station, one to follow the beach towards the next station to the right, and the other to proceed towards the next station to the left, and each will continue his walk until the patrol from the adjacent station is met, when the continuity of the beach will permit.

58. Each patrolmen will carry a beach-lantern, also a red Coston hand-light; and, when an inlet separates the stations, on reaching the shore of the same, he will exchange signals with the patrolman on the opposite side, unless the distance be too great.

59. On the discovery of a wreck or vessel in distress, the patrolman will immediately burn his red Coston hand-light, both to alarm the stations and give notice to the wreck that succor is near at hand, and return to his station to assist in the preparation of the apparatus.

60. During the day-time, on those portions of the coast where two adjacent houses cannot be seen from each other, the beach will be sufficiently patrolled to bring them in sight at least three times daily.

61. The Surfmen at each station will take regular turns as patrolmen.

FISCAL MANAGEMENT.

62. The salaries of Superintendents and Keepers are fixed by law. The wages of Surfmen will be prescribed from time to time by the Department.

63. All payments of salaries and wages will be made quarterly, on pay-rolls, according to Form 7, by the Superintendents, who will respectively forward estimates (Form 6) for the required amount to the Department at least twenty days before the expiration of each quarter.

64. All payments of salaries and wages must be made in lawful money of the United States, and in no other way, to the persons to whom they are due, their receipt being taken on the pay-rolls at the

time of making the payment. Each signature to the pay-rolls must be witnessed separately.

65. In case of the death of any officer or other person employed in the Life-Saving Service, or of any person having claims against the United States on account of the service, payments are only to be made to the legal representative of the party, according to the forms of law, after being duly authorized at the Department. In the case of the death of a person without property having but a small amount of pay due him, and where the taking out of letters of administration would be attended with expense to the family of the deceased, it will be the duty of the Superintendent to make all the facts known to the Department, and receive instructions before making the payment.

66. In every case in which the Department may see fit to authorize the payment of any small claim to the family of a deceased person without requiring letters of administration to be taken out, it will be the duty of the person paying the money for the United States to take ample security in writing, to the effect that the amount may not be claimed thereafter, on the ground that it was not paid to the parties legally entitled to receive it.

67. No purchases of articles of supply or outfit for stations will be made without the authority of the Department, by any person connected with the service, but when authority has been given to the Inspector, or a Superintendent, to make any purchase in open market, it shall be his duty to ascertain, in writing, from at least three responsible dealers in the articles wanted, (if there be so many in the place or in the immediate vicinity,) the lowest price at which they can be furnished. The purchasing officer shall then select those articles of the best quality of such as are required at the price most advantageous to the Government.

68. Should there be reason to suspect collusion among the dealers to obtain more than a fair market price for the articles, they will be procured elsewhere at fair rates.

69. All supplies and outfits, before being accepted by the person authorized to receive the same, must be carefully inspected, and no receipt for the same will be given unless the articles are of good quality and in every respect satisfactory.

70. All supplies must be accompanied by a bill, or invoice, specifying the items in detail and the cost of each article, without which no receipt will be given for them.

BILLS AND VOUCHERS.

71. All bills and vouchers must be made out in detail, giving dates, quantities, and the price of each article, with the gross amounts carried out in the appropriate columns. (Form 8.)

72. All bills and vouchers for work, labor, materials, and supplies done or furnished, must be duly certified by the superintending or purchasing officer, setting forth explicitly the facts; and, if under a written contract, that fact must also be stated in the body of the certificate.

73. All bills and vouchers must be made out in duplicate, and must show the date of the signature of the approving or certifying officer.

74. No bills of expenses will be incurred without the previously obtained authority of the Department.

REPAIRS.

75. Whenever a house, boat, boat-carriage, or any article of apparatus belonging to a station, may require repairs, the fact must be reported to the Department by the Inspector, or by the Superintendent through him, setting forth the actual state or condition of the defective part or parts, the probable length of time required to make the repairs; and specifying in detail the probable cost of labor and materials.

76. When the Department shall have authorized repairs to be made in accordance with the recommendations of the Inspector or Superintendent, it will be the duty of the officer notified of that fact to obtain written proposals from two or more parties (in the vicinity of the station, if possible) having the necessary facilities for doing the work, which must be transmitted, with an abstract and explanatory letter, to the Department, which will decide by whom the repairs shall be made, whether by contract or otherwise, and by whom the work shall be superintended.

77. The superintendent of repairs must inspect all materials, receive such only as may be found to be of suitable quality for the purpose, and reject all which are not of good quality, or which are otherwise unsuitable.

78. Any collusion, fraud, or wilful neglect of duty on the part of a superintendent of work or repairs, will subject him to dismissal, and to such further punishment as he may be liable to by law.

79. Certifying officers or persons will be held strictly accountable for the correctness of the matters certified to, and for the proper care and use of the articles received by them.

GENERAL INSTRUCTIONS.

80. No officer or other person attached to the Life-Saving Service shall oppress, cruelly treat, or maltreat any person under his command or in the service.

81. Drunkenness, profane swearing, and all scandalous conduct tending to the destruction of good morals, are positively forbidden on pain of prompt dismissal.

82. All officers and other persons of the Life-Saving Service are required, and strictly enjoined, to properly observe and obey the orders of their superiors, and to use their utmost exertions to carry such orders into effect with promptitude.

83. No person belonging to the Life-Saving Service is permitted or authorized to take out of any wrecked vessel any money, plate, goods, or any part of her cargo, or to take or remove any part of her rigging, stores, or outfits, unless it be for the protection or preservation of the same, in which case the whole amount taken must, without fraud, concealment, or embezzlement, be delivered to the Keeper in charge, or to the parties entitled to it.

84. No person in or belonging to the service shall waste, embezzle, or fraudulently buy, sell, receive, or dispose of any ammunition, rigging, outfits, or other public stores or supplies; nor shall any officer or other person, in or belonging to the service, knowingly permit, through design, negligence, or inattention, any waste, embezzlement, or unlawful sale, receipt, or disposition of any property of the United States.

85. Every person belonging to the service shall treat with respect all persons having authority over him, and is required to set an example of morality, subordination, and devotion to duty.

86. Should any person in the service consider himself oppressed by his superior, or observe in him any misconduct, he will represent, through the proper channel, such oppression or misconduct to the proper authority. But in all cases such person will be held accountable, if his representations should be found vexatious, frivolous, or false.

87. No person in the service shall, without the authority of his superior officer, exchange with another for the performance of any duty with which he may be charged.

88. Fires and lights are not to be left in apartments *unattended to at any time.*

89. Uncovered lights are not to be used in boat-rooms, storerooms, or closets. When it becomes necessary to enter either with a light, it must be kept in a close lantern.

90. Every possible precaution must be taken to guard against the injury or destruction of the buildings and other property by fire.

91. The fire-buckets are to be kept filled with water, ready for use, and they must not be removed from their proper places, or used for any other purpose than extinguishing fire.

92. The exterior of the boats will be painted annually. If a boat has been much used during the preceding twelve months, she should have two coats of paint; if but little used, one will suffice; but the painting should be very carefully performed, and the paint well worked into the seams. The interior of the boats will be painted once in two years.

93. While the boat continues tight, a calking-iron will not be used except in the keel seam, and there not oftener than once in three years, It should then be used with great care; and judgment will at all times be exercised in the use of the calking-iron.

94. Prompt measures will be taken to revive or resuscitate all persons found insensible from exposure to cold or apparently drowned. A medicine chest will be furnished to each house, and the Keeper is enjoined to preserve the contents from waste.

95. The apparently drowned will be treated according to the printed directions posted in the station-houses, and supplied to every Surfman.

