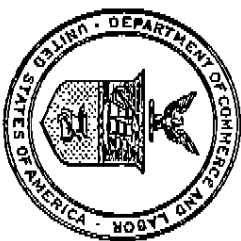


REPORT

OF THE

UNITED STATES COMMISSION OF INVESTIGATION UPON
THE DISASTER TO THE STEAMER
"GENERAL SLOCUM."

OCTOBER 8, 1904.



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LETTER OF THE PRESIDENT TO THE SECRETARY OF,
COMMERCE AND LABOR.

WHITE HOUSE,

Washington, October 19, 1904.

Mr Dear Sir: I have received the report of the "Commission of the United States on the Investigation of the *General Slocum* Disaster," and the report of the Department of Justice of October 12th, recapitulating what has been done by the Department of Justice in connection with the criminal proceedings taken against various individuals because of their connection with the disaster. I send you herewith both reports. Punitive action by the Government can of course only take two forms: One, that of legal proceedings against those either within or without the Service, and two, removal from office of those within the Service. It appears that the Department of Justice has already secured indictments against the master and captain of the *Slocum* and against the managing directors of the Knickerbocker Steamboat Company, to which company the *Slocum* belonged, for misconduct, negligence, and intention to duty by the captain, and for aiding and abetting therein by the managing directors. Furthermore the Department of Justice has secured indictments against Henry Lundberg and John W. Fleming, the assistant inspectors of the Steamboat-Inspection Service who actually inspected the *Slocum*, for fraud, misconduct, and intention to duty. Lundberg had been appointed merely on probation in the Service, and has been dropped. There can, of course, be no further action taken about Fleming until his trial has been finished; although it does not follow that an acquittal would prevent the Department from discharging him from the Service. In addition, the Department of Justice has secured the indictment of the manager and three employees of the Nonpareil Cork Works, of Camden, N. J., for putting upon the market compressed-cork blocks for use in making life-preservers, each of which blocks

contained in its center a piece of bar-iron weighing several ounces. This last offense was of so heinous a character that it is difficult to comment upon it with proper self-restraint. It appears that the national legislature has never enacted a law providing in set terms for the punishment of this particular species of infamy, doubtless because it never entered the head of any man that so gross an infamy could be perpetrated. I suggest that you report this whole matter to Congress, transmitting these two reports, and at that time calling special attention to the need of imposing an adequate penalty for the making or selling of defective life-saving appliances.

So much for what the Department of Justice has done in reference to the disaster. But in addition to the men put on trial by the Department of Justice, action should be taken against those employees whose responsibility for the state of things producing the accident has been brought out in the report of the Commission. According to this report it appears that in addition to the two assistant inspectors who are now on trial, the Supervising Inspector of the Second District, Mr. Rodie, and the two Local Inspectors of the Port of New York, Messrs. Dumont and Barrett, should all three be removed for laxity and neglect in performing their duties. As regards the conduct of Mr. Rodie, Mr. Uhler dissents from the conclusions of the four other commissioners. I agree with the conclusions of the other four. Laxity and neglect, where the consequences may be so terrible as they have proved to be in this case, can not be passed over even where there has been good conduct in other respects on the part of the man implicated. Accordingly the three officials named will be removed from the Service. Moreover, you will please direct their successors in office at once to conduct a thorough examination of the entire inspection force of the Port of New York, with the object of weeding out all the men whom such examination shall show to be unfitted to perform the very arduous and responsible duties of their positions. The Supervising Inspector-General has at present no headquarters force of special agents, so that it is undoubtedly very difficult for him to exercise any adequate and direct supervision over the various local divisions of the inspection service. In each division he must rely chiefly on the fidelity and energy of the local heads; and if these fail to perform their duty they must be held accountable. He must, however, exercise as thorough a supervision as the means at his disposal

allow. In order that I may be informed as to the exact condition of the Service in all its parts, I direct you to order a searching investigation, in continuance of the investigation of the Commission, into the conduct of the central office and of every outside subdivision of the Service save that in New York.

You will also make such changes in the regulations as are recommended by the Commission, and you will therefore call a special meeting of the Board of Supervising Inspectors for this purpose. You will also lay before the Congress a request that the law be changed in the various particulars recommended by the Commission. I wish particular emphasis laid upon the proposal of the Commission that there be created by law a special body thoroughly to investigate the laws which are supposed to provide for the safety of passengers on steamboats, especially on excursion boats, where the prime causes of danger are the overcrowding and the flimsy and highly inflammable character of the superstructures.

Very truly yours,

THEODORE ROOSEVELT.

Hon. V. H. MERRILL,
Secretary of Commerce and Labor.

Report of United States Commission of Investigation Upon the Disaster to the Steamer "General Slocum."

CHAPTER I.—APPOINTMENT AND PROCEEDINGS OF THE COMMISSION.

On June 23, 1904, the Federal Commission of Investigation upon the disaster to the steamer *General Slocum* was formed by the appointment, as members of the Commission, from the Department of Commerce and Labor, of Lawrence O. Murray, Assistant Secretary of Commerce and Labor, Herbert Knox Smith, Deputy Commissioner of Corporations, and George Uhler, Supervising Inspector-General of the Steamboat-Inspection Service; from the War Department, of Brig. Gen. John M. Wilson, U. S. Army, retired; and from the Navy Department, of Commander Cameron McR. Winslow, U. S. Navy. Mr. Murray was appointed chairman of the Commission. The nature of its work was defined in the following order:

DEPARTMENT OF COMMERCE AND LABOR,
OFFICE OF THE SECRETARY,

Washington, June 23, 1904.

GENTLEMEN: You are hereby authorized and instructed to make a careful and thorough investigation, of the disaster to the steamer *General Slocum*, occurring in New York Harbor, June 15, 1904, of the cause or causes thereof, and all the facts and circumstances therewith connected.

You will also, as your discretion dictates, take up and investigate such other matters bearing upon the safety of passenger traffic upon the navigable waters of the United States, and the conditions thereof, as may be brought to your attention by such investigation.

And upon all of the matters so considered by you you will make full report, accompanying such report by recommendations for such departmental or legislative action as you may deem to be required for the better protection of the life and property concerned in such traffic.

Very respectfully,

Geo. B. COCHRAN,
Secretary.

The United States Commission of Investigation
on the "General Slocum" Disaster.

On June 23, 1904, the Commission met in Washington. Mr. Smith was chosen secretary. Arrangements were made for hearings and the procuring of evidence.

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On July 19 the Commission began its hearings at No. 17 Battery place, Whitehall Building, New York City. It was impracticable to begin hearings earlier, inasmuch as many of the necessary witnesses were engaged, previous to this date, in testifying either before the New York coroner or before the Federal grand jury in New York City. The Commission continued to take testimony in New York from July 19 until August 2, and returned to Washington August 3.

On September 15 the Commission again met at the Whitehall Building in New York City for the purpose of completing the evidence in relation to the work of the reinspection of steamers, this reinspection having been only partially completed at the time of the last meeting of the Commission in that city. After taking testimony on September 15, 16, 17, and 19 on this and other subjects, the Commission adjourned on September 19 and proceeded to Washington.

On September 23 and 24 the Commission took further evidence at the Whitehall Building aforesaid, in New York, and on September 26 at Ward's Island, New York, and again at the said Whitehall Building on September 27. The testimony was concluded by a hearing in Washington on October 4.

The testimony taken in the case covered about 2,000 typewritten pages and included more than 40 exhibits. There was also involved the consideration of a very large number of statutes and of rules and regulations and the procuring of expert tests of numerous articles. The formulation of the results of such tests and the reduction of the statistics of the reinspection to the shape of percentages, after verifying the same with the records of the office, required considerable time and care. The Commission was wholly without any compulsory powers to enforce the attendance of witnesses or the production of evidence, and was obliged to rely wholly upon the public spirit and courtesy of those whose testimony was desired. This state of affairs proved at times a serious hindrance to the progress of the work.

CHAPTER II.—THE DISASTER.

RECORD OF THE VESSEL.

The passenger steamer *General Stocon* was built in 1891, the hull by Derive Burris, the engines by W. & A. Fletcher Company, of Hoboken, and the upper works by John E. Hoffmire & Son, No. 808 Fifth street, New York City. She was never rebuilt. Home port, New York. Route, "bay and harbor of New York and rivers tributary thereto, Long Island Sound, and coastwise between Rockaway Inlet and Long Branch." The vessel was owned by the Knickerbocker Steamboat Company of New York. Licensed to carry 2,500 passengers. Enrollment No. 262. Master, William H. Van Schmeck. She was last inspected by United States Assistant Hull Inspector Henry Lundberg and Assistant Boiler Inspector John W. Fleming, May 6, 1904, the vessel being then out of commission. Last previous inspection, May 15, 1903. The certificate of inspection current at the time of the disaster was issued May 6, 1904, by James A. Dunmont, inspector of hulls, and Thomas H. Barrett, inspector of boilers, the board of local inspectors at the port of New York.

During the first part of the season and until about the end of June the steamer was usually open to charters or special excursions, being chartered for a hump sun under a regular contract, for the remainder of the season she was usually run on the "Rockaway route," so called, carrying so much per passenger.

The Knickerbocker Steamboat Company, her owner, is a New York corporation. President, Frank A. Barnaby; secretary, James K. Atkinson; treasurer, Frank G. Dexter; directors, Frank A. Barnaby, Frank G. Dexter, Robert K. Story, James K. Atkinson, C. De laey Evans, Floyd S. Corbin, and Charles E. Hill. Capital stock, \$250,000. Bonds, \$140,000. The company has paid no dividends for at least the last six years. The company owned two vessels, the *General Stocon* and the *General Republic*. Captain Pease, of the *General Republic*, was the port captain of the company.

DESCRIPTION OF THE VESSEL.

The *General Stocon* was a paddle-wheel excursion steamer with walking-beam engine, and was practically entirely of wooden construction. Length, 250 feet; draft, about 7½ feet of water without

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load. Probably at the time of the accident the vessel was drawing from 8 to 8½ feet.

The vessel had three decks, namely, main, promenade, and hurricane deck. Below the main deck, starting from the bow, there was a small compartment separated from the next compartment aft by a light wooden bulkhead. In the second compartment immediately abaft this bulkhead were the crew's quarters, fitted with bunks, and separated from the next compartment aft by a wooden bulkhead with light pine and light iron sheathing, the iron being on the forward side. In the said second compartment was a hatch and ladder leading to the main deck.

The third compartment from forward was the "forward cabin," which also had a companionway leading to the main deck. This compartment was quite a large one, and was separated from the compartment forward and from the space allotted to the engines and boilers immediately abaft by wooden bulkheads. While this compartment was originally intended as a forward cabin, it had been utilized in late years as a storeroom and lamp room, and also contained the steering engine and dynamo. Abaft the engines and boilers was another saloon or cabin, separated from the engine and boiler space by a wooden bulkhead. All these compartments below the main deck had air ports. Communication with this after-saloon was by a broad staircase from the main deck. This main deck was inclosed by light woodwork and windows from a point just forward of the companionway leading into the forward cabin to the stern of the boat. Forward of the said companionway was a wooden bulkhead extending across the deck from the main deck to the promenade deck and fitted with windows and sliding doors. Outside of the inclosed part of the main deck forward and abaft the paddle wheels were the usual guards common to steamers of this class.

The next deck above (the promenade) was a wooden deck extending the full length of the vessel and supported by wooden stanchions from the main deck. Communication from the main deck to the promenade deck was by four stairways, two abaft the paddle wheels, one on each side of the vessel, and two forward of the paddle wheels, one on each side. This promenade deck was entirely open except a small distance amidships, where it was inclosed by wooden bulkheads having windows.

The hurricane deck extended the full length of the vessel, and communication between this deck and the promenade deck was by one stairway amidships, abaft the paddle wheels near the stern of the vessel, and by a stairway on either side a short distance forward of the paddle wheels and about abreast of the smoke pipes. On this deck the lifeboats and life rafts were stowed.

Above this deck forward was a pilot house having a door on the port side, and immediately abaft the pilot house there was a stateroom.

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All the upper works of this vessel were constructed of light wood, and had been painted and varnished many times, and were, therefore, in a highly inflammable condition. In the construction of the vessel there were no safeguards against fire other than compliance with the regulations as regards the proximity of woodwork to boilers. The vessel had no fireproof hatches or bulkheads, and was built entirely of wood. Over the hatchway on the main deck, above the compartment where the fire originated, was a companionway of very light wooden construction and highly inflammable, which led to the promenade deck above. On the after-side of this companionway was the mouthpiece of the speaking tube which communicated with the pilot house.

The *General Slocum* was a vessel built to carry a large number of excursionists (2,500 allowed by law), and in her design there was apparently no consideration whatever given to the question of inflammability. In such a vessel a fire, once having obtained fair headway, could not be controlled, and the vessel would be quickly consumed, as exemplified in the case of the *General Slocum*. There are many similar vessels doing service in the waters of the United States, the construction of which is quite as dangerous as that of the *Slocum*, and unless this kind of construction shall be prohibited or modified by law the safety of a large number of passengers carried by excursion steamers and steamers plying on the inland waters of the United States can not be assured.

NARRATIVE OF THE DISASTER.

The *General Slocum* was chartered for a lamp run by William Pullman, on behalf of St. Mark's Lutheran Evangelical Church, of New York City, for an excursion on June 15, 1904, starting from Third street, East River, the recreation pier, to go to Locust Grove, on the Sound, and return, the charterers to have bar and food privileges on the boat.

The last trip of the vessel before the disaster, to wit, on June 14, 1904, was to Empire Grove, N. Y. Returning from that trip, she tied up that night at the Fifth street dock, North River, New York Harbor. The master, the second pilot, the mate, both engineers, fireman Lee, and some of the crew spent the night on board. Three barrels of bar glasses packed in hay were brought on board that night by the charterers and stowed in the forward cabin.

On the morning of June 15 the decks were washed down with city water from a hydrant on shore. The vessel left Fifth street, North River, about 7 o'clock a. m. June 15, and arrived at the recreation pier, Third street, East River, at 8 a. m., where she took on board the excursionists. She left Third street between 9.30 and 9.40 a. m. June 15, and proceeded up the East River, with the first pilot, Edward Van Wart, at the wheel, and the second pilot, Edwin Weaver,

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in the pilot house with him. The master first came into the pilot house after leaving Third street, shortly before entering Hell Gate, it being his custom to stay in the pilot house while the steamer was going through the Gate. The vessel proceeded up the East River, running on the New York side of Blackwells Island, and then to the southward of Wards Island, passing between the Sunken Meadow and the Middle Ground, and thence in a nearly direct line to the north end of North Brother Island, where she was beached nearly opposite the end of the retaining wall on that side of the island, and so that a number of her passengers got out on the part of the island where there is no retaining wall, but where a bank of ashes runs down to the water. (See map annexed.)

There were on board of her, exclusive of officers and crew, 1,358 passengers. Of these somewhere between 50 and 150 were men over 21 years of age. The evidence on this point was necessarily only an estimate of various witnesses, but the probability is that not over 10 per cent of the passengers were males over 21. The rest were women and children, more children than women. Passengers were located all over the vessel, the promenade deck, where the band was, being more crowded than either of the other decks. Only a few passengers were on the main deck forward of the forward bulkhead.

The fire started in the forward cabin, so called, being the third compartment under the main deck from the bow—and probably originated in a barrel containing packing lay, which was in that compartment—one of the barrels used for bar glasses, and brought on board by the charterers. Fire was probably communicated to this barrel through the carelessness of some unknown person.

