

(No. 137.)

"STOCKTON" (S.S.).

The Merchant Shipping Act, 1894.

In the matter of an Inquiry before Commander WARREN FREDERICK CABORNE, C.B., R.N.R., Inspector for the Board of Trade, into the nature and causes of the accident sustained by the British steamship "STOCKTON," of Fowey, in the North Sea, on or about the 14th of December last, whereby she became a total loss.

*Report.*

SIR,

I HAVE the honour to inform you that in virtue of my appointment from the Board of Trade, dated the 25th day of January, 1910, I held an Inquiry into the above casualty in the Sessions Court, Law Courts, Hull, in the County of York, on the 2nd and 3rd days of February, 1910.

Mr. H. Saxelbye conducted the proceedings on behalf of the Solicitor to the Board of Trade (Mr. R. Ellis Cunliffe), and Dr. T. C. Jackson represented the owners of the vessel.

The "Stockton," Official Number 16,223, was a British screw steamship, built of iron, at Stockton-on-Tees, in the County of Durham, in 1857, by Messrs. M. Pearse & Company, and was registered in 1897 at the port of Fowey, in the Duchy of Cornwall, she having been previously registered at the port of Penzance, in the aforesaid Duchy.

She was rigged as a three-masted schooner; was constructed with a topgallant fore-castle (having a species of whale-back), bridge, and poop; had her engines right aft; and was of the following dimensions:—Length, 158·3 feet; main breadth, 25·8 feet; and depth in hold from tonnage deck to ceiling at amidships, 13·4 feet; her gross tonnage being 406·52 tons, and her registered tonnage 226·08 tons.

She had two hatchways to the holds, the forward one measuring 15 feet by 8 feet 3 inches, and the after (or main) one measuring 16 feet 6 inches by 8 feet 3 inches. Their coamings were approximately 14 inches in height.

The holds were ventilated by means of three cow ventilators, two of them leading to the forehold, and the other one to the main hold.

She was provided, although none are noted on the transcript of registry, with the following bulkheads: namely, an iron water-tight collision bulkhead, fitted with a cock, the fore peak forming a ballast tank; an iron separation bulkhead between the fore and main holds, which, while of a substantial character, was not water-tight; an iron water-tight bulkhead immediately forward of the propelling space, fitted with a sluice worked from the main-deck; and a tunnel or after peak bulkhead, fitted with a water-tight door and an ordinary sluice valve.

She was propelled by compound direct-acting engines of 80 nominal horse-power, built in 1873 by Messrs. Blair & Company, Limited, of Stockton-on-Tees, and was furnished with one boiler, with three furnaces in its after end, the engine-room and stokehold being thus practically in one.

She was provided with the following pumps:—One double-acting 6-inch in diameter donkey pump in the engine-room, with connections to the fore-peak ballast tank, fore and main hold bilges, engine-room and stokehold bilges, and, of course, to the sea; two bilge pumps in connection with the main engines, each 3½ inches in diameter by 20 inches stroke, connected to the fore-ballast tank and all hold and engine-room bilges: one bilge injection valve suction, 4 inches or 4½ inches in diameter, connected to the circulating pump, and capable of taking water from the engine-room bilges; one deck hand-pump to the main hold; and one portable pump of the Admiralty pattern, with suction hose that could be used in any part of the ship. The total steam pumping power was estimated as being equal to a capacity of about 80 tons of water per hour.

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She was provided with two compasses, in good order and condition; carried two life-boats in chocks under davits on the poop, one on either side, with their necessary equipment, and a jolly-boat in chocks on the main hatch. The vessel was also furnished with four life-buoys and ten life-belts.

The Certificate of Approval of Load-line, issued by the Board of Trade on the 26th of October, 1906, states that the centre of the disc was to be placed 2 feet and half an inch below the upper deck-line marked under the provisions of the Merchant Shipping Act, 1894; that the maximum load-line in fresh water was the upper edge of this line 3 inches above the upper edge of the horizontal line passing through the centre of the disc; and that the maximum load-line in winter was the upper edge of this line one and a half inches below the upper edge of the horizontal line passing through the centre of the disc.

Lastly, she was jointly owned by Mr. Robert Carson and Mr. Vicars Hedley Walker, the last named Mr. Vicars Hedley Walker, merchant, of Hull, being designated her managing owner by advice received on the 29th of June, 1907.