96. Persons found in the surf or upon the beach, after death, will be properly cared for, and where they cannot be otherwise identified, a description, as complete in details as possible will be made upon the journal of the station, and a copy sent to the Superintendent, who will forward the same to the Department.

97. Where articles of value or trinkets, that might assist in the identification, are found upon the bodies of deceased persons, the same will be carefully preserved and turned over to the Superintendent, who will forward a list of them to the Department, and await its instructions as to the disposition to be made of them.

98. In case any depredations are committed at, or damage done to, the station-houses, apparatus, or other property belonging thereto, by unlawful persons, the Keepers and all other persons connected with the service are enjoined to use their utmost endeavors to discover and bring to justice the offenders, and also to recover whatever articles may have been unlawfully taken.

99. Great care must be taken to keep the houses in clean and neat condition. The floors of the living-rooms must be swept every morning, all utensils cleaned, and the buildings frequently aired. Dirt and rubbish must not be permitted to accumulate in the boat-room.

100. Before the houses are left by the crews in the spring, they must be thoroughly cleaned, the bedding aired and neatly packed and stowed away, and everything belonging to the stations arranged in an orderly manner.

DRILL AND EXERCISE.

101. In order that the Keepers and crews may be thoroughly accustomed to the use of the boat and other apparatus provided the stations, there will be frequent drills or exercise of the same.

102. In addition to the exercises which are provided to be made on each visit of the Inspector or Superintendent, each Keeper will get out the boat on its carriage at least once every month, and oftener, if desirable, for exercise, during the winter service at the stations, going through the various movements of launching and working through the surf, landing, transporting the boat, &c.


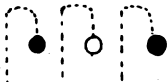














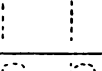





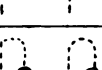

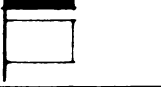
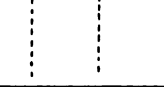

103. No expenditure of powder, shot, or rockets will be permitted for exercise, except by order of the Inspector or Superintendent.

104. In throwing the shot or rocket lines for exercise, care must be observed that they are thrown directly along the beach, and before stowing the lines away again the sand must be well shaken or brushed out of the strands of the rope.

105. All exercises will be conducted according to the manner and form prescribed in the printed directions posted up in the station-houses.

SIGNAL FLAGS AND LIGHTS

United States Life Saving Service

NUMBER	DAY	NIGHT	
	FLAGS	STAR ROCKETS	COSTON LIGHTS
1			
2			
3			
4			
5			
6			
7			
8			
9			

SIGNALS FOR LIFE-SAVING STATIONS.

Day signals will be made with the flags.

Night signals will be made with star rockets and Coston lights.

The following is explanatory of the opposite page :

No. 1. *Preparatory*.—Whenever it becomes necessary for a station to make signal to adjacent stations the preparatory signal will be used, and will be continued until acknowledged by the stations signalled.

No. 2. *Answering Signal*.—All signals will be answered by this signal to notify the signalling station that its signal is seen and understood. If any signal should not be understood, however, the signalling station may be notified in daytime by dipping the flag the whole length of the staff, or at night by two white rockets or two white Coston lights.

No. 3. *Danger*.—To be made by the station first discovering a wreck, or when any vessel is observed to be in danger. It will also serve to notify persons in danger that aid is near at hand.

No. 4. *Aid required*.—Bring your men. Immediately after answering this signal with No. 2, the keepers and crews of the adjacent stations will proceed to the aid of the station making signal, and likewise in answer to the four following signals, with the articles required:

No. 5. *Bring your boat and equipments*.

No. 6. *Bring your life-car and lines*.

No. 7. *Bring rocket apparatus*.

No. 8. *Bring mortar and apparatus*.

No. 9. *Assemble*.—When this signal is displayed at a station, all persons belonging thereto will at once assemble at the house.

In making night signals with two or more rockets they are not to be sent up together, but separately at short intervals, and in the order indicated in the diagram. Thus, in No. 5, a red-star rocket will be sent up and followed by a green-star rocket, and so on. If a signalling station desires to communicate with one only of its adjacent stations, a black ball will be hoisted in daytime, as a distinguishing pennant, above either No. 3, 4, 5, 6, 7, or 8, as the case may be, to indicate that the station to the northward or eastward is specially signalled, and at night by an ordinary exploding rocket immediately following the above numbers. South and west stations will be indicated in daytime by the black ball under either No. 3, 4, 5, 6, 7, or 8, as the case may be, and at night by an ordinary exploding rocket immediately preceding the signals for the above numbers.

No. 1 hoisted under any number will annul that signal; and the black ball hoisted singly will annul all signals.

Life-boats, before going off to a wreck at night, will be provided with a white Coston light, which may be burned, if considered necessary, either to afford light to facilitate the escape of the crew from the wreck, or to give notice to persons on shore of the arrival of the boat alongside the wreck.

Patrolmen will carry a red hand-light, as directed in Regulation 58, to be used upon the discovery of a wrecked vessel; and in order to better insure the light being seen, they will, when practicable, burn it upon the nearest prominent eminence. Keepers will make themselves and their crews familiar with the foregoing by frequent practice with the day signals. The night signals will never be practiced with rockets and Coston lights, nor will they be expended unless in actual service, except when specially authorized by the inspector. Red, white, and green lanterns will be substituted for practice, and also for service where the stations are sufficiently near each other to enable the colors to be readily distinguished—the lanterns to be suspended on the flagstaff in the same order as prescribed for the Coston lights. Thus, No. 5 may be shown by a red lantern over a green lantern.

The flags must be carefully handled and preserved from dirt and dampness. The boxes containing the rockets and Coston signals will be kept in a safe place where they will be as free from dampness as possible, and where they will be least liable to concussion by sudden contact with any heavy object. The keepers will be held to a strict accountability for the proper expenditure of rockets and Coston lights.

INSTRUCTIONS AND DRILL IN THE USE OF THE ROCKET AND MORTAR APPARATUS.

The rocket and mortar apparatus consist of the following articles:

Articles of rocket apparatus.

Line rockets.
Rocket frame.
Rocket staves.
Rocket pins.
Washers.
Detonating tubes.
Priming wire.
Trigger line.

Articles of mortar apparatus.

5-inch Eprouvette mortar and bed.
Cast-iron balls.
Spiral wires.
Priming wires.
Friction primers.
Tank (6 pounds) best sporting powder.
Powder flask, with shoulder belt.
Match stock, with match rope.

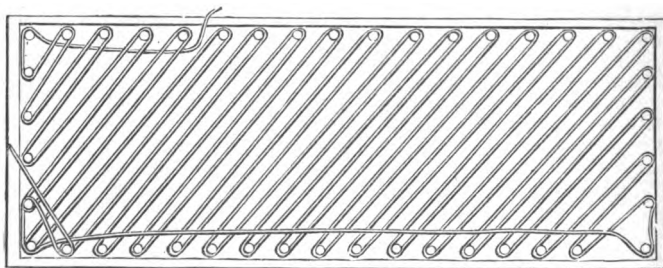
Articles common to both.

Box hand lights and port fires.	Crotch or triangle.
Haversack.	Sand anchor and backer.
Hand cart.	Tarpaulin, with tent pegs.
Shot or rocket line, Italian hemp.	Pickaxe.
Hawser, 4-inch manila.	Shovel.
Hauling or whip line, 2½-inch manila, rove through a single tail-block.	Lantern.
Double-block tackle-purchase.	Signal flag.
Spare tail-blocks.	Tally-boards.
	Life-car.
	Breeches buoy.

General Directions.