This forward cabin was about 30 feet long and 28 feet wide at its after end. Its surface and construction was entirely of wood. It had four air ports, two on each side, 8 or 10 inches in diameter, frequently left open. It was used as a lamp room, where the ship's lights, some fifteen or twenty in number, were kept and filled from oil barrels stored there. A wooden table, consisting of planks laid across a couple of trestles, stood about the middle of the compartment fore-and-aft on the starboard side, and the porter, whose business it was to attend to the lamps, was in the habit of placing a lamp on this table and drawing oil from the oil barrels, which rested in chocks on the floor, into a can, and then filling the lamps as they stood on the table. He usually did this work early in the morning. This cabin was lighted at night by electricity, several electric lights being installed overhead, but the dynamo was never running in the daytime, and light at such time was obtained partly by daylight through the hatchway, and partly by lighted lamps kept in this cabin. This cabin had only one means of entrance, a companionway, wholly of wood, leading down from the main deck on the starboard side, just

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aft of the forward bulkhead, and running athwart ship, so that it landed about the middle of the said cabin fore-and-aft, on the port side. It had an upright sliding door of wood on the starboard side. This door was frequently left open. The stairway was of wood and inclosed in wood, the roof thereof being formed by the wooden stairway directly above it leading from the main deck to the promenade deck. This companionway was vertically under the pilot house. The steering rod from the wheel in the pilot house went directly down to the steam steering gear in the after part of this forward cabin. There were no openings in the bulkheads forming the partitions of the said cabin, and the forward bulkhead thereof was a collision bulkhead. The height of the cabin between decks was about 8 or 9 feet.

This cabin was used as a lamp room, steam steering engine room, and general storage room. At the time of the disaster it contained the steam steering gear; the dynamo; the lamps and table aforesaid; four barrels of oil, to wit, two of cylinder oil, one of mineral sperm, and one of machine oil; also a large number of paint pots or kegs, good and condemned life-preservers, spare paddle buckets, lumber, hawsers, canvas, two bags of charcoal, several barrels of glasses and lay, a lot of camp stools, old hose, and various other ship's stores and rubbish. Considerable oil had been spilled on the deck of this cabin. The crew frequently went there for various reasons, and lighted matches there.

On the morning of the 15th, the colored porter, Walter Payne, went into the said forward cabin about 6.30 a. m., as usual, and filled the vessel's lamps, staying there about half an hour. As there was not sufficient light, he lighted one of the lamps, using a match; blew the match out, "and threw it on the bench." He found, on entering the cabin, an oiler from the engine room working with the steam steering gear and using as a light an open torch. He left this man there with the lighted torch when he went on the deck.

In brief, this forward cabin was in an excessively unsafe condition as regards fire, and the use made of it, taken in connection with such condition, was highly improper and dangerous. The fire certainly started there, and while the exact method by which it started can not be absolutely determined, the facts given above show sufficiently two or three probable causes of the fire, one of which causes was undoubtedly the actual one.

The condition of this cabin, with the purpose for which it was used, constitutes one of the essential facts of negligence contributing to the disaster.

There were available on the main deck for lighting this fire the following facilities: A metal standpipe running horizontally fore-and-aft on the starboard side about 8 feet above the main deck and below the promenade deck, fitted with wheel valves at either end and connected with a good steam fire pump, situated in the crank room amidships on

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the main deck. The forward valve of this standpipe, being the one nearest to the place of origin of the fire, and the one most available for extinguishing said fire, was about 30 feet aft of the entrance to the said forward cabin. This forward valve and standpipe were supplied with a 100-foot length of cheap unlined linen hose, costing probably less than 20 cents a foot, age unknown, but probably several years old. This hose was hung in a coil from one of the carlines just over the forward valve of the said standpipe. The rest of the fire apparatus on the main deck consisted of the after valve of the said standpipe, 2 hand fire pumps, located respectively in the bow and in the stern, and some 20 fire buckets in the forward gangway. None of this remaining apparatus was used, and the fire buckets were empty.

Upon the discovery of the fire by the crew, the so-called mate, Edward Flanagan, after having notified the men in the pilot house, through the main-deck speaking tube, of the existence of the fire, proceeded to the door of the engine room on the starboard side of the main deck, informed the engineer that the boat was on fire, asked for water on the fire line, and then, with two or three of the deck hands, took down the said linen fire hose. Either this hose was at the time already connected with the said forward standpipe or the crew at once connected it, though the former is more probable. The chief engineer went at once to the steam fire pump, which was at that time already in operation in supplying water for the so-called sanitary line for the closets, and turned the water immediately on to the fire line. As soon as the hose was gotten down upon the deck Daniel O'Neill, deck hand, opened the valve of the standpipe forward and turned the water into the hose. The hose having fallen on the deck in a coil, was twisted and kinked, and as soon as it was subjected to water pressure it burst in two or three places, and simultaneously the hose itself was blown off from its own coupling where it was connected with the standpipe, and the water poured out of the standpipe upon several witnesses in that vicinity.

Preponderance of evidence shows that no water came from the nozzle of the hose. One of the deck hands then went for a rubber hose, and attempted to couple it on to the forward standpipe, but failed to do so. While the witnesses themselves could not explain this failure, the cause of it is obvious. One of the exhibits is this forward standpipe with the valve closed and a hose coupling with expansion ring still upon the standpipe. Evidently, when the linen hose blew off from its coupling, the crew failed to remove that old coupling, and in their excitement did not notice its presence there, and were therefore unable to attach the rubber hose. During this work with the hose the deck hands were not interfered with by the passengers, most of whom had gone aft or to the decks above.

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Upon the failure to couple the rubber hose to the forward standpipe, the crew gave up all further attempts to fight the fire and went aft and some of them overboard. There is some evidence that one or two of the crew took down a few life-preservers for the passengers, but very little assistance of this nature was rendered.

Upon notice of the fire, Assistant Engineer Brandow stayed at the engine and Chief Engineer Conklin went to the fire pump, at which posts they remained until they left the vessel. Evidently Brandow did his full duty efficiently and courageously. He was at his post until the vessel was beached, for the engines were kept in motion until a few seconds before striking North Brother Island, when he received first a slow bell and then a stop bell, the two signals coming within perhaps six seconds of each other, and immediately thereafter the vessel struck the shore at almost full speed. It is evident that the wheels must have been burning very shortly before beaching, because of the fact that one body at least was afterward found jammed in the paddle wheel in the top of the paddle box.

According to the testimony of the master before the coroner, and of the two pilots, the master received the first notice of the existence of the fire at the same time with the pilots, while in the pilot house, the vessel being about four lengths to the eastward of Sunken Meadow. The evidence of the pilots is that the master at once ordered full speed ahead, and directed that the vessel be kept on her course; then left the pilot house, proceeded aft, was gone not over half a minute, returned, and directed the pilot, Van Wart, to beach the vessel on North Brother Island; that no discussion or conversation was held as to this order; that the master was not gone long enough to get down to the scene of the fire; and that after his return to the pilot house he remained on the hurricane deck just in front of the pilot house until the boat was beached, and then jumped overboard into shallow water from the bow of the vessel.

The evidence before the Commission establishes the fact that the master made no attempt whatsoever to fight the fire, to examine its condition, or to control, assure, direct, or aid the passengers in any way whatever. It is alleged that he was unable to reach the place where the passengers were by reason of the fire, but this is contradicted by the evidence of many witnesses, and is obviously not true. The pilots testify that immediately upon the return of the master to the pilot house the flames and smoke burst up alongside the pilot house over the hurricane deck on the port side, and furthermore, that they were obliged to put up the windows in the pilot house in order to protect themselves from the heat. They state that after the vessel was beached they went out through the windows of the pilot house and jumped overboard from the bow, making no attempt while

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on board to aid the passengers before saving their own lives. The evidence of the master and the pilots can not, however, be accepted as conclusive, especially on the point of the time when the first notice of the fire was received by them, as it is contradicted in many respects by a number of reliable witnesses, and by the sequence of events, as discussed in detail hereinafter.

An essential fact of negligence is the utter failure of the master to fight the fire or aid the passengers. In a less degree the pilots, in the same manner, after beaching the boat, and while there were still many passengers on board, failed in their duty to assist and rescue the said passengers. Very little assistance was given or control exercised by any of the officers or crew on behalf of the passengers.

FIRST KNOWLEDGE OF FIRE.

One of the most important questions, and one upon which there is also the greatest divergence of testimony, is the question as to the position of the vessel in the stream when the fire was first discovered, and also her position when the men in the pilot house first had knowledge of the existence of fire on board.

In order to show the grounds upon which the conclusion of the Commission in this question rests, it is deemed advisable to review and state somewhat at length the evidence bearing on this point.

There are practically five classes of evidence on this subject to be considered:

(1) That of unprejudiced passengers on the main deck who actually saw the fire at its inception on that deck, and were in a position where their attention *must* have been called at once to the fire itself or to the men working at the hose.

(2) That of deck hands on the main deck, whose testimony may be prejudiced.

(3) That of passengers on other decks, who heard of the fire indirectly and whose testimony involves a very uncertain factor, to wit, the length of time that elapsed in each of these cases before the notice came to them. For instance, a passenger might have been sitting on the promenade deck aft of the paddle boxes and paying attention to other matters, as in the case of one witness who first knew of the fire only about two blocks from North Brother Island.

(4) That of spectators on shore, and on vessels in the vicinity.

(5) That of the man in the pilot house.

The time of the discovery of the fire is to be determined by the evidence of the first reliable witnesses on the main deck *who saw it*. The fact that reliable witnesses on other decks fix the time somewhat later does not necessarily conflict therewith.

Witnesses who refer to specific places and objects are obviously much more reliable than those who refer to mere street numbers along

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the river. The Commission has therefore relied chiefly on evidence that refers to specific places on shore.

As to the main deck: The evidence from the main deck is to the effect that on that deck several passengers knew of the fire at the entrance to Hell Gate; that such knowledge on the main deck became general about this point, and that the mate, Klanning, knew of it after entering Hell Gate and to the westward of Negro Point. (The fact that there is some slight evidence that the fire was discovered several minutes earlier than is above indicated may perhaps be explained on the hypothesis that desultory puffs of smoke might have come up the stairway at an earlier period and were noticed by only a few individuals, but caused no alarm or general knowledge.)

As to the upper decks: It is clear that the testimony of those on the upper decks, away from the fire, must necessarily be widely divergent, and this, as a matter of fact, is so. They received their first notice either directly from the statements of others or by observing the confusion and excitement around them, and such notice might come to one person at a much later time than to another, depending upon his position and what he was doing and his natural alertness of observation. In general, the evidence of the upper decks is to the effect that the first notice of fire on those decks was before passing the middle of Wards Island. Particularly valuable, however, is the testimony of one witness, who was on the hurricane deck aft, and who fixes his first notice of the fire by reference to a marble yard at Astoria. This marble yard is in fact a very conspicuous object, situated near the entrance to Hell Gate. The witness lives at Ninety-third street, is familiar with the locality, and is sure that notice of fire came at about the entrance to Hell Gate (Ninety-second street). After learning of the fire he first spent some time looking for his mother, and then made four trips with pails of water from the hurricane deck to the main deck between the notice of fire and the time he went overboard. The time consumed in searching for his mother and in making these four trips could not have been less than six minutes, and was probably several minutes more, and he jumped overboard before beaching and within two hundred feet of North Brother Island.

This evidence accounts for an interval of at least six minutes between the notice of fire on the hurricane deck and the beaching; and at the speed the vessel was then making over the ground, these six minutes before beaching would place the vessel at least to the westward of the eastern end of Wards Island at the time of the notice of the fire on the hurricane deck. Notice to the pilot house must have been before the notice to passengers on the hurricane deck.

The testimony of those on shore and on vessels in the vicinity in large measure concurs as to the essential fact that they observed the fire when the vessel was between Sunken Meadow and One hundred

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and thirty-second street, which is substantially the same point as that set by the pilot house as to its first notice of the fire. It is to be remembered that *all* these witnesses on the shore were at once impressed with the fact that this steamer was in a desperate condition and started without hesitation in each case to its assistance, which fact indicates that the fire must have been, according to these witnesses, in a much advanced state when they first saw it.

To this should be added the testimony of another witness who was on North Brother Island at the time, to the effect that he saw the fire when the boat was opposite Little Hell Gate (One hundred and fifteenth street, *west* of Sunken Meadow), when the vessel's alarm whistle was *not* blowing, and that at that time he was so impressed with the urgency of the case that he left his work at once and started to the rescue.

A safe conclusion from the testimony of the witnesses on shore and on other vessels is that the fire was well under way and in practical control of the bow and upper deck of the vessel forward at a point six lengths eastward of Sunken Meadow.

It is also indisputable that within a few seconds after the first discovery of the fire on the main deck the mate sent word up the speaking tube to the pilot house that the vessel was on fire, before he took any action as to hose or notified the engine room. This fact is established by his own direct testimony and by the testimony of others, to the effect that his first action was to go to the speaking tube and send the message as to the existence of the fire. It is clear, in fact, that he must of necessity have done this at that time, before beginning to fight the fire, at its inception on the main deck, for it would have been impossible for him to do it afterwards on account of the progress of the flames around the speaking tube, this speaking tube being located directly against the partition of the forward cabin stairway, where the flames first came up.

Reviewing the whole testimony, therefore, the Commission believes that the first discovery of the fire on the main deck was before reaching Wards Island; that the mate Flanagan knew of it at about that time, and to the westward of Negro Point Bluff on Wards Island; and that he at once gave notice to the pilot house of the existence of such fire.

These facts being established, there arises immediately a marked conflict between the testimony of those on the main deck near the origin of the fire and that of the three men in the pilot house.

The three men in the pilot house, to wit, the master and the two pilots, admit the receipt of this notice up the speaking tube; say that it was apparently the voice of the mate talking, and that this was the only notice they received of the fire before seeing the flames; but they are unanimous in fixing the location of the steamer in the stream at

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the time of the receipt of this first notice at a point from four to six lengths to eastward of Sunken Meadow Spindle. In other words, the evidence of the pilot house places the vessel, at the time of the speaking-tube message, at a point from four to six lengths eastward of Sunken Meadow, while the evidence of the main deck, above given, places it between the entrance to Hell Gate and the eastern end of Wards Island.

This establishes a discrepancy between the evidence of the main deck and that of the pilot house of about three-quarters of a mile *in distance*, and *in time*, probably from about three to five minutes, depending on the speed of the boat. The men in the pilot house also say that only two and a half to three minutes elapsed from their first knowledge of the fire until the steamer was beached. They also say that the smoke and flames came up in large volume over the hurricane deck alongside the pilot house within less than a minute after the receipt of the said speaking-tube message. On all these points the evidence of the men in the pilot house is explicit and unanimous.

But the weight of the entire evidence forces the Commission to the belief that these statements of the men in the pilot house as to the time when they first knew of the fire are incorrect, for the following reasons:

(1) Direct testimony.—As found above, the unassailable and unprejudiced testimony of witnesses on the main deck and elsewhere proves that the first discovery of the fire on the main deck, the knowledge of the mate as to the existence of the fire, and the message sent by the mate up the speaking tube to the pilot house all occurred before the vessel reached the eastern end of Wards Island. And as the men in the pilot house admit that they received this message, that it was the only message they received, and that the voice was apparently that of the mate, they must have received this notice of the fire before passing the eastern end of Wards Island, about three-fourths of a mile westward of the point where they say they received it.

(2) Circumstantial evidence.—The statements of the men in the pilot house are also almost conclusively contradicted by the sequence of events, which was as follows:

(a) After sending the message up the speaking tube the mate went from the tube to the engine room amidships on the starboard side.

(b) Gave notice to the engineers of the existence of the fire, asked that water be turned on to the fire line, and then returned to the forward standpipe.