The "Stockton" was acquired by her owners on the 30th of May, 1907, her cost to them, including necessary repairs, she having been purchased in a damaged condition, amounting to £1,656.

When she was lying at Rotherhithe, in the River Thames, in December, 1907, having previously encountered bad weather, one of the Board of Trade Surveyors for the London District made certain suggestions that were acted upon at a cost of about £130.

In April, 1908, she was inspected by the Board of Trade Surveyor at Hull, who made some trifling recommendations which were duly carried out.

In October of the same year she was placed in the Hull Central Dry Dock for her annual examination and overhaul, and was found to be in good order. However, upon her next voyage she put into Lowestoft damaged, and was repaired at a charge of about £90.

In July, 1909, she was run into in the River Thames, her repairs, which were effected at the Hull Central Dock, upon this occasion amounting to £128.

On the 1st of December, 1909, she was placed on the Hard at the Hull Central Dry Dock, when certain repairs to pumps were effected, and she was supplied with a new anchor to replace one that had been lost. She then appeared to be in good order and condition.

At the time of her leaving the River Humber on the voyage which formed the subject of this inquiry, her owners stated her market value to have been £1,800, that being the sum they were asking for her, free from all commissions. Her hull and machinery were insured for £1,500, and there was also another policy taken out with the West of England Protecting and Indemnity Association for £100. Further, it was stated that during the last three years the total premiums paid had amounted to £593 4s. 8d.

At 6.15 p.m. on the 13th of December, 1909, the "Stockton" left Goole, in the County of York, bound on a voyage to Shoreham, in the County of Sussex, with a cargo consisting of 435 tons of large house coal, equaling about 45 cubic feet to the ton. In addition, she had 42½ tons of coal in her bunkers, bringing the total amount of coal on board up to 477½ tons. Her draught in fresh water was 12 feet 3 inches forward and 14 feet 6 inches aft, the centre of the load-line disc being just awash.

The hatches were battened down, all deck openings were closed, the fore-hold ventilators were plugged, and when the vessel got to sea the mouth of the mainhold ventilator was turned from the wind.

It may here be convenient to mention that there had been some trouble with the engine-room bilges during certain of the voyages of the ship, and, in consequence, the chief engineer had received orders from the owners to have them cleaned out every voyage, no matter what other work might be left undone. These instructions were obeyed, and the bilges were inspected by Mr. Robert Carson, M.I.N.A., superintending-engineer and one of the joint owners, on the date of the vessel's departure from Goole. All the different compartments were also sounded under his supervision and found to be dry. They do not appear to have been tested thereafter, probably owing to the fact that it would have been more or less of an impossibility to obtain accurate soundings in a small craft while seas were breaking over her.

At the time of the "Stockton" leaving Goole the tide was flood, the weather was fine, and there was a fresh north-easterly breeze. She was manned by a crew of ten hands all told, was under the command of Mr. Robert Brooks, who does not hold a Board of Trade certificate, and was in pilotage charge of a Goole and Hull pilot, who was discharged off the latter place about 9 p.m., when the ship proceeded to sea.

At 0.30 a.m. of the 14th of December, she was off the Spurn lightship, and by that time the wind, which had veered to the E.S.Ed., was blowing strong, and there was a choppy sea. A S.S.E. course was now set, the engines working full speed. After this the weather became much worse, the ship laboured very heavily, and made very bad weather of it, the sea, which was on the port beam, breaking over her.

At 5.30 a.m. the Dudgeon lightship was passed, the speed over the ground having averaged  $6\frac{1}{2}$  knots per hour.

About 5 a.m. the second engineer, who was on watch, noticed that water was increasing to an unusual extent in the engine-room. He tried the pumps and found that they were working all right, but as the water still seemed to increase he put on the donkey pump, which was worked for some considerable time and then stopped, as it seemed to have kept the water down. However, about 6 a.m., the second engineer, finding that the water was rising again, called the chief engineer, who promptly went to the engine-room. The pumps were once more tried, and the donkey pump started on the bilges. The water increasing gradually, and the ship rolling heavily, the stokehold plates were washed up. About 7 a.m., the chief engineer having reported the condition of affairs to the master and suggested the necessity for getting the ship as quiet as possible in order that he might put down the stokehold plates, her head was brought to the sea and kept in that direction for an hour-and-a-half.