The line should be first thrown from its box after the frame with the faking pins has been carefully lifted clear of the line. If the first shot fails, the line may be afterwards French-faked on the tarpaulin or along the beach.

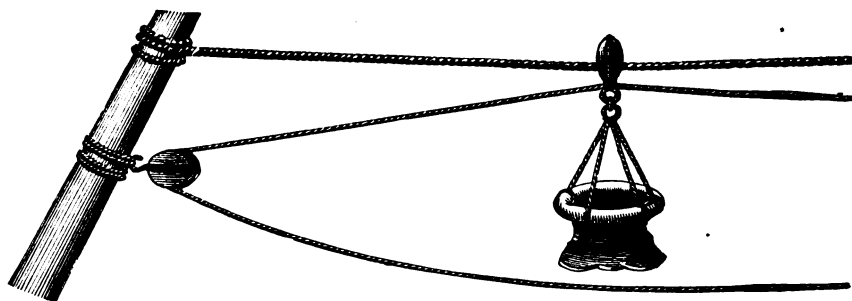
The following engraving shows the shot or rocket line faked in the box:



In aiming, due allowance should be made for the force and direction of the wind. Accuracy of aim can only be acquired by frequent practice in throwing the line along the beach in all conditions of wind and weather. The line, whether in its box or faked on the ground, should be placed at least six or eight feet to the windward of the rocket frame or mortar. In firing, care should be taken to stand by the side of, and not behind, the rocket frame or mortar.

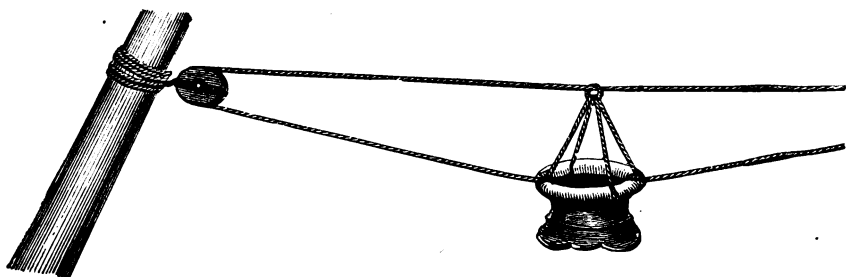
When the shot or rocket line is over the wreck and has been seized by those on board, signal should be made, from the ship, in the daytime, by some one standing apart from the rest, by waving a flag, handkerchief, hat, or his hand; or, if at night, a rocket, a blue light, or a gun should be fired, or a light should be shown over the ship's side for a short time and then concealed. When this signal is observed on shore, the shore end of the shot or rocket line should be bent on to the whip, around both parts of it, about two fathoms above the tail-block, and signals should be made by the man on shore attending signals standing apart from the rest and waving the signal flag, if in the day-time, or showing a red light for a short time, if at night. When this signal is seen by those on the wreck, they will haul on the shot or rocket line until the whip and tail-block are on board, when they will make fast the tail of the block, as directed by the tally-board attached to the whip, and make signal to the shore as before. At this signal those on shore will haul the hawser, which has, in the meantime, been rove through the rings of the life-car or the block of the traveller attached to the breeches buoy, on board the wreck by the whip which has also been previously made fast to the hawser. When the hawser is on board it will be made fast to the wreck, in accordance with the directions on the tally-board attached to it, and disconnected from the whip, and signal will again be made. At this signal (the sand anchor having been securely planted in the beach) the hawser will be set up by means of the tackle-purchase, and the whip, having been bent on to each end of the life-car or secured to the breeches buoy, will be used by the crew on shore to haul the car or buoy off to the wreck. At the next signal from the vessel, indicating that the car or buoy has received its freight, it will be hauled ashore. Those drawn ashore will be duly taken charge of and the car or buoy returned to and from the vessel until all who can be are saved.

The following illustration shows the method of using the hawser and whip line:



Should the motion of the sea cause the vessel to rock violently, the hawser should not be set up, but should be rove through the block of the triangle and manned with as many men as can be spared, who will haul and veer on it according to the motion of the vessel, keeping the strain as uniform as possible to prevent its being carried away.

Where the wreck happens on a flat shore or there is imminent danger of the immediate breaking up of the wreck, the hawser should not be set up, but the whip alone should be used, as represented in the following illustration :



ROCKET DRILL.

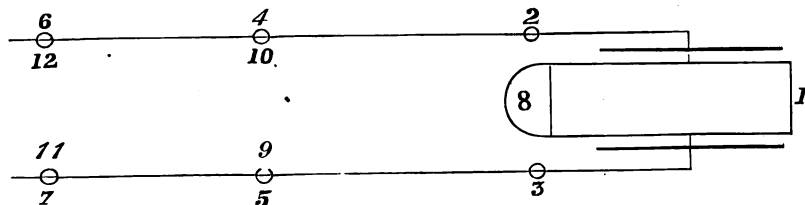
The crew should be numbered consecutively 1, 2, 3, 4, 5 and 6, the Keeper acting as Captain. If the crew of an adjacent station should be present, the Surfmén will form *auxiliary* numbers, 7, 8, 9, 10, 11 and 12, and the Keeper will be second in command.

Words of Command.

"Rocket party, fall in." "Form order of march;" (or, if auxiliaries are present, "Form order of march, double.") "Halt." "Action." "Ready." "Fire." "Bend on." "Haul out." "Haul ashore."

"Rocket party, fall in!"

8, 2, 4, 6, 10, 12.....Rear rank.
 1, 3, 5, 7, 9, 11.....Front rank.
 Rocket Nos.....1, 2, 3, 4, 5, 6.
 Auxiliaries.....7, 8, 9, 10, 11, 12.

Form of order of march, double.

In case auxiliaries are not present, the single order of march will be formed by the regular rocket numbers, as above, by No. 6 taking the place of No. 8.

Providing Stores.

[Stores are always to be kept in the cart in a serviceable condition; a list of the stores printed on calico will be posted on the rear end of the cart. The stores are to be carefully examined after use and put in order; they will also be inspected and aired monthly.]

The rocket numbers will be charged with providing and caring for the stores as follows:

No. 1—Rocket frame, tube box, (containing tubes, primers, washers, and pins for the rockets, priming wire, and trigger line.)

No. 2—Six rockets, box of hand lights and port fires, six staves, line and box with small stores, (attached to side of the cart before the wheel.)

No. 3—Rocket line, whip and tally-boards, two tail blocks, (one on whip and one spare.)

No. 4—Signal flag, lantern, (if at night,) straps, tarpaulin, and eight tent pegs, (tarpaulin to be fitted for pegging down on the beach.)

No. 5—Hawser and tally-boards, snatch block and triangle.

No. 6—Anchor and backer, tackle, pickaxe, shovel, and life-car or breeches buoy.

The Captain—a flask of spirits from the medicine chest to revive the shipwrecked if necessary.

All auxiliaries are to assist in carrying stores from the cart to point of action. •

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Duties at the words of command "Halt," "Action."

No. 1 places rocket frame, uncaps and places rocket in frame, points, elevates, primes, sees all clear.

No. 2 assists No. 3 to place box with line six yards to windward and abreast of frame, and with him lifts box clear of pins, places and pins staff to rocket and hands it to No. 1.

No. 3 takes out rocket staves, and, assisted by No. 2, places box with line six yards to windward and abreast of frame, and with him lifts box clear of pins and cants it in the direction of the wreck; wets about three fathoms of end of line, reeves it through staff and puts on two India-rubber and a metal washer, and then knots end of line securely.

No. 4, assisted by even numbers of auxiliaries, takes the whip and carries it eight yards to the right, rear of frame, and sees it clear for running and bending on hawser.