(c) Had the linea fire hose taken down, turned the water into it, and tried to disentangle it; the hose burst and was thereupon abandoned.

(d) Another length of hose was sent for, was brought, and a number of vain attempts made to couple it to the forward standpipe.

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It is obvious that the foregoing operations must have consumed at least three minutes. During all these events the fire was still of such small extent that the crew could, and did, work about the forward standpipe.

(c) The fire then spread so as to have substantial control of the forward half of the vessel before the vessel was beached.

But the evidence of the men in the pilot house is unanimously to the effect that from two and one-half to three minutes only elapsed from the time they first received the speaking-tube message to the time the vessel was beached on North Brother Island.

It is, however, in the opinion of the Commission, a physical impossibility that the said sequence of events, to wit, all the aforesaid operations in fighting the fire from the first inception thereof to the time the hose was abandoned, and in addition thereto the subsequent progress of the flames until they reached the advanced stage that they presented at North Brother Island, should have taken place in the short time of two and one-half or three minutes, or in the short distance between a point from four to six lengths eastward of Sunken Meadow and North Brother Island. If the testimony of the men in the pilot house were correct, it would be necessary to assume that only from three to three and one-half minutes elapsed from the first coming up of the flames at the forward cabin stairway until the time at North Brother Island when the fire was raging fiercely over half the vessel; that the witnesses on shore, one-half a mile away or more, saw the fire practically as soon as did the mate and others standing within 30 feet of it on the main deck; and that during this three and one-half minutes were included all the above-described operations in fighting the fire, as well as the great subsequent progress of the flames.

Each of these assumptions is impossible of belief, and the Commission is so strongly impressed with this impossibility that it is of the opinion that the evidence of the master and of the pilots as to the position of the vessel in the stream when the fire was first known to them must be disregarded.

Two further considerations discredit the evidence of the men in the pilot house, to wit: In the first place, the fact that all the men in the pilot house had a vital interest in giving such testimony as would exonerate themselves from the charge of negligence, and therefore were obliged in their evidence to locate the steamer at the time of their first knowledge of the fire at a point so far to the eastward of Sunken Meadow that the beaching on North Brother Island would be the only thing practicable; and, in the second place, one witness, a small boy, gave testimony directly contradicting the statements of the men in the pilot house, and swore that he notified the master of the fire in Hell Gate, and was told to mind his business.

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After careful consideration of the entire testimony as to the time of the discovery of the fire, the Commission is of the opinion that the men in the pilot house had knowledge of the fire before the steamer passed the eastern end of Wards Island. The Commission therefore believes that the master knew of the fire in time to have beached the vessel either in Little Hell Gate to the westward of the Sunken Meadows, or in the Bronx Kills to the eastward of the Sunken Meadows, and to have thereby gained the great and essential advantage of placing the vessel with her stern to the wind so that the flames would be driven forward and away from the passengers, instead of taking a course that inevitably drove the flames rapidly aft, toward the passengers, and delayed the beaching of the vessel for several minutes longer than was necessary.

The vessel was beached so that her bow was in about 7 feet of water, distant probably 10 to 20 feet from the shore, and lying at such an angle with the shore that the stern of the boat was from 40 to 60 feet from the shore and in 10 to 30 feet of water. While there is much conflict of evidence as to her exact position on the beach, it is absolutely clear that her location was such that the few persons jumping overboard from the bow landed in water not over their heads, while the great bulk of the passengers, who were aft, and were confined there by the fire from access to any part of the vessel forward of the paddle boxes, went overboard into water much over their heads, and there being considerable tidal current, between 400 and 600 persons were drowned at this point, and after the vessel was beached.

The Commission is therefore of the opinion that Pilot Van Wart showed bad judgment or lack of skill in beaching the vessel at a considerable angle with the shore line of North Brother Island, thus leaving in deep water all but the bow of the boat, which was in flames, and affording the passengers who could not swim little opportunity to save their lives. Even had it been necessary to beach on North Brother Island, the vessel should have been laid on the shoal to the northward and eastward of the island, approximately tangent and parallel to the shore line, with her keel hard on the bottom, the burning side of the vessel to leeward and her guard on the starboard side overhanging shoal water, so that the passengers could have dropped overboard on that side and waded ashore.

PROGRESS OF THE FIRE.

While the exact time of the first discovery of the fire can not be determined, it is clear that not over twenty minutes elapsed from the time when the flames first came up the entrance of the forward cabin to the time at North Brother Island when the vessel was untenable for human beings on account of the complete ascendancy of the flames.

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The fire, starting from the forward cabin and coming up the stairway just aft of the forward bulkhead on the main deck, was driven rapidly aft by the current of air created by the vessel's speed ahead, extending mainly along the port side of the boat, forcing the passengers aft and to the starboard side, most of them being on the promenade and hurricane decks. At the moment the vessel was beached the fire extended in full vigor, probably from a little forward of the entrance to the forward cabin to a point about as far back as the middle boxes, being more violent on the main deck than on the two upper decks.

After beaching, the flames continued their progress with such rapidity that within ten minutes from the time she struck North Brother Island her entire list of passengers was forced to the sole alternative of leaving the vessel or meeting death by fire, most of them being compelled to jump into the water. Doubtless, also, the desperate condition of the passengers was greatly aggravated by the collapse of the hurricane deck on the starboard side aft, which occurred in the last ten minutes.

CONDITION OF THE FIRE-FIGHTING APPARATUS.

The steam fire pump, standpipes, and valves were good and sufficient, and to the extent of their connection with the forward main-deck standpipe valve, appear to have been promptly and properly put in use. The fire hose was probably of the cheapest grade—merely linen, price less than 20 cents a foot—and several years old. Some lengths of new hose of the same quality had been bought this year, but was on the after standpipe and was not used. No attempt was made by the crew to use any hose or buckets except the hose on the forward standpipe and the aforesaid rubber hose, which was not connected.

The only fire buckets on the main deck were out of reach, had no water in them, nor was it customary to keep water in these buckets. The whole fire-hose equipment was bad, except possibly 100 feet of new hose, which was not used at all. Evidence was given before the Commission to the effect that such linen hose would deteriorate very rapidly under conditions unfavorable as regards temperature and moisture. So far as the evidence shows, no water had ever been put through this fire hose on the *Slocum*. The defective condition of this hose rendered useless the chief fire protection of the vessel and nullified the efforts of the crew in fighting the fire. There is a strong probability that the fire would have been controlled had the fire hose been of the required statutory strength.

No fire drills or boat drills had taken place on the vessel this year. Fire drills had been held in the previous year, consisting of calling the crew to quarters, lowering the boats, and possibly getting the hose into

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position, without, however, turning on any stream of water. Not more than one, however, of this year's lot of deck hands had ever been on the boat before, and the previous fire drills were therefore of no effect to prevent the disaster.

During the time of the fire the wind was from the southward, a moderate breeze on the starboard quarter of the boat. There was a strong flood tide, about 2 to 4 miles an hour, running with the boat. The speed of the boat was about 12 to 15 miles an hour over the ground.

CONDITION OF LIFE-SAVING APPARATUS.

Her lifeboats and life rafts were apparently in fairly good condition, there being 6 metallic lifeboats and 2 cylinder life rafts, but as no successful attempt was made to lower them, they were of no service in saving life. Most, if not all, of the life-preservers were of granulated cork, and at least a large percentage of them were bad, due mainly to rotten covers, which tore under the handling to which they were subjected, owing to the conditions of excitement and panic that prevailed, and allowed the cork to run out.

The actual use of life-preservers by the passengers was, however, small. A summary of the testimony of all the witnesses shows that at the time of the accident 34 life-preservers were observed to be substantially defective, that 27 live persons were observed in the water having life-preservers on, that 21 dead bodies were observed with life-preservers on, and that 20 passengers on board were observed to have life-preservers on before going overboard. (These figures include only specific numbers given by different witnesses, and do not include a number of other statements where witnesses referred to "several," or "some," or "a number.") It is, of course, to be noted here that the testimony of these witnesses may overlap as to the number of life-preservers in different condition, that is, two persons may have noticed the same specific life-preservers as being bad. These figures are, therefore, only approximate, and represent the maximum.)

It appears certain, therefore, that no attempt was made to use more than a very small part of her total equipment of life-preservers. The great majority of passengers got no life-preservers whatsoever, as is evidenced by the comparatively few bodies, either living or dead, on which were found life-preservers. This condition, of course, is due mainly to panic, to lack of familiarity with life-preservers, and to the peculiar composition of the crowd, and in considerable measure, also, to the fact that the passengers found that many of the life-preservers were in bad condition; for while it is probably true that many of these defective life-preservers would have nevertheless supported passengers in the water, the average passenger, seeing one torn, refused to use it or to try others, and the result was as disastrous as if the life-preservers had been wholly unserviceable.

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MATE AND DECK HANDS.

The mate, in distinct violation of the law, and contrary to the requirements of the vessel's certificate, was not a licensed officer. The services rendered by the mate and deck hands in fighting the fire were not what they should have been, and in controlling and aiding the passengers the mate and crew gave little assistance. This was due chiefly to the personnel of the crew, which, from evidence adduced and from the example of the crew that appeared before the Commission, was obviously of a low grade as to efficiency. And the condition of this excursion traffic generally is such that this was naturally the case. This traffic has a season of about four months only, and the employment is therefore not a regular one. The deck hands are apparently picked up with very little consideration as to the knowledge of their duties, have very little discipline, change from year to year (only one of the *Stocum's* deck hands having been on the vessel before this year), and are unfitted to meet any such emergency as was presented by the disaster to the *General Stocum*, or to properly take care of such peculiarly dangerous traffic as that on excursion boats.

The inefficiency and poor quality of the deck crew of this vessel, doubtless typical of the majority of the crews of excursion steamers, is one of the essential facts that caused the loss of so many lives.

LOSS OF LIFE.

Taking the figures from the finally revised list submitted by the New York Police Department, the following table is obtained:

PASSENGERS.

Number on board.....	1,358
Children.....	745
Adults.....	613
Excess of children over adults.....	132
Identified dead.....	893
Missing, including unidentified dead.....	62
Loss of life.....	955
Injured.....	175
Escaped without injury.....	228

CREW.

Number on board.....	30
Identified dead.....	2
Injured.....	5
Escaped without injury.....	23
Total number of persons on board.....	1,388

Per cent.

Ratio of passengers killed to number of passengers.....	70.32
Ratio of crew killed to number of crew.....	6.66
Ratio of number of children on board to passengers on board.....	54.86

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The total loss of life, then, of passengers was 955 persons, and the number of injured 175, out of a total passenger list of 1,358. This great loss of life, a percentage of death of 70.32—over seven-tenths—is obviously abnormal and extraordinary. This abnormal percentage is due primarily to the composition of the excursion party, about nine-tenths being women and children. (It is to be noticed here that the crew, 30 in number, and all men, had a death percentage of only 6.66—less than one-tenth the passenger death rate.) Other factors are the great depth of water in the channel, the swift tide, the extreme rapidity and progress of the fire, the small amount of assistance rendered the passengers by the officers and crew of the vessel, and the collapse of the starboard side of the hurricane deck aft.

Upon this deck at the time of its collapse there was a crowded mass of panic-stricken passengers, numbering probably 400 or 500, and as this deck collapsed on one side, the entire mass of persons was precipitated into deep water at once, with the result that most of them drowned immediately. The collapse of the deck appears to have been due more to abnormal strain from the superimposed weight of a great number of people than to any burning away of the supports below. It offers an instance of a special danger, due to the construction of these boats, and wholly apart from the fire hazard.

In general, very prompt and efficient assistance was given to the passengers by steamers and small boats that were near enough at hand to be available. It is safe to say that had it not been for the presence of two tugs, the *John L. Wade* and *Walter Tracy*, which were laid alongside the *Stocum* within a few minutes after she was beached, and a number of small boats, the loss of life would have been from 200 to 350 greater.

The net result seems to be that the persons who were saved owed their lives in all but very few cases to outside assistance, and without such assistance it is probable that not more than 5 per cent of the passengers would have been saved—possibly a total of 70. This indicates the almost complete helplessness of an excursion party of this particular composition, even when most of the passengers were brought to a place within at least 200 feet of the shore. A very important conclusion from this set of facts is that the law and regulations must recognize the fact that an excursion party must be taken care of, and can not take care of itself.

OCCURRENCES SUBSEQUENT TO BEACHING ON NORTH BROTHER ISLAND.

After remaining about an hour or an hour and a half on North Brother Island, the fire being somewhat extinguished by streams of water from fireboats and from the island, the steamer floated off and eastward up the Sound about a mile, and finally sank a few hundred feet off Hump's Point, so that her bow, lying inshore, was in about 35

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feet of water, and her stern in about 55, resting nearly on her port bilge in 3 feet of mud, with part of the starboard paddle box, the smokestack of the donkey boiler, and some of the galleys frame appearing above water. The city of New York thereupon contracted with the Merritt & Chapman Derrick and Wrecking Company to raise her, and a wrecking outfit was sent at once to the spot, and divers were sent down to attach hoisting chains to the hull.

In the course of this work they discovered some 18 bodies, several very badly burned, one of them being in the paddle wheel. A number of exhibits were also sent up and taken in charge by the Federal or city authorities. On Thursday, June 23, the wreck was raised nearly to the level of the water, and was towed across and beached at Rikers Island, where she was pumped out, and on the following Sunday was towed down to Erie Basin and secured alongside a floating dock there. Subsequently each member of the Commission personally inspected the wreck of the steamer and proceeded over the course which the vessel followed on the day of the disaster.

PRACTICAL DEEDITIONS FROM THE DISASTER.

The salient points of this disaster to be noted for future use are as follows:

- (1) The *Slocum* as probably typical in almost all her conditions of many of the excursion boats in New York Harbor and, doubtless, elsewhere.
- (2) The peculiar helplessness characteristic of an excursion crowd in case of disaster.
- (3) Peculiar inflammability of vessel and extraordinarily swift progress of fire.
- (4) Collapse of deck, apparently due to weight of crowd.
- (5) Marked inefficiency of crew, both in this case and probably in most other excursion vessels, principally due to lack of organization and drill.
- (6) Total lack of fire drills, boat drills, and established discipline.
- (7) Unlicensed mate.
- (8) Extremely dangerous condition of the forward cabin.
- (9) Total failure of fire hose.
- (10) Badly defective condition of life-preservers.
- (11) Inefficient inspection of this vessel.
- (12) Neglect of master to fight fire or aid passengers, or to give any orders to such end.
- (13) Neglect of master to beach the vessel or to put her alongside of a wharf immediately after receiving a report of the existence of the fire, and his action in maintaining a high speed and creating thereby a strong drift of air from forward sweeping the flames aft.

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DUTIES AND RESPONSIBILITIES.

As to equipment.—The responsibility for the proper equipment of the vessel lies primarily with the master of the vessel and the port captain of the company, and also with the corporation and its executive officer or officers in so far as said corporation or its officers had, or should have had, knowledge of any deficiency in equipment.

Officers and crew.—Law, supplemented by long-established custom, has, in the class of vessels represented by the *General Slocum*, imposed upon her officers and crew, respectively, duties, of which the following is a general statement, so far as applicable to the subject-matter of this report:

It is the duty of the *master* to know that his vessel is fit for the service in which she is engaged; to see that his vessel is fully officered and manned by competent and reliable men; to organize and maintain discipline among the officers and crew; to require fire and boat drills at frequent intervals; to see that the life-saving and other equipment of the vessel is maintained in a high state of efficiency, and that the fire apparatus is serviceable and ready for action at all times; to see that order is preserved, and the safety and comfort of the passengers promoted; to assign the officers and crew to proper stations for action in case of accident or disaster; to exercise authority and supervision over the officers and crew; to care for the general sanitary conditions of the ship; and to exercise personally when practicable, or otherwise through his officers and crew, control over the passengers in case of panic, accident, or other unusual conditions, and to use his utmost endeavor to assist passengers and save life under such circumstances.