At 8.30 a.m. the stokehold plates having been reported as replaced, the vessel was kept away again on a southerly course, her position at that time being approximately 10 miles S.S.E. from the Dudgeon lightship; but about a quarter of an hour or twenty minutes later, the chief engineer informed the master that the water was gradually increasing, and that as fast as the stokehold plates were put down they were being washed up again. The master went to the engine-room, saw the water about up to the knees of the men working there, returned to the bridge, and put the ship before the sea and endeavoured to run back to the Humber.

The ship was rolling very heavily, and when the stokehold plates washed up, coal from the bunkers and ashes got down into the bilges and choked the pumps, all of which, including the bilge injection, were at work trying to free the vessel. Upon several occasions the suction pipes were taken off and the roses cleared, and, after a time, owing to the quantity of coal in the bilges, the suction pipes were cut at a higher level with the object of preventing their being choked. The portable deck pump was not used, but this omission would not appear to be of any material importance. It should also be mentioned that the sluice to the after part of the main hold was open and that the cock to the water ballast tank forward was closed. The chief engineer made an examination of the stokehold and engine-room but was unable to ascertain the cause or position of the leak. Some heavy spray went down the fiddle grating, which was provided with an iron cover mainly for bunkering purposes, but it seems to be absolutely certain that the mischief was not caused in any way by water from the deck.

About 1 p.m., the Inner Dowsing lightship at the time bearing S.W. distant about 5 miles, and the vessel rolling heavily, the chief engineer reported to the master that he could not do anything more to save the ship, as the centre fire had been extinguished by the water, and the firemen, who had worked well, were no longer able to obtain coal for the other two furnaces.

The master then gave orders for the life-boats to be got ready for abandoning the ship. It should be remarked that the jolly-boat, which as already stated was stowed in chocks on the main hatch, had previously been struck by a sea, shifted on one side, and stove in. The vessel was wallowing in the trough of the sea, and when the port life-boat, which was the weather one, was swung out, she was struck by a wave and smashed in the davits.

The signal N.C. ("In distress; want immediate assistance") had been hoisted, and disregarded by two passing steamers, but about this time a steam trawler, which afterwards proved to be the "Etrurian," of Boston, in the County of Lincoln, was seen approaching to render

help. The starboard life-boat was now swung out and successfully lowered, and in her all hands went on board the trawler, which was then lying-to under the "Stockton's" starboard quarter, Mr. Brooks being the last man to leave the ship. There were about 5 feet 6 inches of water in the engine-room of the "Stockton" when the engineers left it, and at the time of leaving the ship she was rolling in the trough of the sea, water was washing over her, and she seemed to be very dead and waterlogged aft.

The skipper of the "Etrurian," upon being informed of the conditions prevailing on board the "Stockton," agreed to make an attempt to tow her into Boston Clay Deep. Accordingly, the second and third hands, and one of the deck hands of the trawler, went to the steamer and made fast a new wire hawser to her, and also placed a riding-light on board. The crew of the "Stockton" assisted with the wire on board the trawler, but none of them went back to their own ship. The tow-rope was made fast about 4 p.m., the fishermen upon their return to the trawler reporting that the steamer was awash and settling down aft when they left her.

The "Etrurian" towed the "Stockton" in the direction of the Well lightship, in the Wash, for about an hour-and-a-half, and then, about 5.30 p.m., the tow-rope parted. As it was dark, nothing more could be done at the time, but the "Etrurian," which had lost sight of the "Stockton's" riding-light about half-an-hour after the hawser carried away, remained in the vicinity all night, and on the following morning (the 15th of December) the three masts of the latter vessel were observed standing some 10 feet out of the water, Skegness Pier bearing about W.S.W., distant about 7 miles, and the depth of water being 7 fathoms.

The "Etrurian" then shaped a course for Boston, where she landed the crew of the "Stockton" at 7 p.m. of the same day.

No builders' plans, displacement scale, or stability curves were produced at the inquiry, and it was stated that none existed; but two rough sketches and two small photographs of the vessel were put in. The log-book was lost with the ship.