Nos. 5 and 6, assisted by odd numbers of auxiliaries, take end of hawser and tally to No. 4, and clear it.

Auxiliary No. 7, assisted by No. 8, spreads and pegs down tarpaulin; then attends signals under direction of the Captain. (If there be no No. 7, Captain attends signals.)

No. 8 assists No. 7 and keeps ground clear.

Nos. 9 and 11 assist Nos. 5 and 6, as indicated in directions to them above.

Nos. 10 and 12 assist No. 4, as indicated in direction to him above.

"Ready."

No. 1 sees trigger line clear and cocks the lock or lights port-fire, retiring to the left.

No. 2 attends steadying line.

"Fire."

No. 1 fires with a steady pull or with a port-fire, and, if communication is effected, removes the frame. (NOTE.—If rocket fails, Nos. 3 and 4 haul in line; Nos. 1 and 2 fake down clear for running; No. 1 corrects the pointing and elevating, and then the party proceed as before.)

"Bend on"—"Haul out."

Nos. 1 and 2 bend shot line on to whip; No. 1 mans hauling part of whip; and No. 2 takes charge of the right side of whip.

Nos. 3 and 4 bend on hawser and tally about two fathoms from the end, and No. 4 takes charge of left side of whip.

No. 5, assisted by odd numbers of auxiliaries, clears hawser away for hauling off to the wreck, reeves it through rings of life-car or the block of the traveller attached to the breeches buoy; bends on whip to car or buoy.

No. 6, assisted by odd numbers of auxiliaries, buries anchor and backer, hooks on tackle to anchor, and, securing it to hawser, raises triangle and snatches hawser.

Nos. 9 and 11 assist No. 5 to clear away hawser, keeping a slight strain on it while being hauled off to the wreck, keeping to the left of the whip; man the tackle and veer and haul as necessary.

Nos. 10 and 12 assist No. 4 in working the whip, hauling off hawser, &c.

[In working the apparatus with only six men, Nos. 3 and 5 assist No. 6 to raise triangle and attend to hawser; Nos. 1, 2, and 4 attend to the whip.]

Connections being made, Nos. 1, 2, and 3, assisted by even numbers of auxiliaries, haul out hawser and life-car or breeches buoy.

“Haul ashore.”

Nos. 1, 3, and 4, assisted by even numbers of auxiliaries, man the hauling side of whip.

No. 2 attends veering part, assisted if necessary by an auxiliary number. As persons are landed, No. 8 and spare numbers attend to them.

When the service or exercise is over the stores are to be returned to the cart, the party fall in to the order of march and return to the station.

MORTAR DRILL.

[NOTE.—The chamber or bore of the mortar should be wiped clear of all sand or dirt before it is used. In loading, raise the muzzle and pour the powder into the chamber until it is full. When practicable the charge should be covered with paper of sufficient size to fit the bore snugly over the chamber. Two spiral wires should be attached securely to the shot, and the shot lowered down on the charge. The shot line should be made fast to the spiral wire by firmly splicing it in the eyes of the wire. The sand should then be dug away, until the bedpiece of the mortar lies level. This gives the proper elevation for throwing a line from 350 to 400 yards; if no spiral wires are on hand the line may be fastened to the shot after wetting two or three feet of the line. When all is ready for firing, a quick match will be put into the vent.]

Words of command, numbers, and stations, same as for rocket drill, except that the word *mortar* is substituted for *rocket*.

Providing Stores.

No. 1—Mortar and bed, tube box (containing tubes and primers,) priming wire and powder flask.

No. 2—Mortar and bed with No. 1, then balls, port-fires, and spiral wires.

No. 3—Shot line, hauling line, and tallies, two tail blocks, (one on whip and one to spare.)

No. 4—Straps, signal flag, (or lantern, if at night,) and tarpaulin.

No. 5—Hawser, tally, and triangle.

No. 6—Anchor, tackle, pickaxe, shovel, life-car or breeches buoy.

The Captain—a flask of spirits from the medicine chest to revive the shipwrecked if necessary.

All auxiliaries are to assist in carrying stores from the point of action.

Duties at the command "Halt," "Action."

No. 1 places and levels mortar and bed with the assistance of No. 2, cleans bore and chamber, loads with powder and ball, cleans vent, primes, and sees all clear.

No. 2 assists No. 1 in levelling and placing mortar and bed, attaches spiral wire to shot, lowers shot into mortar and fastens shot line to spiral wire.

Duties of other numbers same as in rocket drill.

At the words "Ready," "Fire," "Bend on," "Haul out," and "Haul ashore," the duties of all numbers are the same as in the rocket drill.

RULES FOR THE MANAGEMENT OF OPEN ROW-BOATS IN A SURF—BEACHING THEM, &c.

The following Rules for the management of open boats, in heavy surfs and broken water, taken from a publication by the Royal National Life-Boat Institution of Great Britain, are adopted and republished for the information and guidance of the officers and all others connected with the United States Life-Saving Service:

RULES OF MANAGEMENT.

I. *In rowing to Seaward.*

As a general rule, speed must be given to a boat rowing against a heavy surf. Indeed, under some circumstances, her safety will depend on the utmost possible speed being attained on meeting a sea. For if the sea be really heavy, and the wind blowing a hard, on-shore gale, it can only be by the utmost exertions of the crew that any headway can be made. The great danger then is, that an approaching heavy sea may carry the boat away on its front, and turn it broadside on, or up-end it, either effect being immediately fatal. A boat's only chance in such a case, is to obtain such way as shall enable her to pass, end on, through the crest of the sea, and leave it as soon as possible behind her. Of course, if there be a rather heavy surf, but no wind, or the wind off shore, and opposed to the surf, as is often the case, a boat might be propelled so rapidly through it that her bow would fall more suddenly and heavily after topping the sea than if her way had been checked; and it may, therefore, only be when the sea is of such magnitude, and the boat of such a character, that there may be chance of the former carrying her back before it, that full speed should be given to her.

It may also happen that, by careful management under such circumstances, a boat may be made to avoid the sea, so that each wave may break ahead of her, which may be the only chance of safety in a small boat; but if the shore be flat, and the broken water extend to a great distance from it, this will often be impossible.

The following general rules for rowing to seaward may, therefore, be relied on:

1. If sufficient command can be kept over a boat by the skill of those on board her, avoid or "dodge" the sea, if possible, so as not to meet it at the moment of its breaking or curling over.
2. Against a head gale and heavy surf, get all possible speed on a boat on the approach of every sea which cannot be avoided.

3. If more speed can be given to a boat than is sufficient to prevent her being carried back by a surf, her way may be checked on its approach, which will give her an easier passage over it.

II. *On running before a Broken Sea, or Surf, to the Shore.*

The one great danger, when running before a broken sea, is that of *broaching-to*. To that peculiar effect of the sea so frequently destructive of human life, the utmost attention must be directed.

The cause of a boat's broaching-to when running before a broken sea or surf is, that her own motion being in the same direction as that of the sea, whether it be given by the force of oars or sails, or by the force of the sea itself, she opposes no resistance to it, but is carried before it. Thus, if a boat be running with her bow to the shore, and her stern to the sea, the first effect of the surf or roller, on its overtaking her, is to throw up the stern, and as a consequence to depress the bow; if she then has sufficient inertia (which will be proportional to weight) to allow the sea to pass her, she will in succession pass through the descending, the horizontal, and the ascending positions, as the crest of the wave passes successively her stern, her midships, and her bow, in the reverse order in which the same positions occur to a boat propelled to seaward against a surf. This may be defined as the safe mode of running before a broken sea.