It is the duty of the *pilot* in charge to see that the vessel is carefully navigated, that chances of collision or grounding are studiously avoided, and that the Rules of the Road are fully complied with.

It is the duty of the *mate* to look after the cleanliness of the ship; to see that the general equipment of the ship is ready for service, that the crew are well disciplined and thoroughly familiar with their duties, to be ready at all times to respond to the orders of his superiors, and to assist and control the passengers in case of accident.

It is the duty of the *engineer* to maintain the efficiency and safety of the engines, boilers, steam fire pumps, other machinery, and steam fire extinguishers; to properly execute orders as to their operation; and to stand ready at all times to respond to a call for action in case of disaster or emergency.

It is the duty of the *crew* to obey promptly the orders of officers; to be familiar with their work and discipline; to guard against accidents; to report the same at once to the officer in command, and to use their best endeavors to control and assist the passengers in case of panic, fire, or other catastrophe.

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While it is true that it is the business of the Steamboat-Inspection Service to see that proper safety appliances as required by law are provided, this by no means relieves the owner from a similar legal and moral obligation, nor from the liability for the maintenance of proper crew discipline. The Commission is of the opinion that the owners of the *General Slocum* are censurable in a high degree for the inadequate and improper conditions prevailing on board this vessel, and that, whatever may be their technical legal liability, they and their executive agents share largely in the moral responsibility for the awful results of this disaster.

CHAPTER III.—DEPARTMENTAL ACTION AS TO THE STEAMBOAT-INSPECTION SERVICE PREVIOUS TO THE SLOCUM DISASTER.

1. At the time of the absorption of the Steamboat-Inspection Service into the Department of Commerce and Labor, and continuing over a space of nine or ten months afterwards, a large amount of work was done at the central offices of the Department, directed to the improvement of this Service. In the months of June and July, 1903, the Board of Supervising Inspectors was called in special session in Washington and was engaged for seven weeks in making a complete revision of the steamboat-inspection laws and also of the rules and regulations of the Service.

After the submission of these revisions to the Secretary of Commerce and Labor, a large amount of further work was done thereon by other officials under the direction of the Secretary, with the result that a final proposed revision of the steamboat-inspection law was prepared and was submitted to Congress by Senate bill No. 5308, introduced March 29, 1904. Action upon the aforesaid proposed revision of the rules and regulations was thereupon suspended awaiting the disposition in Congress of the proposed revision of the statute law. This proposed revision of law failed of enactment, but up to the time of such final failure work was constantly going on in the Department in preparing this revision of statutes and rules and regulations, and in presenting the same for Congressional action.

2. In the Estimates for Appropriations for the fiscal year ending June 30, 1905, presented to Congress by the Secretary of Commerce and Labor through the Secretary of the Treasury in 1903, an appropriation of \$100,000 was requested for the compensation of special agents to be employed for the purpose, among others, of making "investigations regarding the manner of conducting the public business in the various bureaus, offices, and services of the Department of Commerce and Labor, with the object of securing more uniform, economical, and business-like methods of administration." Had this appropriation been granted, it was the intention of the Secretary to use a part thereof in employing special agents, directly under his own control, to ascertain the actual conditions prevailing in the Steamboat-Inspection Service, as well as in other bureaus of the Department.

3. On May 23, 1904, as a measure of especial precaution, the Secretary of Commerce and Labor issued the following order:

OVERCROWDING PASSENGER STEAMERS.

DEPARTMENT CIRCULAR No. 44. } DEPARTMENT OF COMMERCE AND LABOR,
STEAMBOAT-INSPECTION SERVICE. } OFFICE OF THE SECRETARY,
Washington, May 23, 1904.

To collectors and other chief officers of customs and inspectors of steam vessels:

The near approach of the summer season, when large numbers of passengers are carried on the steamers of regular lines and on excursion steamers, and the frequent complaints that many of these steamers carry passengers largely in excess of the number allowed by their certificates of inspection or by their excursion permits demand that the Government officers concerned shall take special precautions to prevent the overcrowding of steamers.

Your attention is invited to section 4496 of the Revised Statutes, which reads as follows:

Sec. 4496. All collectors, or other chief officers of the customs, and all inspectors within the several districts, shall enforce the provisions of this title against all steamers arriving and departing.

Collectors and surveyors of customs are therefore requested to instruct their subordinates to make careful examination of such steamers and to report all cases of violation of the law. Extra efforts in this direction should be made on Sundays, and particularly on the Fourth of July and other important national or State holidays.

Supervising inspectors will instruct the local inspectors to detail one half their force each Sunday for duty in the vicinity of their home ports for the purpose of ascertaining, by actual count, if necessary, whether more than the lawful number of passengers are taken on board, and on the Fourth of July the whole force will be so employed.

Inspectors of steam vessels will confer with the chief officers of customs of their respective districts as to the best methods of carrying out this order. In all cases where it is found necessary to prosecute, the officer prosecuting will report all the facts to the Department for its information.

A zealous effort on the part of the officers named herein in the performance of the duties required will, it is believed, effectively check the evil complained of.

A conflict of opinion having arisen in some of the districts as to the authority of inspectors to issue excursion permits including waters outside of the local inspection district, inspectors are informed that under section 4466, Revised Statutes, any local board of inspectors can issue an excursion permit to any steamer then in the waters of their district covering all the waters named in the steamer's annual certificate of inspection, if she is properly equipped, and can, in their judgment, safely carry the additional passengers; and such excursion permit is valid even though used in waters wholly outside the district in which it is issued.

Geo. B. COMBES, *Secretary,*

CHAPTER IV.—THE STEAMBOAT-INSPECTION SERVICE.

SCOPE OF THE INQUIRY.

It appeared to the Commission, after careful consideration of the details of the disaster to the *General Slocum*, that a thorough investigation of the conditions and actual workings of the Steamboat-Inspection Service in the port of New York was necessary, both for the explanation of certain features of that disaster and for the prevention of the recurrence of similar disasters. The Commission has not attempted to extend its inquiry beyond the conditions presented in the port of New York. Any general investigation on similar lines by this Commission as to conditions in all the other important ports of the country would be impracticable at present and would have delayed the presentation of this report to a date so distant that its usefulness would have been greatly diminished.

The Commission recognized the fact that New York is the most important port from the standpoint of the Steamboat-Inspection Service; that traffic there is of the heaviest and most varied kind, and that conditions in that port, as presented to the Steamboat-Inspection Service, would doubtless be more nearly typical of those found throughout the country than in any other one port; that the Service would there be put to its severest test; and that, furthermore, the excursion traffic, probably the most hazardous of all, would there be most fully illustrated. For these reasons the Commission was of the belief that a careful inquiry into the workings of the Service in that port would serve as a sufficient basis for general remedial recommendations.

NATURE OF EVIDENCE ON THIS SUBJECT.

In considering the aforesaid condition of the Steamboat-Inspection Service, the Commission was fortunately able to secure a large mass of very complete and direct evidence bearing upon the efficiency of the Service, as follows:

First. On July 7, 1904, upon the direction of the Secretary of Commerce and Labor, there was commenced a *reinspection* of all passenger steamers in the port of New York by inspectors from other ports. For this purpose eight hull inspectors and eight boiler inspectors were detailed from other ports.

Every reinspector so engaged made written report of the results of each inspection, the deficiencies and shortages found on each vessel,

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and during the latter two-thirds of the inspection, the new equipment observed on board.

While the intervals of time between the last regular inspection and the date of the reinspection varied from one day to one year, the average interval was one hundred and forty-seven days, or practically five months. This reinspection, while thorough and careful, was no more stringent than the proper inspection actually contemplated and directed by the steamboat-inspection law. Accordingly, a comparison of the results of the reinspection with those obtained at the last regular inspection afforded an admirable and sweeping test as to the completeness and efficiency of the Steamboat-Inspection Service in New York.

Second. Further evidence as to the actual working of this Service was also obtained from the testimony of its officers and employees in the port of New York, the examination of the records of the office there, and the oral testimony of the reinspectors and of other persons having knowledge of the conditions.

STATISTICS OF ROUTINE INSPECTION IN THE PORT OF NEW YORK.

It is due to the officers and employees of the Service to say that they greatly assisted and facilitated the work of the Commission and in every way afforded a full opportunity for investigation of the details of the *Slocum* disaster, as well as of the methods in use by the Service in New York.

In order to understand fully the conditions presented in this port, a brief statement of the routine work done there by the Service is necessary. During the year July 1, 1903, to June 30, 1904, 1,504 vessels were inspected; 204,204,938 passengers were carried; 154 accidents occurred; 975 lives were lost, of which 957 were lost in the *Slocum* disaster, and 18 in other accidents, as follows: Five suicides, 7 of crew lost by falling overboard, 4 of crew lost by collision, 1 of crew struck and killed by fender, 1 of fire department killed by explosion; 154 collisions occurred; 860 applicants for officers' licenses were examined; 25 trials held for revocation or suspension of officers' licenses; 403 officers' licenses were renewed.

LOCAL NEW YORK FORCE.

On June 15, 1904, the day of the disaster, the staff of the Steamboat-Inspection Service in the port of New York comprised the following officers and employees: 1 inspector of hulls, 1 inspector of boilers, 3 assistant inspectors of hulls, 9 assistant inspectors of boilers, 6 stenographers, 1 clerk.

The supervising inspector for the second district, which district extends on the Atlantic coast from Canada to Cape Charles and on the Hudson River from New York to Albany, had his office in rooms adjoining those of the local inspectors in New York City.

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The names, dates of appointment, and length of service of said inspectors are shown below:

Inspectors on date of disaster, June 15, 1904 (Second District, New York, N. Y.).

Office and name.	Date of appointment.	Length of service.
SUPERVISING INSPECTOR.		
Robert S. Rodde.....	Assistant Inspector Boilers, Apr. 22, 1891; Special Inspector Foreign Steamships, May 19, 1891; Assistant Inspector Boilers, Albany, Jan. 7, 1898; Inspector position (temporary), Mar. 18, 1901; salary (permanent), Dec. 19, 1901.	Over 13 years.
INSPECTOR OF HULLS.		
James A. Dunwohy.....	Supervising Inspector (General), Nov. 24, 1875 (temporary); Dec. 16, 1876 (permanent); resigned to take effect Mar. 31, 1903; present position, Mar. 27, 1903; effective Apr. 1, 1903.	Nearly 29 years.
INSPECTOR OF BOILERS.		
Thomas H. Burnett.....	Sept. 1, 1889.	Nearly 15 years.
ASSISTANT INSPECTORS OF HULLS.		
George T. Chaulson.....	Aug. 2, 1897.	Over 7 years.
Thomas H. Foster.....	May 26, 1901 (temporary); Feb. 11, 1902 (permanent).	Over 8 years.
Ernest J. Smith.....	June 17, 1885; removed Sept. 17, 1886; reappointed Nov. 1, 1887; promoted local inspector of hulls, Feb. 16, 1897; reduced to present position May 27, 1903.	8 months.
Peter G. Reine.....	Jan. 7, 1901.	Nearly 16 years.
Henry Lunbeck.....	Aug. 19, 1901.	Nearly 6 months.
Corneilus H. Smith.....	Appointed Sept. 20, 1889; dismissed Apr. 15, 1893; reappointed Aug. 6, 1897.	Nearly 3 years.
Albert H. Terry.....	Sept. 6, 1890.	Over 10 years.
John P. Walsh.....	Appointed Dec. 22, 1896; removed July 2, 1899; reappointed May 15, 1899.	Nearly 6 years.
ASSISTANT INSPECTORS OF BOILERS.		
John L. Corne.....	Apr. 6, 1899; local inspector Portland, Me., Dec. 26, 1901; transferred present position July 31, 1903.	Over 6 years.
William G. Fenwick.....	Jan. 14, 1902 (temporary); Oct. 11, 1902 (permanent).	Nearly 24 years.
John W. Fleming.....	Mar. 22, 1895.	Over 9 years.
John E. Gann.....	May 28, 1895.	Over 10 years.
William Ingalls.....	Sept. 17, 1895; removed Nov. 29, 1899; reappointed Apr. 6, 1903 (temporary); reappointed July 2, 1903 (permanent).	Over 10 years.
John J. McCarthy.....	Apr. 24, 1901.	Over 3 years.
Phedoret, Messerum.....	Feb. 12, 1898.	Over 6 years.
William H. Foyers.....	Mar. 3, 1899.	Over 5 years.
Benjamin M. Ray.....	Jan. 9, 1902 (temporary); Oct. 11, 1902 (permanent).	Nearly 24 years.

The supervising inspector received a salary of \$3,000, the local inspectors \$2,500 each, and the assistant inspectors \$2,000 each, per annum.

DUTIES.

Supervising inspector.—The statutory duties of the supervising inspector are as follows:

Each supervising inspector shall watch over all parts of the territory assigned to him, shall visit, confer with, and examine into the doings of the local boards of inspectors within his district, and shall instruct them in the proper performance of their duties, and shall, whenever he thinks it expedient, visit any vessels licensed,

and examine into their condition, for the purpose of ascertaining whether the provisions of this Title have been observed and complied with, both by the board of inspectors and the masters and owners. All masters, engineers, mates, and pilots of such vessels shall answer all reasonable inquiries, and shall give all the information in their power in regard to any such vessel so visited, and her machinery for steam-ing, and the manner of manning both. (Rev. Stat., 4406.)

Whenever a supervising inspector ascertains to his satisfaction that any master, mate, engineer, pilot, or owner of any steam-vessel fails to perform his duties accord-ing to the provisions of this Title, he shall report the facts in writing to the board of local inspectors in the district where the vessel was inspected or belongs; and, if need be, he shall cause the negligent or offending party to be prosecuted; and if the supervising inspector has good reason to believe there has been, through negli-gence or any other cause, a failure of the board which inspected the vessel to do its duty, he shall report the facts in writing to the Secretary of Commerce and Labor, who shall cause immediate investigation into the truth of the complaint and, if he deems the cause sufficient, shall remove any officer found delinquent. (Rev. Stat., 4407.)

The supervising inspectors shall see that the several boards of local inspectors within their respective districts execute their duties faithfully, promptly, and, as far as possible, uniformly in all places by following out the provisions of this Title accord-ing to the true intent and meaning thereof; and they shall, as far as practicable, harmonize differences of opinion existing in different local boards. (Rev. Stat., 4408.)

It is also his duty to act as local inspector in "collection districts" where there is no local board or where it is inconvenient to resort to the local board; to report at the annual meetings of the Board of Supervising Inspectors the general business transacted in his district; to act as a member of the Board of Supervising Inspectors and to hear appeals from boards of local inspectors on questions of the granting, revocation, or suspension of licenses of ships' officers.

The important statutory duties of the supervising inspector more specifically related to the work of the Commission are those which require him to (Rev. Stat., 4406) "*watch over all parts of the territory assigned to him*," * * * "*visit, confer with, and examine into the doings of the local boards of inspectors within his district, and*" * * * "*instruct them in the proper performance of their duties*," and (sec. 4407) (in substance) *to report to the Secretary of Commerce and Labor the negligence of any local board in enforcing the provisions of Title 52; and (sec. 4408) to "see that the several boards of local inspectors within their respective districts execute their duties faithfully, promptly," * * * "by following out the provisions of this Title according to the true intent and meaning thereof."*

Local inspectors.—The statutory duties of the local inspectors are as follows:

The local inspectors shall, once in every year, at least, upon application in writing of the master or owner, carefully inspect the hull of each steam-vessel within their respective districts, and shall satisfy themselves that every such vessel so submitted to their inspection is of a structure suitable for the service in which she is to be employed, has suitable accommodations for passengers and the crew, and is in a con-dition to warrant the belief that she may be used in navigation as a steamer with

safety to life, and that all the requirements of law in regard to fire, boats, pumps, hose, life-preservers, floats, anchors, cables, and other things, are faithfully com-plied with; and if they deem it expedient, they may direct the vessel to be put in motion, and may adopt any other suitable means to test her sufficiency and that of her equipment.