Particulars of various cargoes carried by the "Stockton" during the autumn of 1909 were given me, and I am quite satisfied that she had the required freeboard when she left Goole upon her last voyage; indeed, the evidence shows that she had a little more.

With regard to the stowage of the cargo, the fore-hold was full up, and there was only a small space left at the after end of the main hold, variously estimated at from  $1\frac{1}{2}$  to 30 tons. Taking the capacity of the holds as shown upon the rough plan at 20,000 cubic feet, and the particular description of coal shipped at 45 cubic feet per ton, the vacant space would work out approximately as 9 tons. However, there was no suggestion made that the coal had ever shifted in the slightest degree.

Every effort appears to have been made to save the ship, and the only criticism that I would offer in this connection is that the position of the leak being unknown, although it was assumed to be in the propelling space, it might have been better had the sluice on the main hold bulkhead been closed. Then, if the mischief had been located forward of the bulkhead by the water not rising in the engine-room, the pumps could have been put on to the main hold, and the washing about of much water in the stokehold might have been more or less avoided, at any rate for a time. The same remarks apply to the tunnel door and the space abaft it.

It was stated in evidence that the vessel (as was usual at the period of her construction) was very strongly built, that her plating was much heavier than would now be required, that the material was equal to the present Lowmoor iron, that the rivetting was good, and that the frames were only about 15 inches apart. The evidence also showed that she was in a good and seaworthy condition when she left Goole.

With regard to the cause of the influx of water, it was suggested that it might have been due to the "Stockton" having struck some submerged wreckage, but as no contact was felt or noticed by any of those on board, this theory may be dismissed, the more that it is one that is usually advanced in these cases. On the other hand, the master and other members of the crew attributed the leak to heavy rolling and straining due to a strong gale and a nasty high cross sea. This latter explanation commends itself to me, and is not, in my opinion, incompatible with the fact that the ship was in a good and seaworthy condition when she sailed from Goole.

At the conclusion of the evidence, Mr. Saxelbye, on behalf of the Board of Trade, submitted the following questions for my opinion:—

(1) What was the cost of the vessel to her owners? What was her value at the time of sailing from Goole on her last voyage? What insurances were effected upon and in connection with her?

(2) When the vessel left Goole on or about the 13th of December last:

- (a) was she in good and seaworthy condition as regards hull and equipments?
- (b) was her cargo properly stowed and secured from shifting, and was the weight so distributed as to make her easy in a seaway?
- (c) had she the required freeboard, and was she in good trim for a voyage to Shoreham?
- (d) were all deck openings properly covered and secured?
- (e) were the bilges clean?

(3) When did the vessel first commence to make an unusual quantity of water in the engine-room and stokehold? Were prompt and proper measures taken to ascertain the cause of it and to keep the water under?

(4) Was every possible effort made to save the ship?

(5) Was the vessel navigated with proper and seaman-like care?

(6) Was the vessel prematurely abandoned?

Dr. Jackson then addressed me on behalf of his clients: and I now return the following answers to the questions of the Board of Trade:—

(1) The original cost of the vessel to her owners in 1907 was £1,656. The managing owner stated that her market value at the time of sailing from Goole on her last voyage was £1,800. She was insured for £1,500: and there was also a further insurance of £100 with the West of England Protecting and Indemnity Association.

(2) When the vessel left Goole on or about the 13th of December last:

- (a) she was in good and seaworthy condition as regards hull and equipments;
- (b) her cargo was properly stowed and secured from shifting, and the weight was so distributed as to make her easy in a seaway;
- (c) she had the required freeboard, and was in good trim for a voyage to Shoreham;
- (d) all deck openings were properly covered and secured;
- (e) the bilges were clean.

(3) The vessel first commenced to make an unusual amount of water in the engine-room and stokehold about 5 a.m. of the 14th of December. Prompt and proper measures were taken to ascertain the cause of it and to keep the water under.

(4) Every possible effort was made to save the ship.

(5) The vessel was navigated with proper and seaman-like care.

(6) The vessel was not prematurely abandoned.

I have the honour to be, Sir,

Your obedient servant,

W. F. CABORNE, Inspector.

8th February, 1910.

The Assistant Secretary,  
Marine Department,  
Board of Trade.

(Issued in London by the Board of Trade on the 26th day of February, 1910.)