But if a boat, on being overtaken by a heavy surf, has not sufficient inertia to allow it to pass her, the first of the three positions above enumerated alone occurs; her stern is raised high in the air, and the wave carries the boat before it, on its front, or unsafe side, sometimes with frightful velocity, the bow all the time deeply immersed in the hollow of the sea, where the water, stationary or comparatively so, offers a resistance, whilst the crest of the sea, having the actual motion which causes it to break, forces onward the stern, or the rear end of the boat. A boat will, in this position sometimes, aided by careful oar-steerage, run a considerable distance until the wave has broken or expended itself. But it will often happen, that if the bow be low, it will be driven under water, when the buoyancy being lost forward, whilst the sea presses on the stern, the boat will be thrown (as it is termed) end over end; or if the bow be high, or it be protected, as in most life-boats, by a bow air-chamber, so that it does not become submerged, that the resistance forward, acting on one bow, will slightly turn the boat's head, and the force of the surf being transferred to the opposite quarter, she will in a moment be turned round broadside by the sea, and be thrown by it on her beam-ends, or altogether capsized. It is

in this manner that most boats are upset in a surf, especially on flat coasts, and in this way many lives are annually lost amongst merchant seamen when attempting to land, after being compelled to desert their vessels.

Hence, it follows, that the management of a boat, when landing through a heavy surf, must, as far as possible, be assimilated to that when proceeding to seaward against one, at least so far as to stop her progress shoreward at the moment of being overtaken by a heavy sea, and thus enabling it to pass her. There are different ways of effecting this object:

1. By turning a boat's head to the sea before entering the broken water, and then backing in stern foremost, pulling a few strokes ahead to meet each heavy sea, and then again backing astern. If a sea be really heavy and a boat small, this plan will be generally the safest, as a boat can be kept more under command when the full force of the oars can be used against a heavy surf, than by backing them only.

2. If rowing to shore with the stern to seaward, by backing all the oars on the approach of a heavy sea, and rowing ahead again as soon as it has passed to the bow of the boat, thus rowing it in on the back of the wave; or, as is practised in some life-boats, placing the after-oarsmen, with their faces forward, and making them row back at each sea on its approach.

3. If rowed in bow foremost, by towing astern a pig of ballast or large stone, or a large basket, or a canvas bag, termed a "drogue" or drag, made for the purpose, the object of each being to hold the boat's stern back, and prevent her being turned broadside to the sea or broaching-to.

Drogues are in common use by the boatmen on the Norfolk coast; they are conical-shaped bags of about the same form and proportionate length and breadth as a candle extinguisher, about two feet wide at the mouth, and four and a half feet long. They are towed with the mouth foremost by a stout rope, a small line, termed a tripping-line, being fast to the apex or pointed end. When towed with the mouth foremost, they fill with water, and offer a considerable resistance, thereby holding back the stern; by letting go the stouter rope and retaining the smaller line, their position is reversed, when they collapse, and can be readily hauled into the boat.

Drogues are chiefly used in sailing boats, when they both serve to check a boat's way and to keep her end on to the sea. They are, however, a great source of safety in rowing-boats, and the rowing life-boats of the National Life-Boat Institution are now all provided with them.

A boat's sail bent to a yard and towed astern loosed, the yard being attached to a line capable of being veered, hauled, or let go, will act in some measure as a drogue, and will tend much to break the force of the sea immediately astern of the boat.

Heavy weights should be kept out of the extreme ends of a boat; but when rowing before a heavy sea the best trim is deepest by the stern, which prevents the stern being readily thrown on one side by the sea.

A boat should be steered by an oar over the stern, or on one quarter when running before a sea, as the rudder will then at times be of no use. If the rudder be shipped, it should be kept amidships on a sea breaking over the stern.

The following general rules may therefore be depended on when running before, or attempting to land, through a heavy surf or broken water:

1. As far as possible avoid each sea by placing the boat where the sea will break ahead or astern of her.

2. If the sea be very heavy, or if the boat be very small, and especially if she have a square stern, bring her bow round to seaward and back her in, rowing ahead against each heavy surf that cannot be avoided sufficiently to allow it to pass the boat.

3. If it be considered safe to proceed to the shore bow foremost, back the oars against each sea on its approach, so as to stop the boat's way through the water as far as possible, and if there is a drogue, or any other instrument in the boat which may be used as one, tow it astern to aid in keeping the boat end on to the sea, which is the chief object in view.

4. Bring the principal weights in the boat towards the end that is to seaward, but not to the extreme end.

5. If a boat, worked by both sails and oars, be running under sail for the land through a heavy sea, her crew should, under all circumstances, unless the beach be quite steep, take down her masts and sails before entering the broken water, and take her to land under oars alone, as above described. If she have sails only, her sails should be much reduced, a half-lowered foresail or other small head-sail being sufficient.

III. *Beaching or Landing through a Surf.*

The running before a surf or broken sea, and the beaching or landing of a boat, are two distinct operations; the management of boats as above recommended has exclusive reference to running before a

surf where the shore is so flat that the broken water extends to some distance from the beach. Thus on a very steep beach, the first heavy fall of broken water will be on the beach itself, whilst on some very flat shores there will be broken water as far as the eye can reach, sometimes extending to even four or five miles from the land. The outermost line of broken water, on a flat shore, where the waves break in three and four fathoms water, is the heaviest, and therefore the most dangerous, and when it has been passed through in safety, the danger lessens as the water shoals, until, on nearing the land, its force is spent and its power harmless. As the character of the sea is quite different on steep and flat shores, so is the customary management of boats on landing different in the two situations. On the flat shore, whether a boat be run or backed in, she is kept straight before or end on to the sea until she is fairly aground, when each surf takes her further in as it overtakes her, aided by the crew, who will then generally jump out to lighten her, and drag her in by her sides. As above stated, sail will in this case have been previously taken in if set, and the boat will have been rowed or backed in by oars alone.

On the other hand, on the *steep* beach it is the general practice, in a boat of any size, to retain speed right on to the beach, and in the act of landing, whether under oars or sail, to turn the boat's bow half round towards the direction from which the surf is running, so that she may be thrown on her broadside up the beach, where abundance of help is usually at hand to haul her as quickly as possible out of the reach of the sea. In such situations, we believe, it is nowhere the practice to back a boat in stern foremost under oars, but to row in under full speed as above described.

IV. *Boarding a Wreck, or a Vessel, under Sail, or at Anchor, in a Heavy Sea.*

The circumstances under which life-boats or other boats have to board vessels, whether stranded or at anchor, or under way, are so various that it would be impossible to draw up any general rule for guidance. Nearly everything must depend on the skill, judgment, and presence of mind of the coxswain or officer in charge of the boat, who will often have those qualities taxed to the utmost, as undoubtedly the operation of boarding a vessel in a heavy sea or surf is frequently one of extreme danger.

It will be scarcely necessary to state that, whenever practicable, a vessel, whether stranded or afloat, should be boarded to leeward, as the principal dangers to be guarded against must be the violent col-

lision of the boat against the vessel; or her swamping or upsetting by the rebound of the sea, or by its irregular direction on coming in contact with the vessel's side; and the greater violence of the sea on the windward side is much more likely to cause such accidents. The danger must, of course, also be still further increased when the vessel is aground and the sea breaking over her. The chief danger to be apprehended on boarding a stranded vessel on the lee side, if broad-side to the sea, is the falling of the masts; or if they have been previously carried away, the damage or destruction of the boat amongst the floating spars and gear alongside. It may therefore, under such circumstances, be often necessary to take a wrecked crew into a life-boat from the bow or stern; otherwise a rowing-boat, proceeding from a lee shore to a wreck, by keeping under the vessel's lee, may use her as a breakwater, and thus go off in comparatively smooth water, or be at least shielded from the worst of the sea. This is, accordingly, the usual practice in the rowing life-boats around the United Kingdom. The larger sailing life-boats, chiefly on the Norfolk and Suffolk coasts, which go off to wrecks on outlying shoals, are, however, usually anchored to windward of stranded vessels, and then veered down to 100 or 150 fathoms of cable, until near enough to throw a line on board. The greatest care under these circumstances has, of course, to be taken to prevent actual contact between the boat and the ship; and the crew of the latter have sometimes to jump overboard, and to be hauled to the boat by ropes.