The local inspectors shall, once in every year, at least, or upon application in writ-ing of the master or owner, carefully inspect the hull of each sail vessel of over seven hundred tons and all other vessels and barges of over one hundred tone burden, carrying passengers for hire within their respective districts, and shall satisfy them-selves that every such vessel so submitted to their inspection is of a structure suitable for the service in which she is to be employed, has suitable accommodations for the crew, and is in a condition to warrant the belief that she may be used in navigation with safety to life. (Rev. Stat., 4417.)

They shall also examine the boilers of all vessels and see that pro-visions of Title 52 are observed in relation thereto; shall make certifi-cate of inspection; shall inspect also ferryboats, canal boats, yachts, and small craft, subject to the provisions of the title; shall make addi-tional inspections other than annual ones (sec. 4453) "so often as to enable them to detect any neglect to comply with the requirements of law;" shall keep record of their inspections and certificates; shall examine and license ships' officers, and upon proper hearing shall sus-pend or revoke such licenses for the misconduct of such officers; shall determine the number of passengers to be carried by vessels; shall require proper safeguards against fire and for fighting same, including (sec. 4471) "good and suitable hose of sufficient strength to stand a pressure of not less than one hundred pounds to the square inch, long enough to reach to all parts of the vessel, and properly provided with nozzles, and kept in good order and ready for immediate service," on vessels carrying 50 passengers or upward; and (Rules and Regula-tions, Rule IX, sec. 2)—

It shall be the duty of the inspectors jointly * * * to thoroughly test the fire apparatus of steamers, and to examine carefully all pumps, hose, lifeboats, and other equipment required by law, and to see that the glass colored signal light is in no case less than six inches in width and five inches high in the clear.

This is the so-called "joint rule."

The Commission also recognizes the fact that custom and reasonable requirements of actual conditions have given rise to certain proper and necessary interpretations of the above statutory requirements, as follows:

While the statutes do not expressly provide for any division of the work between the local inspectors, such division, when confined to the details of the routine work, is reasonable, is probably justified by implication (excepting in so far as such division violates the above quoted "joint rule," Rule IX, sec. 2), and is necessary for accom-plishing the work in view of the present limited force of employees. Accordingly, the following division of labor has been established as the custom of the Service.

The actual "*hull inspection*," so called, on any specific vessel, which includes the inspection of the hull, safety appliances, steering gear, fire-fighting apparatus (except steam pumps), ships' papers, officers' licenses (except in the engine room), ships' lights, bells, whistles, signals, holding tackle, boats, rafts, and the maximum passenger allowance, is under the practically separate charge of the local *hull* inspector, and the work of such inspection in the port of New York is done by the nine assistant hull inspectors under the separate direction of the local hull inspector.

The actual "*boiler inspection*" so called, on any specific vessel, which includes the inspection of the boilers and their attachments, furnaces, steam pipes, pumps, and machinery, is similarly under the practically separate charge of the local *boiler* inspector, and the actual work of such inspection in said port is done by the nine assistant boiler inspectors under the separate direction of the local boiler inspector. In determining the extent of the legal duties of these local inspectors, however, and in fixing their responsibility, it should be remembered that such division of labor is not expressly provided for by statute, and is justified only by implication and imperative practical necessity. It should therefore be restricted to the narrowest possible limits, and should extend only to the details of enforcing inspection of any given vessel.

The general principles upon which inspections are based are within the province and duty of *both* local inspectors jointly, and both should take care that the general efficiency of the service under them, in both hull and boiler departments, complies with statutory requirements. No assumed division of labor as to detail can relieve either local inspector from responsibility as to the general principles upon which the Service performs its work, or the general conditions existing therein. A satisfactory condition of affairs in the boiler department, for instance, does not excuse the local boiler inspector for general inefficiency in the hull department, and vice versa.

The two local inspectors act jointly in the signing of certificates, the examination of applicants for officers' licenses, the issuance of such licenses, the trial of cases for the revocation or suspension of such licenses, and occasionally, though infrequently, they confer as to the more important questions arising within the particular individual work of one or the other of such inspectors.

Assistant inspectors.—None of the actual work of inspection is done in this port by the local inspectors, such work being performed wholly by the assistant inspectors. No duties whatsoever are expressly laid by statute upon the assistant inspectors, but it is the necessary implication of law that they should perform such duties as may be assigned to them by the local inspectors, being under their orders. In the performance of the work the assistant inspectors act as local

inspectors, and, to the extent of the duties thus assigned them, are under the same obligations as are laid by statute upon such local inspectors.

ACTUAL WORKING OF THE SYSTEM.

The foregoing outline indicates the routine work done in this port, the force of men available therefor, and the statutory duties laid upon them, together with the reasonable and proper implications of law arising from such statutes, and the proper customary interpretations that have been made thereon.

The work of the Commission as to the Steamboat-Inspection Service was directed toward ascertaining how far and in what respects the actual workings of the system in this port departed from the results at which the statute law was aimed, and toward showing the causes for such variance. The findings of the Commission on these points follow:

Local inspectors.—It becomes apparent from the evidence before the Commission that the local inspectors in the port of New York were interpreting their duties in several respects in a manner not justified by statute; that, furthermore, the manner in which they were carrying out their duties was inefficient and unsatisfactory upon any interpretation thereof; and that certain sections of the statutes, and of rules and regulations which have the force of statutes, were being wholly disregarded, as follows:

The requirement as to the testing of fire hose on passenger steamers was wholly disregarded. United States Revised Statutes, section 4471, requires that steamers carrying over 50 passengers shall have hose "of sufficient strength to stand a pressure of not less than one hundred pounds to the square inch, long enough to reach to all parts of the vessel," from which statute a perfectly clear implication and requirement arises that such hose should be tested to such pressure. Obviously the only way to enforce this statute was by making a measured pressure test.

It was also obvious from the form of "inspection book" used that such test was contemplated, inasmuch as, under the heading therein, "Fire apparatus," etc., the following blanks were to be filled in:

Hose, length, ———— feet.
Pressure hose will sustain, ————.

But it appeared that it has for many years been the practice of the assistant inspectors in the port of New York to make no measured pressure test whatsoever of the fire hose, except such as might incidentally (and rarely) take place by the use of such hose for the testing of boilers. The local inspectors admitted that they knew of this lack of proper test; all of said inspection books were submitted to them, and said above blank was uniformly filled in "*In good condition*,"

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merely, showing on its face the omission of the pressure test. There is apparently no excuse whatsoever for such omission.

All the duties of actual inspection being, in practice, delegated by the local inspectors to the assistant inspectors, the local inspectors who signed the certificates of inspection had consequently no personal knowledge whatsoever of the facts to which they were certifying. Although this was a necessary result from the great amount of work in New York City, it is self-evident that it is a defective system, and while it could not be avoided by the local inspectors, they should have been especially on their guard against an abuse thereof.

It appears, however, on the contrary, from the testimony of the assistant inspectors, and from the admissions of the local inspectors themselves, that the present local hull inspector has never in any instance gone over the steamers inspected by his assistants to see that the work was properly done; that the present local boiler inspector has very rarely done so; and that practically neither of them has taken any steps to check up and verify the proper performance of duty by their respective assistants and subordinates. This condition of affairs constitutes one of the gravest charges against the local inspectors.

There was a practically complete failure on the part of the local inspectors to properly instruct new men upon their entrance into the service as assistant inspectors. Such new men, upon beginning their duties, were given copies of the statutes and regulations, and were sent out to learn their duties merely by accompanying an experienced assistant inspector. They thus gained their entire conception of their duties and the methods of performing them from such sources only, and without any personal instruction or supervision by their superiors, the local inspectors. Thus all original and subsequent errors were perpetuated instead of being corrected, and an inefficient system was taught to new officials at the very beginning of their work.

There was almost a complete failure on the part of the local inspectors to issue from time to time such instructions and directions as would be reasonably necessary to guide the assistant inspectors in the performance of their duties. Substantially the only instructions thus issued by the present local inspectors were in the form of circular letters to the assistant inspectors, copies of all of which were submitted to the Commission, showing very little detailed instruction on essential points of inspection. Some instances were found of verbal instructions to assistants, but they were very infrequent and of very slight importance.

Several instances were found of clear requirements of law which the local inspectors had uniformly ignored or treated as obsolete, as, for instance, in the test of the hose above outlined, for which there is, apparently, no excuse; and again, in the total disregard of the above-

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mentioned "joint rule," which requires that the ships' equipment shall be inspected *jointly* by those making the inspection. For this latter omission there is the excuse that it would be impossible to carry out this joint rule with the force available, and this is doubtless true, but so far as the Commission is advised there appears to have been no protest by the New York local inspectors on this ground, no attempt to carry out the rule, no request for its repeal, and nothing more than arbitrary disregard of it.

Assistant inspectors.—Consideration of the conditions outlined in the preceding paragraphs makes it obvious what results might be expected from the assistant inspectors under such a system. The assistant inspectors naturally did no more than they were instructed to do by their superiors; they failed to properly test hose, to observe the "joint rule," and to apply proper tests to safety appliances. The uniform system of inspecting hose, as testified to by the assistant inspectors, was merely a visual inspection; they asserted that they could tell whether hose was good or not by such inspection, and some of them went so far as to say that they could actually tell what pressure the hose would stand by simply "looking it over," whether it was laid on the deck or coiled up; that they never used a test gauge for such purpose, and, what is more extraordinary, that a test gauge was never used or required by the Service in the port of New York for making the test of hose required by law. The absurd and inadequate nature of such mere visual inspection of fire hose is apparent from the innumerable cases in which hose equipment, passed at the regular inspection, burst on the reinspection under pressures all below the statutory requirement, and varying from 5 to 35 pounds. In some vessels 60 per cent of the hose equipment was condemned.

The inspection of life-preservers was usually confined to merely looking at them and faking down only such as "looked bad." The life-preservers were seldom handled by them, nor was it usual to apply any force to them by way of testing the strength of their covers and straps. They did not lower the boats, and frequently omitted any test of the falls and lowering tackle. In the majority of cases no test was made of either steam or hand fire pumps by way of actually operating them (the only satisfactory test). In general, the inspection as carried on by them suffered the natural deterioration that must necessarily occur when subordinates are carrying out work without any effective supervision by their superiors, and following lines of tradition only.

The records of the reinspection, however, showed substantial differences in the work of the respective assistant inspectors in New York. Some of them appear to be much more efficient than others. A reorganization of the force of assistant inspectors should be made

with a view to eliminating those who have demonstrated their incompetency.

Supervising inspector.—The port of New York is in the second district. The system and working methods of the inspectors of that port were under the jurisdiction of the supervising inspector of that district, and his office adjoints and communicates with them. He knew of the existence of the faulty and inefficient system above outlined, of the negligence of the local inspectors to enforce, and the actual failure of the assistants to make proper inspection. It was his plain statutory duty to know of it. United States Revised Statutes, section 4408, provides that he shall "watch over all parts of the territory assigned to him, * * * and * * * examine into the doings of the local boards of inspectors * * * and * * * instruct them in the proper performance of their duties;" that he shall (Rev. Stat., 4408) "see that the several boards of local inspectors within (the) * * * district execute their duties faithfully * * * by following out the provisions of this Title according to the true intent and meaning thereof."

If he did not know of the facts of inefficiency and neglect on the part of his subordinates, or if he knew of them and did not take steps to remedy them, he is equally chargeable with neglect of duty. His principal reason of being, as an officer, was to supervise and instruct. The statutes creating his position and defining his duties have as their chief object the providing of an active head who shall see that the local boards do their duty. But it is undeniable that the local board in this port did not do its duty. Upon the supervising inspector, therefore, must rest a large share of responsibility for the existence of such inefficiency and neglect. While it is true that the evidence shows that he has done valuable work in certain less important directions for the improvement of the Service, this fact does not modify nor diminish his responsibility for the essential inefficiency revealed in the primary and fundamental work of the Service, to wit, the inspection of vessels.

ACTUAL DEFICIENCIES FOUND ON VESSELS IN NEW YORK HARBOR.

The Commission has considered and analyzed with great care and at length the evidence afforded by the reinspection in New York and by other testimony, showing the *actual condition* of vessels in that port. The prevalent methods of inspection above outlined show the general system of neglect, inefficiency, and lax supervision. The specific facts and figures presented below show the actual conditions resulting from such a system, and the state of affairs existing on vessels subject to such inspection.

Two hundred and sixty-eight vessels were reinspected in the port of New York. The written reports made by the reinspectors have been

carefully summarized in tabular form, and certain significant percentages and averages have been deduced therefrom. This tabular summary is classified according to types of vessels and their routes, dividing the same into excursion, ocean, ferry, inland passenger, and towing boats with passenger privileges.

The results of the reinspection for each vessel inspected were then inserted, showing the conditions found by the reinspectors as to hulls, boilers, lifeboats, life rafts, life-preservers, fire hose, and fire pumps. The statistics as to life-preservers were further subdivided, showing the number of life-preservers on board, the number that the vessel was short of the number required by her certificate, the number ordered to be repaired, and the number condemned. The statistics as to fire hose were further subdivided so as to show the number of feet required to be on board, the number of feet short of, and the number of feet condemned.

In general, the condition of the boilers was good, it being the unanimous opinion of the boiler reinspectors that the conditions in New York relating to boilers and machinery related thereto were fully as good as in their respective home ports.

The condition of the hulls was also substantially good, with a few infrequent exceptions.

As to lifeboats the general condition was fairly good, though a number were found lacking the proper equipment of oars or various minor appliances, or not properly marked. Eleven lifeboats in all were absolutely condemned.

As to life rafts, their condition was found to be fairly good, hardly equal to that of the lifeboats, a number requiring considerable repairs. Six were absolutely condemned.

In a few instances a small shortage was discovered of the statutory boat capacity required of given steamers.

As to fire pumps, eight were found either too small under the statutory requirement as to capacity or were condemned for being in bad condition and ordered to be replaced. In general, however, the pumps were in fairly good condition.

Life-preservers and fire hose: It was obvious to the Commission from the first, both as evidenced by certain features of the *General Slocum* disaster and by the preliminary evidence before the Commission, that the conditions of life-preservers and fire hose required especial attention.

The results of the reinspection bearing upon these articles have, therefore, been summarized in the form of percentages. These percentages require explanation in several points. In the first place, it was found, upon commencing the reinspection, that a number of vessels had on them life-preservers and hose that were obviously new and placed on board since the *Slocum* disaster. At the request of the

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Commission, upon noting this fact, orders were issued that the reinspectors should report in writing, in connection with the rest of their inspection report, the presence of any equipment on the vessels inspected which, in their opinion, had been placed there since the last inspection of the vessel. Inasmuch as this order did not go into operation until about one-third of the reinspection had been completed, the Commission has written evidence covering this point of new equipment for about two-thirds of the reinspection. It is safe to assume, however, that the same general percentage of new equipment had been found before the order went into operation that was found afterwards. In estimating approximately, therefore, the total amount of new equipment on all steamers reinspected, it is safe to assume that the amount actually indicated in the written returns is only two-thirds of the actual total.