In every case of boarding a wreck or a vessel at sea, it is important that the lines by which a boat is made fast to the vessel should be of sufficient length to allow of her rising or falling freely with the sea; and every rope should be kept in hand ready to cut or slip it in a moment if necessary. On wrecked persons or other passengers being taken into a boat in a sea way, they should be placed on the thwarts in equal numbers on either side, and be made to sit down. All crowding or rushing headlong into the boat should be prevented as far as possible; and the Captain of the ship, if a wreck, should be called on to remain on board to preserve order until every other person had left her.

EXTRACTS FROM A CIRCULAR ISSUED BY THE ROYAL NATIONAL LIFE-BOAT INSTITUTION OF ENGLAND.

INSTRUCTIONS FOR SAVING DROWNING PERSONS BY SWIMMING TO THEIR RELIEF.

1. When you approach a person drowning in the water, assure him, with a loud and firm voice, that he is safe.

2. Before jumping in to save him, divest yourself as far and as quickly as possible of all clothes; tear them off, if necessary; but if there is not time, loose at all events the foot of your drawers if they are tied, as, if you do not do so, they fill with water and drag you.

3. On swimming to a person in the sea, if he be struggling, do not seize him then, but keep off for a few seconds till he gets quiet, for it is sheer madness to take hold of a man when he is struggling in the water, and if you do you run a great risk.

4. Then get close to him and take fast hold of the hair of his head, turn him as quickly as possible on to his back, give him a sudden pull, and this will cause him to float, then throw yourself on your back also and swim for the shore, both hands having hold of his hair, you on your back and he also on his, and of course his back to your stomach. In this way you will get sooner and safer ashore than by any other means, and you can easily thus swim with two or three persons; the writer has even, as an experiment, done it with four, and gone with them forty or fifty yards in the sea. One great advantage of this method is that it enables you to keep your head up, and also to hold the person's head up you are trying to save. It is of primary importance that you take fast hold of the hair and throw both the person and yourself on your backs. After many experiments it is usually found preferable to all other methods. You can in this manner float nearly as long as you please, or until a boat or other help can be obtained.

5. It is believed there is no such thing as a *death-grasp*; at least it is very unusual to witness it. As soon as a drowning man begins to get feeble and to lose his recollection, he gradually slackens his hold until he quits it altogether. No apprehension need, therefore, be felt on that head when attempting to rescue a drowning person.

6. After a person has sunk to the bottom, if the water be smooth, the exact position where the body lies may be known by the air bubbles, which will occasionally rise to the surface, allowance being of course made for the motion of the water, if in a tide-way or stream,

which will have carried the bubbles out of a perpendicular course **in** rising to the surface. A body may be often regained from the **bottom**, before too late for recovery, by diving for it in the direction indicated by these bubbles.

7. On rescuing a person by diving to the bottom, the hair of *the* head should be seized by one hand only, and the other used in **con-**junction with the feet, in raising yourself and the drowning person to the surface.

8. If in the sea, it may sometimes be a great error to try to get to land. If there be a strong "outsetting" tide, and you are swimming either by yourself, or having hold of a person who cannot swim, **then** get on to your back and float till help comes. Many a man exhausts himself by stemming the billows for the shore on a back-going tide, and sinks in the effort, when, if he had floated, a boat or other aid might have been obtained.

9. These instructions apply alike to all circumstances, whether as regards the roughest sea or smooth water.

DIRECTIONS FOR RESTORING THE APPARENTLY DROWNED.

The leading principles of the following directions for the restoration of the apparently dead from drowning are founded on those of the late Dr. MARSHALL HALL, combined with those of Dr. H. R. SILVESTER, and are the result of extensive inquiries which were made by the Institution in 1863-'64 amongst medical men, medical bodies, and coroners throughout the United Kingdom. These directions have been extensively circulated by the Institution throughout the United Kingdom and in the colonies. They are also in use in Her Majesty's fleet, in the coastguard service, and at all the stations of the British army at home and abroad.

I. Send immediately for medical assistance, blankets, and dry clothing, but proceed to treat the patient *instantly* on the spot, in the open air, with the face downward, whether on shore or afloat; exposing the face, neck, and chest to the wind, except in severe weather, and removing all tight clothing from the neck and chest, especially the braces.

The points to be aimed at are, first and *immediately*, the RESTORATION OF BREATHING; and, secondly, after breathing is restored, the PROMOTION OF WARMTH AND CIRCULATION.

The efforts to *restore Breathing* must be commenced immediately and energetically, and persevered in for one or two hours, or until a medical man has pronounced that life is extinct. Efforts to promote *Warmth*

and *Circulation*, beyond removing the wet clothes and drying the skin, must not be made until the first appearance of natural breathing. For if circulation of the blood be induced before breathing has recommenced, the restoration to life will be endangered.

II. TO RESTORE BREATHING.—*To Clear the Throat*—Place the patient on the floor or ground with the face downwards, and one of the arms under the forehead, in which position all fluids will more readily escape by the mouth, and the tongue itself will fall forward, leaving the entrance into the windpipe free. Assist this operation by wiping and cleansing the mouth.

If satisfactory breathing commences, use the treatment described below to promote warmth. If there be only slight breathing—or no breathing—or if the breathing fail, then—

To Excite Breathing—Turn the patient well and instantly on the side, supporting the head, and—

1.—*Inspiration.*



Excite the nostrils with snuff, hartshorn, and smelling salts, or tickle the throat with a feather, &c., if they are at hand. Rub the chest and face warm, and dash cold water, or cold and hot water alternately, on them.

If there be no success, lose not a moment, but instantly—

To Imitate Breathing—Replace the patient on the face, raising and supporting the chest well on a folded coat or other article of dress.

Turn the body very gently on the side and a little beyond, and then briskly on the face, back again; repeating these measures cautiously, efficiently, and perseveringly, about fifteen times in the minute, or once

every four or five seconds, occasionally varying the side. (*By placing the patient on the chest, the weight of the body forces the air out; when turned on the side, this pressure is removed, and air enters the chest.*)

On each occasion that the body is replaced on the face, make uniform but efficient pressure with brisk movement on the back between and below the shoulder-blades or bones on each side, removing the pressure immediately before turning the body on the side.

2.—*Expiration.*



The foregoing two Illustrations show the position of the body during the employment of Dr. Marshall Hall's Method of Inducing Respiration.

During the whole of the operations let one person attend solely to the movements of the head, and of the arm placed under it. (*The first measure increases the Expiration—the second commences Inspiration.*)

. The result is *Respiration* or *Natural Breathing*—and if not too late, *Life*.

Whilst the above operations are being proceeded with, dry the hands and feet; and as soon as dry clothing or blankets can be procured, strip the body and cover, or gradually reclothe it, but taking care not to interfere with the efforts to restore breathing.

III. Should these efforts not prove successful in the course of from two to five minutes, proceed to imitate breathing by Dr. SILVESTER'S method, as follows:

Place the patient on the back on a flat surface, inclined a little upwards from the feet; raise and support the head and shoulders on a small firm cushion, or folded article of dress placed under the shoulder blades.

Draw forward the patient's tongue, and keep it projecting beyond the lips; an elastic band over the tongue and under the chin will answer

this purpose, or a piece of string or tape may be tied round them, or by raising the lower jaw the teeth may be made to retain the tongue in that position.

To Imitate the Movements of Breathing—Standing at the patient's head, grasp the arms just above the elbows, and draw the arms gently and

1.—*Inspiration.*



steadily upwards above the head, and *keep them stretched upwards* for about two seconds. (*By this means air is drawn into the lungs.*) Then turn down the patient's arms, and press them gently and firmly for

2.—*Expiration.*



The foregoing two Illustrations show the position of the body during the employment of Dr. Silvester's Method of Inducing Respiration.

about two seconds against the sides of the chest. (*By this means air is pressed out of the lungs.*)

Repeat these measures alternately, deliberately, and perseveringly, about fifteen times in a minute, until a spontaneous effort to respire is

perceived, immediately upon which cease to imitate the movements of breathing, and proceed to INDUCE CIRCULATION AND WARMTH.

IV. TREATMENT AFTER NATURAL BREATHING HAS BEEN RESTORED. *To Promote Warmth and Circulation*—Commence rubbing the limbs upwards, with firm grasping pressure and energy, using handkerchiefs, flannels, &c. (*By this measure the blood is propelled along the veins towards the heart.*)

The friction must be continued under the blanket or over the dry clothing.

Promote the warmth of the body by the application of hot flannels bottles, or bladders of hot water, heated bricks, &c., to the pit of the stomach, the arm-pits, between the thighs, and to the soles of the feet.

If the patient has been carried to a house after respiration has been restored, be careful to let the air play freely about the room.

On the restoration of life, a teaspoonful of warm water should be given; and then, if the power of swallowing has returned, small quantities of wine, warm brandy and water, or coffee, should be administered. The patient should be kept in bed and a disposition to sleep encouraged.

GENERAL OBSERVATIONS.

The above treatment should be persevered in for some hours, as it is an erroneous opinion that persons are irrecoverable, because life does not soon make its appearance, persons having been restored after means have been persevered in for many hours.

Appearances which generally accompany death.

Breathing and the heart's action cease entirely; the eye-lids are generally half-closed; the pupils dilated; the jaws clenched; the fingers semi-contracted; the tongue approaches to the under edges of the lips, and these, as well as the nostrils, are covered with a frothy mucus. Coldness and pallor of surface increase.

Cautions.

Prevent unnecessary crowding of persons round the body, especially if in an apartment.

Avoid rough usage, and do not allow the body to remain on the back unless the tongue is secured.

Under no circumstances hold the body up by the feet.

On no account place the body in a warm bath, unless under medical direction, and even then it should only be employed as a momentary excitant.

F O R M S.

FORM 1.

UNITED STATES LIFE-SAVING SERVICE.

Instructions for keeping Journal for United States Life-Saving Stations.

A book 9 inches wide, 12 inches long, 200 pages, with the following printed on 1st page:

The journal must embrace all occurrences relating to the service, in the following order:

1. Day of the week, date and name of month, and the year.
2. State of the weather; direction and force of the wind, whether gale, fresh or moderate breeze, or calm. (These to be noted at sunrise, noon, sunset, and midnight.)
3. Number of persons belonging to station present, and number absent, with name of absentee and cause of absence.
4. Number and kind of vessels passing the station, in either direction, during the day.
5. If a wreck occurs, a full description of the same, according to Form 3, must be entered, stating all the circumstances and the proceedings of the crew of the station.
6. Nature of the surf for the day.
7. Expenditures of supplies.
8. Damage done to boats or other apparatus.
9. Whether house has been opened for ventilation.
10. Names and complete description of all deceased persons and circumstances under which found.
11. Whether the patrol was kept previous night, and names of the patrolmen for the night.
12. All transactions or occurrences relating to house or service.

The journal will be written up every day and signed by the keeper.

FORM 2.

UNITED STATES LIFE-SAVING SERVICE.

Articles of Engagement for Surfmén.

We, the subscribers, do, and each of us doth, hereby agree with ———, Keeper of Life-Saving Station No. ———, District No. ———, on the coast of ———, in the Life-Saving Service of the United States, in manner and form following, that is to say:

In the first place, we do hereby agree, in consideration of the monthly wages against each of our names hereunto set, payable at such times and in such proportions as are or may be prescribed by the Secretary of the Treasury of the United States, to enter into the Life-Saving Service of the United States, for the term of one year unless sooner discharged by the order of the Secretary of the Treasury, and to repair to Station No. —, District No. —, on the coast of —, by the 1st of December, 18—, and remain there for — months, that is to say, during the months of December, 18—, and January, February, March, and —, 18—, or in due and seasonable time after the date of our engagement, to remain until the 1st day of —, 18—, and during that time, unless sooner discharged by proper authority, to the utmost of our power and ability, respectively, to discharge our several duties, and in everything to be conformable and obedient to the lawful commands of the officers who may, from time to time, be placed over us.

Secondly. We do, also, oblige and subject ourselves, and for that purpose do hereby covenant and agree to serve during the term aforesaid, and to comply with and be subject to such rules and discipline as are or may be established for the government of the Life-Saving Service of the United States.

Thirdly. The said _____, for and in behalf of the United States, doth hereby covenant and agree to and with the parties who have hereunto severally signed their names, and each of them, respectively, that the said parties shall be paid, in consideration of their services, the amount per month which, in the column hereunto annexed, is set opposite to each of their names, respectively, at such times and in such proportions as are or may be allowed by the General Instructions for the government of the Life-Saving Service.

Names.	Date of entry.	Term.	In what capacity.	Pay per month.		Remarks.
				Dollars.	Cents.	

_____, *Keeper.*

FORM 3.

UNITED STATES LIFE-SAVING SERVICE.

Wreck Report, Station No. —, District No. —.

Date: —, 187 .

- | | |
|---|-----|
| 1. Name of vessel, hailing port, and nationality. | 1. |
| 2. Name of master, and names of owners. | 2. |
| 3. Rig and tonnage. | 3. |
| 4. Number of crew and persons on board. | 4. |
| 5. Where from and where bound. | 5. |
| 6. Cargo. | 6. |
| 7. Estimated value of vessel. | 7. |
| 8. Estimated value of cargo. | 8. |
| 9. Wind, weather, and state of sea. | 9. |
| 10. Time of day and state of the tide. | 10. |
| 11. Exact spot where wrecked. | 11. |
| 12. Supposed cause of wreck. | 12. |
| 13. Whether total wreck, stranded, or sunk. | 13. |
| 14. Time of launching boat, raft, or life-car. | 14. |
| 15. Time of reaching wreck. | 15. |
| 16. Time of return from wreck. | 16. |
| 17. Whether mortar or rockets used. | 17. |
| 18. Number of shot or rockets used. | 18. |
| 19. Number of trips of boat, raft, or car. | 19. |
| 20. State damage, if any, done to boat or apparatus. | 20. |
| 21. Number of lives saved, with names and residence. | 21. |
| 22. Number of lives lost, with names and residence. | 22. |
| 23. Whether vessel saved or lost; if saved, estimated amount of damage she received. | 23. |
| 24. Estimated value of cargo saved, and its condition. | 24. |
| 25. Estimated value of cargo lost. | 25. |
| 26. Number of persons afforded shelter in house, and for what length of time. | 26. |
| 27. Number and names of persons resuscitated from apparent death by drowning or exposure to cold. | 27. |
| 28. Number of persons found after death and cared for. | 28. |
| 29. Remarks. (All particulars not included in the above list will be here stated.) | 29. |

—, Keeper.