This question of new equipment is of importance, for the reason that it is fairly safe to assume, with certain exceptions to be noted hereinafter, that any new equipment placed on board the vessel after the last regular inspection thereof was put there by the owners as a direct result of the *Stoom* disaster, and in lieu of defective equipment which had been then improperly approved or passed. In other words, the amount of this new equipment should be added to the amount of deficiency actually found by the reinspection, in determining the total deficiencies that probably existed at the time of the regular inspection. It is, of course, to be remembered that a certain small amount of new equipment would have been normally added to replace ordinary depreciation of equipment, even if the *Stoom* disaster had not occurred. But this normal renewal, the amount of which could merely be guessed, would certainly not exceed one-third of the new equipment actually found. In other words, two-thirds of the total new equipment is abnormal, and due to the *Stoom* disaster, and, accordingly, only this abnormal two-thirds has been used in obtaining the percentages given in this report.

A further qualification of the facts reported by the reinspection exists in the so-called kapoc life-preservers. The kapoc life-preserver in general had been approved by the Board of Supervising Inspectors in 1902, and so long as these life-preservers were proper in weight and construction, the regular inspectors had no reason for condemning them. About the time of the commencement of the reinspection, however, it was discovered that these kapoc life-preservers varied greatly in actual buoyancy, and the net results of the tests made of them were so unsatisfactory in this regard that in a large number of cases the entire ship's equipment of kapoc life-preservers was condemned. The condemnation of such life-preservers, however, obviously reflects no discredit on the inspectors making the last regular inspection of given vessels, because the defect for which these life-preservers were

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condemned was a lack of sufficient buoyancy in the material thereof. The test for buoyancy of material is always made by inspectors detailed for the purpose at the factory where such life-preservers are made and before the same are sold, and such original test for buoyancy is supposed to be permanently sufficient, and is not repeated at annual inspections on shipboard. The amounts of condemned kapoc life-preservers, therefore, have not been included in the tables and percentages shown on the following pages.

It is necessary to note here in passing certain facts in regard to these kapoc life-preservers. It is somewhat difficult to place the exact responsibility for the original approval of these articles. Kapoc itself is a material about which little is known. Although this life-preserver was admitted by general regulation after a test of which little can now be ascertained, it now appears perfectly clear that either by reason of wide variance in the original buoyancy of the material, or for some other cause not wholly understood, a number of life-preservers of this type have been sold and placed in use that are not at all satisfactory and that do not comply with the requirements of the regulations. All the kapoc life-preservers in New York found by the reinspectors had been tested and passed at the factory by an assistant inspector detailed for that purpose, and had been stamped "Passed, U. S. Steamboat-Inspection Service (date)."

The aforesaid factory test by the assistant inspector was made in the same manner as the test applied to other kinds of life-preservers, and the inspector making the test, being wholly unfamiliar with the peculiarities of kapoc, failed to leave it submerged long enough to note its absorbent qualities, which appear to constitute the chief defect of the material. Subsequent tests have developed the fact that a kapoc life-preserver weighing less than 4 pounds has, in the course of two or three days' submersion, absorbed nearly 14 pounds of water. The failure to discover this peculiarity, however, is hardly chargeable to the said testing inspector, and the failure to detect this defect is due rather to unavoidable contingencies arising in the use of a little-known material. One point, however, in the factory test made of these kapoc life-preservers at New York should be mentioned, as to which that test was improper. The regulations require that a life-preserver shall sustain 24 pounds. This obviously means that when the life-preserver is in the water there shall be an absolute downward pull of gravitation of fully 24 pounds.

The test actually made, however, consisted in attaching 24 pounds of metal to the given life-preserver and placing the preserver in the water. Necessarily the life-preserver itself turned over so as to bring the metal weight under water, thus reducing the gravitation pull 2 or 3 pounds below the required 24. This again is rather the fault of the general system than of this particular inspector, as the lax and improper

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custom has grown up of testing life-preservers with a weight which weighed 24 pounds in air but not 24 pounds when submerged in water. The buoyancy test should always be made so that there is a direct downward pull of 24 pounds upon the life-preserver whether the weight attached is submerged or not.

With these explanations, the following tables of percentages are submitted:

TABLE I.—PERCENTAGES OF DEFICIENCY IN LIFE-SAVING EQUIPMENT OF ALL CLASSES OF VESSELS.

Deficiency.	Life-preservers.	
	Life-preservers.	Fire hose.
Short.		
Reported.	Per cent. 2.06	Per cent. 1.22
Condensed.	4.34	7.92
	7.92	9.11
Two-thirds new equipment.	14.22	10.33
	8.57	7.94
Total percentage of deficiency.	18.27	18.27

TABLE II.—PERCENTAGES OF DEFICIENCY IN LIFE-SAVING APPARATUS OF THE VARIOUS CLASSES OF VESSELS.

LIFE-PRESERVERS.

Deficiency.	Ocean passenger.	Inland passenger.	Excursion.	Ferry.	Towing passenger.
Short.					
Reported.	Per cent. 9.44	Per cent. 12.04	Per cent. 3.19	Per cent. 46.09	Per cent. 1.90
Condensed.	4.01	4.63	4.61	2.24	2.86
	8.03	4.94	18.91	2.78	4.91
Plus two-thirds new equipment.	8.08	9.27	27.41	8.29	9.73
	.11	.22	6.39	8.14	3.62
Total percentage of deficiency in life-preservers.	8.19	9.50	32.40	14.33	13.65

FIRE HOSE.

Deficiency.					
Short.					
Condensed.	14.42	1.22	3.00	4.46	1.62
	14.42	9.61	14.86	4.46	4.85
Plus two-thirds new equipment.	14.42	11.83	17.36	4.46	6.47
	1.55	7.25	8.99	11.47	11.30
Total percentage of deficiency in fire hose.	15.57	19.78	26.35	15.93	17.80

Taking the first table, which shows the total percentages for all classes of vessels combined, it is found that approximately 18.27 per cent of the life-preservers of all the 268 vessels thus reinspected were short in number, defective, or in need of repairs, and that to this extent there was a failure of the Steamboat-Inspection Service to properly perform its duties. A similar percentage as to the combined results concerning fire hose shows 18.27 per cent (singularly enough the same as for life-preservers), and a corresponding failure of the Steamboat-Inspection Service.

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These figures in themselves show a sufficiently unsatisfactory condition, and yet the second table indicates more nearly the actual inefficiency of the Service by reason of the special classification of said table. This said second table shows the percentages of deficiencies of life-preservers and hose, respectively, for the five aforesaid classes of vessels, separately, and a very significant divergence is seen in the conditions found in the respective classes. The ocean steamers were in the best condition as to life-preservers and second as to hose. The inland passenger steamers were second as to life-preservers and fourth as to hose. The ferryboats were fourth as to life-preservers and first as to hose, while the excursion steamers were by far in the worst condition as to both life-preservers and hose.

It thus appears that the excursion steamers, where the hazard to life is the greatest, were the most defective in life-saving equipment and fire-fighting apparatus, the average deficiency in life-preservers being 33 per cent, and in hose 26.35 per cent. On the other hand, it is to be noted that the best condition of affairs as to life-preservers was on ocean steamers, where the deficiency in life-preservers was only 8.19 per cent, while the best condition as to hose was on ferryboats, to wit, a deficiency of 15.53 per cent. There is no especial reason for assuming that the inspection of excursion boats was any more lax in its tests and methods than the inspection of ocean steamers or ferryboats, and it is probably safe to say that this extreme divergence between these two classes in respect to conditions found therein is due not to any difference in inspection, but to action on the part of the owners.

Ocean steamers and ferryboats, for instance, are in constant use, are owned mostly by large companies, have a continuous season, and are apparently kept by their owners in very good condition. Excursion boats, on the contrary, have a season of only four or five months out of twelve, have a decidedly precarious business, and the natural tendency of the owners is to reduce expenses in all possible ways, including economizing on safety appliances. Upon these considerations it is probably fair to say, therefore, that the good condition of the ocean steamers as to life-preservers, and of ferryboats as to hose, is not to be credited to the Steamboat-Inspection Service, but rather to the owners, and that the condition of the worst class, to wit, the excursion boats, represents more nearly the actual tendency of the Steamboat-Inspection Service.

In judging the efficiency of the Steamboat-Inspection Service, therefore, the Commission is of the opinion that the averages given in the first table, to wit, those which refer to the total deficiency of all classes combined do not fairly indicate the full extent of the inefficiency of the Service, but that this must be judged rather by the results shown in the second table under the head of excursion steamers. It is obvious

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that a system of inspection which permits of there being 33 per cent of defective or missing life-preservers and 26.35 per cent of defective or missing hose is to a high degree inefficient.

The Commission is of the opinion that the same reasoning applies to the *boiler* inspection. The reinspection of the boilers and machinery showed, as was above indicated, a fairly satisfactory condition of affairs, but whether this condition is to be credited to the Steamboat-Inspection Service or to other causes is not so clear. So far as the system of inspection, and particularly the supervision exercised by the local inspectors over the boiler inspection, is concerned, there is little reason why the boiler inspection should have been any better than the hull inspection. It must be remembered that there is a fundamental difference between the use of safety appliances and of those parts of the vessel which come under the hull inspection, and the use of the boilers and machinery, which come under the boiler inspector.

In the first place it is for the interest of the owner to keep his boiler and machinery in good condition. A defect therein means damage to his vessel, cessation of operation, and consequent expense, all of which falls upon him. Furthermore, the assistant inspector of boilers is well aware when he makes his inspection that the machinery will be put in operation shortly thereafter and any defects existing will be revealed. On the other hand, the owner would have very little pecuniary interest in maintaining a proper condition of safety appliances, and might be concerned in economizing on these as far as permitted by the Steamboat-Inspection Service, and the assistant inspector of hulls also knows that after he has inspected this equipment there is very little chance of its defective condition being shown by actual use.

The Commission is, therefore, of the belief that, in so far as the superior officers are concerned, the good condition of the boilers and machinery, as compared with that of the safety appliances, is due to causes other than efficient inspection.

Furthermore, as was stated above, each local inspector, whether hull inspector or boiler inspector, is responsible for the general system and methods employed in both branches of inspection. The local boiler inspector is, therefore, not excused for general inefficiency in the hull inspection by any excellence that may exist in the boiler inspection.

In addition to the summaries above given of the written evidence derived from the reinspection, a number of facts were brought out by the oral testimony of the reinspectors themselves when placed upon the witness stand. These facts were substantially as follows: they found a large proportion of safety appliances defective; life-preservers were frequently found whose covers were so rotten that they would not hold together under ordinary handling; a large number of life-preservers were found which required repair in minor details, such as straps, buttons, etc.; many new life-preservers were found

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boats were frequently found without proper complement of cars, automatic plugs, painters, and life lines; several instances were found of compartments or cabins presenting a highly inflammable condition as to contents and construction; and the pressure tests applied to the fire hose developed a serious condition of affairs, as shown by the above percentages, and as corroborated by the oral testimony; hose burst at pressures varying from 5 to 100 pounds in different instances, and in some cases leaked so that no pressure at all could be obtained at the nozzle; hose blew off the couplings; couplings failed to have proper thread; large shortages of the required amount of hose were found; a very large amount of new hose was found, and, in general, the hand fire pumps were in a distinctly unsatisfactory condition.

Furthermore, the facts alluded to were most strongly illustrated and emphasized by several features of the *Slocum* disaster. Unquestionably a large number of the life-preservers on that vessel were so defective that the covers tore and the passengers refused to use them, and it is equally unquestionable that by reason of this defective condition a large number of lives were lost. The life-preservers were suspended on wires which rusted and cut the covers, and the staples holding these wires in place were so firmly driven in that it was next to impossible to pull them loose and readily get life-preservers.

The gravest charge to be brought against the Service in connection with the *Slocum* disaster, however, is that which deals with the defective fire hose. Under the methods of inspection which prevailed at the time of the last regular inspection of the *Slocum*, on May 5, 1904, no pressure test was made of this hose. At the time of the fire the hose was pulled down, connected with the standpipe, the steam fire pump was running, and the water was turned promptly into the hose, while the nozzle was brought to within a few feet of the place of the fire. Not less than four of the crew were there ready to operate this hose, and the fire was at that time of comparatively small extent; but the hose burst in two places at least as soon as the water was turned on and also pulled off from its coupling. A calculation, based upon the condition of steam pressure at the time of the disaster, and the dimensions of the steam pump, demonstrates absolutely the fact that it would have been impossible for that pump to have produced a water pressure on the hose even approximately as high as 100 pounds.

Had the fire hose, therefore, been of the proper statutory strength, to wit, capable of sustaining 100 pounds pressure to the square inch, or had it even approximated this strength, the pump could not have burst the hose even if the hose had been badly knked or its nozzle completely closed. This hose burst simply because it was defective, and its worthless condition nullified the chief fire protection of the boat. There is a strong probability that the fire would have been controlled had the hose been good. The instance is a forcible illustration of the results of ineffi-

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cient inspection. The Commission is of the opinion that had this vessel's hose been subjected, at the regular inspection on May 5, 1904, to the statutory test of 100 pounds pressure to the square inch, as contemplated by law, hose of the required standard would have been on board the vessel at the time of the fire, and it is highly probable that the fire would have been extinguished or checked at its early stage, the loss of life would have been averted, and that to this extent the negligent work of the Steamboat-Inspection Service was one of the fundamental causes of this disaster.

REASONS FOR INEFFICIENCY OF SERVICE.

Several causes doubtless contributed to the condition of affairs in the Service above outlined. In the first place, it is fairly obvious that the present force in New York is inadequate to carry out a proper inspection as contemplated by law. Whether an unlimited force, under the system there prevailing, would have made any better inspection is not wholly clear, but it is clear that for the future the force must be enlarged if the inspection is to be made in accordance with legal requirements. There is no evidence before the Commission that any protest has been made by the local inspectors in New York as to the inadequacy of their force.

One obstruction to the proper performance of the work of the Service lies in the opposition which is always met when, through the enforcement of precautionary statutory rules, personal inconvenience is caused to the traveling public. It is common knowledge that while the average passenger desires steamboat traffic to be safeguarded in the highest degree as a matter of general principle, the same passenger vigorously objects if this involves any delay or inconvenience to himself. An interesting example of this principle occurred in New York shortly after the burning of the *Slocum*, while the reinspection was going on and while the public demand for additional precautions and inspection was at its height. In the regular course of reinspection a certain excursion steamer was ordered to be tied up for reinspection. A large party of excursionists had intended to make a trip on that vessel that day, and upon finding her laid up for reinspection made very energetic and forcible objection to the inconvenience and delay which was caused to the party. Among these objectors were many who had shortly before been personally prominent in demanding reinspection and all other possible precautions.

A further cause possibly lies in the reluctance of owners to keep their equipment in proper shape, and this applies especially to excursion steamers, but it is not a satisfactory excuse in most cases, as it is the duty of the Steamboat-Inspection Service to see that they do so.

In the opinion of the Commission, however, the chief reasons for the inefficiency of the Service lie in the inadequate supervision exer-

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cised by the supervising and local inspectors over the assistant inspectors under them, who were doing the actual inspecting; in the failure of these superior officers to ascertain whether such inspection was being properly done, or to check up or verify the work of their subordinates; in their almost total failure to instruct or direct their subordinates in the proper performance of their duties; and, finally, in the natural deterioration that will take place in any service where the subordinates are not kept up to the proper efficiency by their superiors, but are left to perform their duties as they see fit.

CONCLUSIONS.

A proper and reasonable inspection, as contemplated by the statutes and regulations now existing and as necessary to the protection of life and property on steamers, is the ideal standard of comparison that the Commission has had in mind while making its investigation of the Steamboat-Inspection Service.