NOTE.—Two copies of the above to be filled up and sent to the Superintendent, who will forward one to the Inspector. Copy to be entered upon the Journal.

FORM 4.

UNITED STATES LIFE-SAVING SERVICE.

Quarterly Report from Station No. ———, District No. ———, for the quarter ending
———, 18—.

1. Date of exercising boat and apparatus.	1.
2. State of the wind, weather, and sea.	2.
3. Length of time the boat, raft, or car was out.	3.
4. Number of crew present.	4.
5. Number of times the mortar or rockets were fired.	5.
6. Length of line thrown by mortar or rocket, and how accurately.	6.
7. Proficiency of crew in use of apparatus.	7.
8. General performance of the apparatus and condition of station.	8.
9. What repairs, supplies, or outfits are needed, or defects to be made good, in boat, carriage, house, or gear, with estimate of cost.	9.
10. Have the crew been paid for exercising?	10.
11. Are all the instructions posted up in the boat-house and is the journal properly kept?	11.
12. Has the ventilation of the house been carefully attended to during the quarter?	12.
13. Remarks.	13.

———, Superintendent.

FORM 5.

UNITED STATES LIFE-SAVING SERVICE.

Requisition.

To _____,

_____, 18—.

Secretary of the Treasury:

There are required for the use of Station No. —, District No. —, Coast of —, the following articles, the same being necessary for the public service:

Very respectfully,

_____,

Superintendent.

APPROVED:

_____,

Inspector.

RECEIVED, _____, 18—, the above-named articles in good order and condition, for use at Station No. —.

Keeper.

REVENUE MARINE.

FORM 6.

UNITED STATES LIFE-SAVING SERVICE.

DISTRICT No. —.

Quarterly Estimate for Funds for Life-Saving Service, Coast of —.

The following sums are required by —, Superintendent of Life-Saving Stations in District No. —, to defray the expenses of the Life-Saving Service in said District for the Quarter ending —, 187—, viz:

No.	How employed.	Rate.	Amount.	Total.
	Superintendent.....	\$ per qr.....	\$	\$
	Keepers	\$ per qr.....		
	Surfmen.....	\$ per month.....		
	Keepers } For drill and exercise.....	\$ each.....		
	Surfmen }	\$ each.....		
	Travelling expenses, attending drill and exercise.....	10 cents per mile		
	Repairs— Authorized by letter of — .....	.....	
	Supplies— Authorized by letter of — .....	.....	
	Fuel— Authorized by letter of — .....	.....	
	Amount required.....		\$	\$

APPROVED:

—, Inspector.

—, 187—.

Superintendent Life-Saving Stations, District No. —.

TO SECRETARY OF THE TREASURY,
Washington, D. C.

FORM 9.

UNITED STATES LIFE-SAVING SERVICE.

Inventory of Public Property at Station No. —, District No. —.

Articles.	Quantities.	Condition.	Articles.	Quantities.	Condition.
Anchor			Detonating tubes		
Anchor, boat.....			Falls, manila, 2½-inch.....		
Anchor, sand			Falls, manila, 2½-inch.....		
Augers			Forks		
Axes.....			Forks, carving		
Bags, for coal.....			Files, hand-saw.....		
Balls, mortar.....			Flask, for spirits.....		
Blankets			Gimlet.....		
Blocks, double, 12-inch.....			Grindstone, 14 by 16, wood box.....		
Blocks, double and single, 8-inch.....			Gridiron.....		
Blocks, assorted.....			Hand cart.....		
Boat, metallic.....			Hand grapnel and warp.....		
Boat, cedar.....			Hand mallet		
Boat carriage			Hand-saw.....		
Boat hooks, double.....			Halliards, signal.....		
Boat hooks, double and warp.....			Hammers, claw.....		
Boat grapnel.....			Hatchets		
Boat hatchet.....			Hauling line, 2½-inch		
Boat drag.....			Hauling line, 3-inch.....		
Books, blank			Hawsers, 3½-inch		
Books, receipt and expenditure...			Hawsers, 4-inch.....		
Breeches buoy.....			Hawsers, 4½-inch.....		
Buckets, rubber			Haversacks, rubber.....		
Buckets, water			Hand-lights		
Brooms, corn.....			Inkstand		
Brads, 1½-inch			Ink.....		
Bull's eye and strap.....			Jack-plane.....		
Bolsters			Journal.....		
Calking irons, boat			Kettle, tea.....		
Camp stools.....			Knives		
Cans, oil			Knife, carving.....		
Cans, iron, mess.....			Ladders, 24 feet		
Cans, tin, mess.....			Lanterns, signal		
Chairs.....			Lanterns, globe.....		
Chisels			Lanterns, dark, of brass.....		
Chests.....			Lamp wick.....		
Clothes hooks			Lamp feeder.....		
Coal hod and shovel.....			Life car.....		
Coal			Life raft.....		
Cots.....			Life preservers		
Comforters.....			Line boxes.....		
Crotch			Lead, red		
Coffee pot.....			Lead, white.....		
Coffee can.....			Manila, 9-thread		
Cork jackets.....					
Cups, tin.....					

6 R M

FORM 9—Continued.

Articles.	Quantities.	Condition.	Articles.	Quantities.	Condition.
Manila, 12-thread			Patent dryer.....		
Magazine, copper.....			Priming wires.....		
Mallets.....			Primers, friction.....		
Marline			Quick matches.....		
Marline-spike			Raft		
Marine glasses			Rockets, line.....		
Match safe.....			Rockets, signal		
Match staves			Rocket frame.....		
Match rope.....			Rocket staves.....		
Match range.....			Rocket pins.....		
Medicine chest			Rocket washers.....		
Monkey-wrench			Rocket wire.....		
Mortar and bed.....			Rocket range.....		
Manila, 3-inch.....			Rubber cloth.....		
Manila, 2½-inch.....			Reel for shot-line.....		
Manila, 2¼-inch.....			Rubber suits, (Merriman's).....		
Manila, 2-inch.....					
Mattresses.....			Spun yarn.....		
Nails, galvanized.....			Stove and fixtures		
Nails, assorted.....			Shovels		
Nails, boat.....			Signal lights.....		
Nippers.....			Shot		
Needles, sail.....			Shot wires		
Oars, assorted			Shot hooks		
Oakum			Shot lines, 500 yards.....		
Oil, lamp.....			Speaking trumpet.....		
Oil, linseed			Sponges.....		
Oil, signal.....			Sand paper.....		
Powder, pounds of.			Signal flags.....		
Powder magazine.....			Skids		
Powder flask.....			Spoons, iron, large.....		
Paint, Crockett's.....			Spoons, iron, small		
Paint brushes.....			Sauce pan, 1-gallon.....		
Palms, sailors'.....			Straps, galvanized iron		
Paper					
Pens, steel.....			Tarpaulin		
Penholders			Tacks, galvanized iron.....		
Pans, dish.....			Tackles		
Pans, tin.....			Tally-boards		
Pans, dust.....			Tent pegs.....		
Plates, tin.....			Turpentine, quarts of.....		
Pillows			Tin can, for quick matches.....		
Pliers.....			Twine, hemp.....		
Pickaxe			Trigger lines.....		
Port-fires					
Port-fire staff			Water pail, galvanized.....		
Pole.....			White lead.....		
Putty			Wrench, boat carriage.....		
			Wood.....		
			Zinc.....		

Received from ———, the foregoing articles and outfits, this ——— day of ———, 187—.

—————, Keeper.

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