The actual work of this Service as found in the port of New York falls materially below this standard. It has not been adequate either in carrying out the statutes as provided or in furnishing sufficient protection to life and property in the traffic concerned.

This condition of affairs in the first instance (but in the first instance only) due to the inefficient inspection made by the assistant inspectors who do all the actual work of inspection in that port. But the Commission feels that the responsibility for this condition lies almost entirely upon Robert S. Rodie, Supervising Inspector of the Second District, and the two local inspectors, James A. Dumont and Thomas H. Barrett, in charge of the port of New York. It was the duty of these local inspectors to see that the work was properly done, and it was the duty of the supervising inspector to see that the local inspectors did their work. It is obvious that none of these officers so performed his duty, and as between subordinates, to wit, the assistant inspectors, who did the work, and the superior officers, to wit, the supervising inspector and the local inspectors, the Commission believes that the real responsibility lies with the superior officers.

A practical view of the matter makes it clear that subordinates can not reasonably be expected to be more efficient than their superiors nor to carry out their duties on any higher standard than is insisted upon by those over them. If the entire responsibility for the work of the Service were to lie with the men who actually do the work, to wit, the assistant inspectors, there would be no logical need for any superior officers. The only reason for the existence of such superior officers is the need for supervising officials who will see that the work is properly done.

This the superior officials have not done in a satisfactory degree.

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They have apparently become in the course of years, not necessarily with intention, but through the natural tendency toward routine, mere clerical employees, confining themselves almost entirely to the desk work within their office rooms. They have not taken measures to properly instruct their subordinates at the beginning of their service, but have allowed these subordinates to acquire and perpetrate without correction all the errors and omissions which in course of time inevitably appear in a service not subject to proper supervision. They have failed, with substantial completeness, to instruct and direct their subordinates at any time as to proper methods or principles of inspection. They have substantially failed to exercise that supervision over the work of their subordinates which the most ordinary degree of business efficiency should call for from a superior officer, and have practically taken no effective means to assure themselves that the work for which they were responsible was being properly done.

The essential work of the Service, to wit, the inspection of vessels, was done wholly by the subordinates; the superior officers came in touch with this essential work only through the subordinates; the superior officers were responsible for the performance of the work; the subordinates were their accepted means of performing it; and yet these superior officers failed to take the necessary measures to create and maintain an efficient machinery for the accomplishment of the duties intrusted to them; and failed conclusively to do what they were primarily intended to do—to see that the men under them made a proper inspection of steam vessels. As a necessary result the whole Service presents the natural condition of a business in which the subordinates are left to their own control, without any of that supervision and instruction by their superiors which is absolutely necessary to keep a service up to its proper efficiency.

There was no evidence before the Commission that this lack of efficiency was due to corruption or improper motives. It is probably true that there was no willful intent to neglect or misperform the duties of the office. But the Commission feels strongly that the mere absence of intentional malfeasance is no excuse for these officers, in view of the conditions above outlined. Men who assume the obligations and receive the emoluments of a Federal office take thereby upon themselves the active and positive obligation of performing properly and efficiently the duties of such office, and the best of good intentions is no excuse for failure so to do. Men who are responsible for the safety of human lives must discharge that trust in full.

If the Steamboat Inspection Service in the port of New York is to attain in any substantial measure the ends designed by the statutes relating thereto, there must be fundamental changes in its methods and personnel.

CHAPTER V.—RECOMMENDATIONS.

The Commission is earnestly of the belief that by far the most important part of its work in connection with this disaster has to do with the future. During the long investigation which the Commission has carried on it has been impressed with the magnitude and horror of this terrible catastrophe, and increasingly anxious that the lesson thereof shall not be wasted, but that when the facts are properly understood there will be produced such results in legislation and in departmental action as will materially increase the safety of life and property involved in traffic on the public waters of the United States.

With this chief object in view, the Commission presents herewith its views as to certain changes which it is led to believe are necessary in statute law, in departmental and bureau regulations, and in the conditions of the Steamboat-Inspection Service. In stating these recommendations the Commission has not attempted to give in detail the actual form that such changes should take, nor to indicate the exact method by which they should be brought about. It has endeavored rather to state fully the defects that now exist, and to indicate in a general way the changes that should be made, giving its reasons for such belief, as follows:

CONSTRUCTION OF PASSENGER STEAMERS.

One of the fundamental facts which made possible a disaster of so extreme a nature was the character of the material and form of construction of the *General Steam*. And in this respect the *Steam* was no more dangerous than scores of other steamers still carrying passengers in the port of New York and hundreds of similar vessels elsewhere. The facts regarding material and construction are, and long have been, common knowledge. But not until the *Steam* disaster has there been any practical understanding or appreciation of the inevitable result of such facts in relation to fire hazard and consequent loss of life.

The Commission feels that it can not emphasize this matter too strongly. So far as the passengers were concerned, the entire disaster to the *General Steam* took place in less than twenty minutes. When the flames were once well under way nothing could stop them, as the vessel was simply a shell of highly combustible, frequently painted, extremely dry wood—a mere tinder box of the greatest possible inflammability. The sole protection of such a vessel against fire depends on prompt extinguishment at its early inception. If such extinguishment

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be rendered impossible by any one of a large number of possible causes, to wit, failure of hose, lack of discipline of crew, failure of pumps, or any one of a number of possible minor defects in machinery, there is no reason why the disaster to the *General Slocum* might not be duplicated on any one of hundreds of similar vessels still running in New York Harbor and elsewhere. The steamer *General Slocum* was not abnormal; it was typical, and these facts must be plainly recognized if the lives of passengers on such boats are to be at all properly safeguarded.

The Commission has very carefully considered this question, has taken considerable evidence on the point of construction of passenger vessels, and numerous suggestions have been made for reducing this fire hazard by change in materials, fireproof bulkheads, hatches, etc. The subject is a highly technical one. Any such changes as are suggested might involve a great expense to shipping interests and should be made only upon complete and expert information. The Commission is not composed of builders or of experts on marine construction. It would, therefore, strongly recommend the creation of a special commission of experts to consider fully the subject of the construction of steamboats, including ocean steamers, and make full report and recommendations thereon.

The said commission should also consider the subject of maximum passenger allowances for steamers, and report thereon, with a view to the better protection of life by the establishment of definite rules for the determination of such passenger allowance.

SAFETY APPLIANCES.

Life-preservers.—The present statutes are inadequate in that they do not require that all classes of passenger boats shall be equipped with one life-preserver for every passenger and member of the crew. It was found on examination of the law, in the case of the *Grand Republic*, that the only requirement as to life-preservers applicable to that vessel was United States Revised Statutes, section 4488, which is wholly general in its terms. A provision should be made, either by statute or by regulation, that all passenger steamers should carry one life-preserver for each passenger and member of the crew. This should also be made to apply to ferryboats, which are now obliged by statute to carry only so many as the inspectors may direct, and by regulation they are required to carry a number equal to the average number of passengers. This provision should apply also to excursion barges in tow, which are now required to carry only 25 life-preservers.

The present regulations as to the quality of life-preservers are deficient. They should provide specifically for the kind of contents; the kind and quality of covering; kind, quality, and location of straps; method of testing at the factory; exact method of testing on board

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ship by inspectors; place and method of storing and hanging life-preservers, and they should require inspectors to report the age of all life-preservers on board the vessel inspected.

Hose.—The regulations as regards fire hose are defective in not expressly requiring an efficient test of the hose or demanding a condition of hose that will prevent failure of hose coupling at the time of fire. Evidence was produced before the Commission showing that unlined linen hose or linen hose lined, but not covered with rubber, tends to deteriorate very rapidly, the rapidity depending on varying conditions of temperature and moisture and methods of drying and storage. The regulations should be amended so as to require the original quality of the hose to be good and to be of such material that, taken in connection with its use and care, it will not become of less than statutory strength from the time of one inspection to another. All the hose couplings on the same steamer should be required by law to be of United States standard thread and of the same size and interchangeable, except for the reducers, if there be any. (The details of testing of hose are referred to later under "Duties and powers of inspectors.")

Hand fire extinguishers.—Requirements should be made providing for the installation of hand fire extinguishers or hand grenades on excursion steamers, and for their location throughout the vessel at a number of points, so as to be instantly available in case of fire.

Steam fire branches.—The use of efficient carbonic-acid gas systems should be allowed as an alternative for steam fire branches, at the option of the owner, and if found equivalent by the Board of Supervising Inspectors. The statutes should also be amended so as to make it clear that steam fire branches, etc., are to be inserted into cargo or freight holds only, so as to follow the Department decision forbidding the use of such branches in any compartments used as cabins. (Treasury Letter No. 5764, dated June 19, 1883.)

Lifeboats.—It should be provided that lifeboats shall be secured so that they can easily and quickly be cast adrift.

Responsibility for equipment.—The present law makes it difficult to place exactly the responsibility for defective equipment, and tends rather to leave this responsibility wholly on the captain under conditions that are unfair. Theoretically, the captain should not take a vessel from dock if he knows that the equipment is defective, but, practically, the captain who refused to sail under such circumstances would be promptly dismissed, and he often has to take the burden of this responsibility upon his conscience as well as the danger of criminal penalty.

The law should be so amended as to make it possible to readily bring home a criminal liability upon individual owners and charterers, and upon the officers and agents of corporate owners, in all cases where their vessels have been navigated with defective equipment, and where

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such owners, charterers, officers, or agents had, or reasonably should have had, knowledge of such conditions. To this end the captain should also be required to make verified returns at stated intervals to the office of the Steamboat-Inspection Service as to the condition of the vessel's equipment. Such returns would relieve the captain of undue responsibility on this point and would enable the Steamboat-Inspection Service to notify the owners and place the responsibility upon them. Similar returns as to fire and boat drills should be required.

OFFICERS AND CREW.

The law appears now almost wholly deficient in any definition of the duties of the captain as to the navigation or equipment of his vessel, leaving this question almost entirely to custom. If possible, some general statement should be made, in the form of either statute or regulations, as to the duty of the captain in such matters, in order to have proper ground for holding him responsible in case he fails therein. This applies similarly to other licensed officers.

Although the statutes are somewhat confused, it would appear that they do not require licensed makes on other than ocean-going or coastwise steamers. It is certainly essential that there should be a licensed deck officer present on board the large passenger steamers, whether inland or ocean going, and especially on excursion steamers.

Provision should also be made, if possible, to improve the personnel of the crew. It was clear from evidence before the Commission that the crews of excursion vessels are of a low grade. It is probably impossible to get men who are much better originally, but this low grade of original material should be recognized as an essential fact, and the statutes or regulations should provide for frequent and stringent fire and boat drills, and for such other discipline as may be necessary to overcome the original ignorance and lack of knowledge of seamanship of such crews, and means should be provided whereby the maintenance of such drills should be enforced by the Steamboat-Inspection Service.

The Commission would also recommend that in cases of trials for the revocation of licenses, where either the license has been revoked or suspension for more than six months has been made, an appeal should be allowed on behalf of the defendant from the decision of the supervising inspector to the Supervising Inspector-General.

SPECIAL GLASSES OF VESSELS.

Excursion boats.—The Commission was impressed with the special helplessness of the passengers carried on the usual excursion steamer, by reason of the peculiar composition of the crowd and the presence of a very large percentage of women and children. It recognizes and desires to emphasize very strongly the special panic hazard that is involved in parties of this kind. Measures should be directed particu-

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larly to the safety of such crowds. The Commission would specifically recommend that extra uniformed deck hands or watchmen should be required on such vessels, these additional watchmen to be proportioned in number to the number of passengers carried, to be drilled, to be assigned to places in case of emergency, and their duties to be confined to looking out for the safety of the passengers.

INSPECTORS' POWERS AND DUTIES.

Under existing statutes the inspectors have no power, after condemning improper or worthless safety appliances, to see that the same are destroyed and not again put into use. Numerous instances were given where such condemned equipment had been either actually put back into use or continued on the vessel under circumstances that made it highly probable that it would be so used. Power should be given to the inspectors to require that before a certificate of inspection is issued, all worthless condemned equipment be destroyed, and all equipment that is capable of repair be so repaired. Regulations should prescribe the proper limits within which inspectors shall exercise this discretion, and should require that such destruction shall take place when ordered.

Power should be given to the local inspectors to revoke a vessel's certificate at once upon discovery of her violation of the steamboat-inspection law, or upon refusal to allow inspection, and to obtain the immediate aid of a United States court in seizing such vessel and preventing her from further navigating until the violation or refusal ceases. This matter was brought very strongly before the Commission in the case of the *Grand Republic*, a sister ship of the *Steamer*, and in the case of three other ships, all operated by the Dreamland Company, of New York. The company refused to tie up the boats for reinspection, although three times requested to do so, forced the inspectors to make a partial reinspection of the *Grand Republic* while the vessel was still running, and when that reinspection revealed a dangerously defective condition of life-saving appliances and fire-fighting apparatus, still flatly refused to suspend operations for a complete inspection or to change the condition of her equipment. In spite of these extraordinary facts, the Steamboat-Inspection Service was wholly without any direct power to require these boats to stop navigating.

Inspectors should be given power to require boat and fire drills on board a steamer at any time. This power is not now possessed by the Service.

Inspectors should be given power to order the inspection of a vessel at any reasonable time, safeguarding this so that the power shall not be used so as to unnecessarily inconvenience owners. The present law is singularly inadequate, the result of its working being that inspection is in many cases a matter dependant upon the voluntary application of the owner. This is wrong in principle, as it is to be remembered

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that the primary object of inspection is directed as a check upon and against the owner to see that he complies with the law. He is practically the defendant in this inspection, and the initiation of the inspection should not lie in his option.

Power should also be given to the inspectors to exercise police supervision over steamboats, so as to see that the requirements of law and regulations are enforced, and a sufficient force of men for this purpose should be added.

The so-called "joint rule," which is as follows—

It shall be the duty of the inspectors jointly, before granting a certificate of inspection, to thoroughly test the fire apparatus of steamers, and to examine carefully all pumps, hose, lifeboats, and other equipments required by law, and to see that the glass of colored signal lights is in no case less than six inches in width and five inches high in the clear (Rule IX, sec. 2).—

should be so amended as to require the inspectors to inspect jointly only the hose, hose couplings, and fire apparatus, exclusive of steam fire pumps and standpipes. It is practically impossible, without great increase in force, to carry out the said joint rule as it now stands. Furthermore, no good result can be seen in requiring joint inspection of life-preservers, pumps, steamers' lights, and other general equipment. As a matter of fact, this rule has been disregarded in the port of New York for a great many years.

It should be made clear that it is the duty of the boiler inspector to inspect the standpipes. At present it is not quite evident into which department these fall.

Regulations should be made standardizing and specifying the nature of tests to be made of life-preservers on board vessels, and requiring that each life-preserver shall be taken from its usual location, handled by the inspector, and the actual conditions of its cover and straps tested by application of force thereto, and not by superficial observation, and the inspector shall see that it has the "passed" mark on it.

The regulations should require that each and every length of fire and deck hose of a vessel shall be tested to withstand a pressure of 100 pounds to the square inch, as indicated by an attached pressure gauge. It is necessary not only to have the required amount of good hose on a vessel, but also to see that *all* hose on the vessel that can possibly be used for fire purposes shall be of the required standard, for in cases of emergency a crew will not stop to pick out that hose which has been tested, nor has it time to try different lengths of hose in the presence of a fire.

Steam fire pumps should be tested by actually operating the same under steam; hand pumps should be also tested by actual operation.

Regulations should require the hull inspector to examine carefully all compartments to see whether inflammable conditions exist therein, and to have such conditions promptly reported and remedied if found. Steamers' lights should be inspected at night and while lighted in

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any cases where there is reason to believe that such lights are inefficient.

STEAMBOAT-INSPECTION SERVICE.

The existing lack of efficiency in the methods and personnel of the Steamboat-Inspection Service in the port of New York, together with the causes thereof and the remedial measures deemed necessary in view of such conditions, have already been set forth in Chapter IV, and need not here be repeated in detail.

Increase of force.—The Commission is firmly of the belief, however, that the working force in the port of New York should be substantially increased. This increase should be for two distinct purposes:

(a) The Commission is satisfied that it is physically impossible with the present force to carry out such inspection as is contemplated by law, even if the so-called "joint rule" (Rule IX, sec. 2, p. 79) should be modified as above suggested. A calculation of the time that should theoretically be given to an average inspection demonstrates this proposition, and this conclusion is supported by the further fact that the assistant inspectors, under the new methods that have been adopted since the *Stoocum* disaster, have been obliged to work until late at night.

This difficulty might be partly met by a system that would distribute the inspections more evenly through the year, or by a system that would allow the employment of a temporary additional force in the rush seasons, to wit, the months of April, May, June, July, and August, but even with these expedients, it is believed that considerable addition should be made to the present working force.

(b) A second important purpose that would require an additional force is that of maintaining a proper police supervision over steamers, which supervision would be exercised wholly apart from the regular annual inspections. Its purpose would be to ascertain whether the proper condition of steamers was maintained between inspections, and also to show by a system of frequent reports the working and efficiency of the regular inspection.

There is an unquestioned need for some such policing of the steamboat traffic. This duty now lies with the collector of the port, according to law, but the Steamboat-Inspection Service should have practical means of enforcement, by additional force and proper legal machinery.

Salary system.—The Commission is of the opinion that the present salary system, while not practically affecting the New York force in its defective features, is, nevertheless, in general, a vicious one, inasmuch as it makes the salary of an inspector dependent upon the number of vessels he inspects and passes, and tends to lax inspection.

The salaries should be fixed at lump sums, apportioned doubtless to

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the approximate amount of work done, but not annually dependent upon the number of inspections.

The present system provides that each local inspector shall be paid according to the number of vessels he has inspected in the previous year. For instance, if he inspects 100 vessels or less, he receives \$1,200; for 100 to 150 vessels, \$1,500; 150 to 200, \$1,800; 200 to 300, \$2,000; 300 to 500, \$2,250; and for over 500, \$2,500.

The objection to this system is apparent from the mere statement of it. The inspection of one vessel, more or less, might make a difference of from \$250 to \$300 in the annual salary of an inspector. The result has naturally been that inspectors have in many cases given their chief attention to the mere matter of getting vessels to submit to inspection, regardless of whether such inspection was properly made or whether their other duties were properly performed; and thorough, careful, and honest inspection correspondingly penalized.

Assistant inspectors.—The statutes wholly fail to define in any way the duties of an assistant inspector. (U. S. Rev. Stat., sec. 4414.) This is objectionable, as it leaves their relations to the local inspectors to be determined by inference, and because it does not expressly place responsibility upon the assistants. In general it should be expressly provided that the assistant inspectors should perform such duties as may be assigned to them by the local board.

Signing of certificates.—The Commission finds that the present system of issuing certificates to steamers is anomalous and improper, particularly in the port of New York, where the local board does none of the work of inspection, but is required to sign the certificates. The result is that a certificate is made as to a number of detailed facts and signed by persons who have absolutely no direct knowledge of the facts stated therein.

Provision should be made so that the assistant inspectors, who make the actual examination, shall sign the certificate so as to certify as to the correctness of the actual facts stated therein, and this certificate shall then be approved by the signatures of the local board, so as to indicate that the local board approves of the general principles upon which the certificate is based.

Age limit.—It was evident to the Commission that the actual inspection work of this Service demands an unusual amount of physical exertion, if the statutory inspection is to be properly performed. Physical activity and endurance on the part of inspectors is necessary for an efficient inspection.

Tests of new inventions.—The regulations should provide that whenever practicable the samples that are used for tests of articles submitted to the Board of Supervising Inspectors shall be preserved as part of the records of the Board. A striking instance of the necessity of this has arisen in the case of the kapoc life-preservers.

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MISCELLANEOUS.

Transfer of details from statutes to rules.—While the Commission has not made a thorough investigation of this subject, it is, on general principles, of the opinion that matters of detail, as to measurements, sizes, qualities, etc., should be confined to the regulations. The provisions in the statutes should lay down the general principles, allowing room for elasticity and variation in details by means of regulations, in order to meet rapidly changing conditions and improvements.

Making or selling defective life-saving appliances.—There is now no adequate statutory penalty for the selling of defective life-saving appliances, or any check upon such conduct except the actual factory inspection by the Service, so that if by mistake or corruption defective equipment is passed there is no well-defined statutory penalty imposed upon the maker. It may readily happen that in case of articles of a new and strange character the articles sold do not correspond with the sample submitted to the Board of Supervising Inspectors for the original test, and the assistant inspectors detailed to make the factory test may not notice the discrepancy. Thus dangerously defective appliances may be put in the hands of passengers or relied on for their protection. An apparent instance has come to the notice of the Commission in the case of the kapoc life-preservers.

A startling and flagrant proof of the necessity for such legislation has also come before the Commission in the form of cork life-preservers put on the market, containing blocks of compressed granulated cork with bars of iron concealed in them, placed there for the purpose of fraudulently bringing the life-preserver up to the standard of weight required by the regulations. The statutory penalties now applicable to such conduct are by no means effective or severe enough to meet the gravity of this offense.

Definition of ferries.—Some clear and complete definition of ferries should be made either by statute or by regulation. Rule VII, section 2, which is as follows, is not adequate:

Ferryboats are steamers running under a ferry charter granted by any State or municipal authority, and steam vessels employed as a means of crossing any river, or other similar water, in continuation of any established highway, may also be considered ferryboats under the law; and the navigation of such vessels must be confined to the ferry routes specified in the inspection certificate issued; but such vessels may be permitted, under excursion permits, to go beyond their authorized routes with passengers only, or, without such permit, to lighten or relieve vessels in distress.

The matter is important because ferryboats now enjoy certain exemptions from the usual requirements as to equipment, and, in the case of a true ferryboat operating over its comparatively short route and constructed after the peculiar manner of the usual ferryboat, with a very broad beam, with exceptionally good means of access and egress, and carrying most of her passengers on one deck, there is not so

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great need of the maximum equipment that is required on the usual excursion boat.

An instance has come to the attention of the Commission in which the letter of said Rule VII, section 2, has been complied with, but the spirit has been evaded, with the result that boats engaged in a traffic of a strictly excursion nature and having the construction of regular excursion boats can, nevertheless, get the exemptions that should apply only to true ferryboats.

Charterers.—There appears to be no clear statutory definition of the status of a charterer and his responsibilities toward the steamboat-inspection requirements. Of course a charterer who engages a boat for only one day, and who has no control over her equipment, crew, or management, should not have the responsibility of an owner; but charterers who engage a boat for an entire season or a substantial portion thereof, and who control her equipment, hire officers and crew, and direct her route and employment, have taken the position of owners, and should be made responsible accordingly.

Special meeting of the Board of Supervising Inspectors.—Inasmuch as many of the changes suggested in this chapter can be accomplished by regulations, the Commission recommends the calling of a special meeting of the Board of Supervising Inspectors at an early date, for the purpose of considering such amendments and additions to the rules and regulations as may be necessary and appropriate to carry out such changes.

Respectfully submitted.

LAWRENCE O. MURRAY,

Chairman.

JOHN M. WILSON,

Brigadier-General, U. S. Army, Retired.

C. MGR. WINSLOW,

Commander, U. S. Navy.

HENRY KNOX SMITH,

Deputy Commissioner of Corporations.

Most respectfully concurred in with the exception of that part of the report that places the responsibility on the supervising inspector of the second district.

GEO. UHLER,

Supervising Inspector-General,

Steamboat-Inspection Service.

To the PRESIDENT.

REPORT OF CRIMINAL PROCEEDINGS CONNECTED WITH THE "SLOCUM" DISASTER AND THE LIFE-PRESERVER CASES.

DEPARTMENT OF JUSTICE,
Washington, D. C., October 19, 1904.

To the PRESIDENT.

Sir: In response to your direction, I have the honor to report as follows concerning the present status of the *Slocum* disaster cases and of the life-preserver case:

As to the *Slocum* cases: On July 29, 1904, four indictments were found in the United States circuit court for the southern district of New York under section 5344 of the Revised Statutes, as follows: One against William H. Van Schaick, master and captain of the *Slocum*, and Frank A. Barnaby, James K. Atkinson, Frank B. Dexter, and John A. Pease, managing directors of the Knickerbocker Steamboat Company, for misconduct, negligence, and inattention to duty by Van Schaick and for aiding and abetting by Barnaby and the others; one against Van Schaick, master, alone; one against Henry Lundberg and John W. Fleming, assistant inspectors of the Steamboat-Inspection Service, for fraud, misconduct, and inattention to duty in an inspection of the *Slocum*; one against Van Schaick, Barnaby, Atkinson, Dexter, and Pease, for aiding and abetting the Knickerbocker Steamboat Company in fraud, misconduct, and inattention to duty, whereby life was destroyed.

Demurrers to all these indictments, with specifications, were filed in the various cases between August 17 and October 10.

An application will be made to-day by the United States attorney for the southern district of New York to fix an early date for argument on these demurrers. As soon as the demurrers are disposed of the Government will apply to the court to fix a day for the trial of the accused, as early as possible, as the Government is ready to proceed at once to trial.

As to the life-preserver case: On September 29, J. H. Stone, manager, and H. C. Quintard, Charles W. Rues, and James Russ, employees of the Nonpareil Cork Works, of Camden, N. J., were indicted under section 5440, Revised Statutes, in the district court of the United States for the district of New Jersey, for conspiring to defraud the

Government and prejudice the administration of the steamboat-inspection laws by putting upon the market compressed-cork blocks for use in making life-preservers, each of which blocks contained in its center a piece of bar iron about 6 inches long, weighing about 8 ounces. This iron was inserted for the purpose of bringing the weight of the blocks up to the legal requirement of 6 pounds of good cork to each life-preserver. These indictments grew out of the following facts:

Since the *Steera* disaster a large number of new life-preservers have been placed upon passenger vessels everywhere. About 300 of these blocks containing a piece of bar iron, as described, had been shipped recently from the Nonpareil Cork Works to David Kahnweiler's Sons, manufacturers of life-preservers in New York City. A member of that firm, expert in the matter of handling cork, suspected that the blocks were not right, and on breaking one of them open found the iron embedded in the cork. The discovery was reported to officers of the Steamboat-Inspection Service in New York and then to the Department of Commerce and Labor. The case was duly investigated by that Department and the Department of Justice, with the assistance of the Secret Service, and the indictment followed.

It is evident that no examination short of the destruction of the life-preservers would reveal such pieces of iron bar. This Department is informed that the officers of the Inspection Service have made a careful and special effort to ascertain whether any loaded life-preservers are in use on vessels anywhere. It appears certainly from evidence obtained at the factory by Secret Service operatives that the whole output of these blocks is under seizure and will confront defendants at the trial. Upon this point you will no doubt be more fully informed from reports of the Department of Commerce and Labor.

Defendants entered a plea of not guilty, reserving the right to withdraw the plea and demur or move to quash the indictment. The United States attorney for the district of New Jersey expects the trial to take place at the present term of the United States district court at Trenton. He has been instructed to bring to immediate determination the issues which may be raised on motion to quash or demur, and to prepare for and proceed to trial at the earliest date possible.

I have the honor to remain,

Respectfully, yours,

HENRY M. HORT,
Acting Attorney-General.

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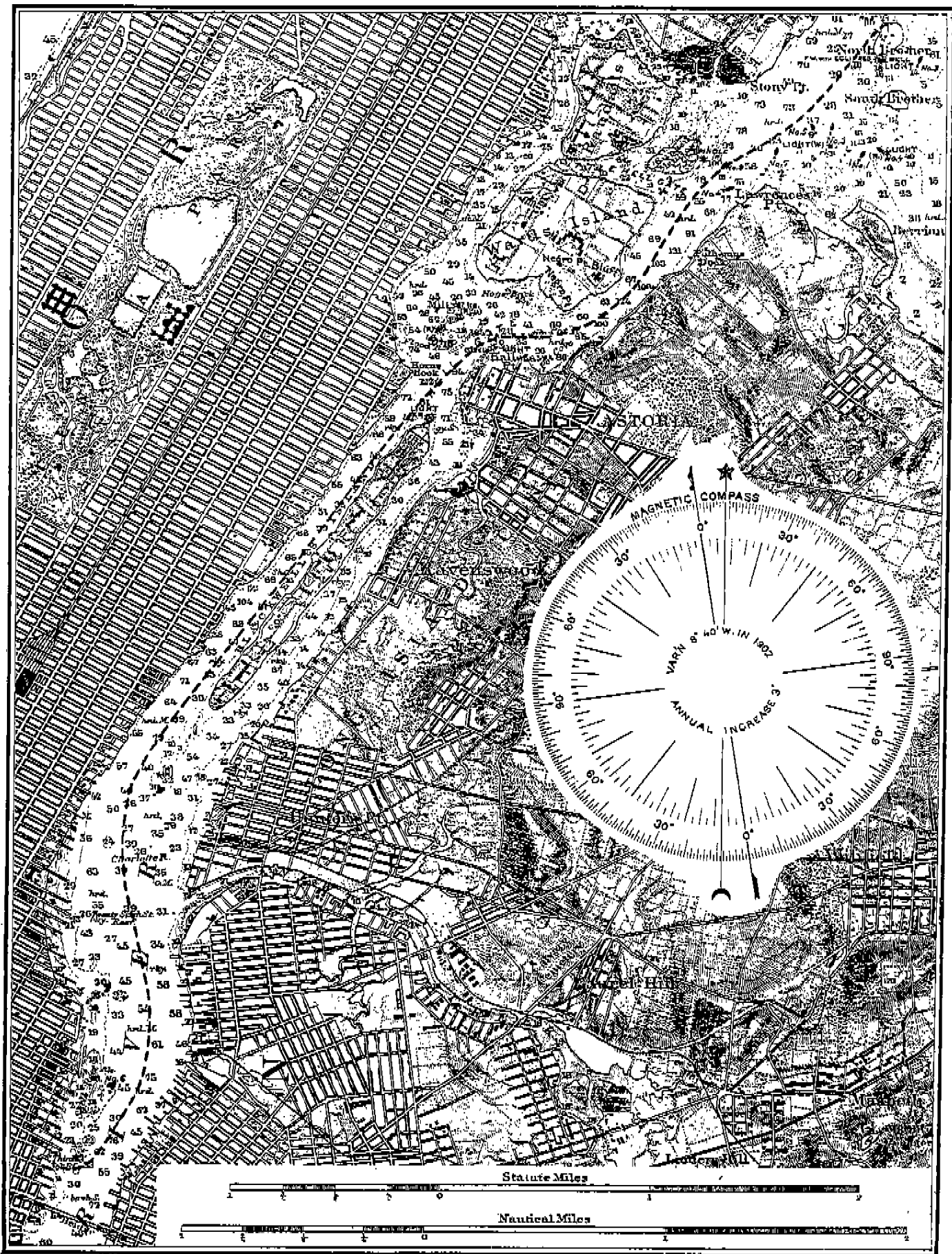


CHART SHOWING COURSE OF "GENERAL SLOCUM" ON JUNE 15, 1904, AND LOCALITY OF DISASTER.