(No. 1769.)

"GLAMORGAN" (S.S.)

The Merchant Shipping Acts, 1854 to 1876.

In the matter of the formal Investigation held at Liverpool, on the 13th and 14th days of April 1883, before H. C. Rothery, Esquire, Wreck Commissioner, assisted by Captain Anderson, W. B. Robinson, Esquire, Chief Constructor R.N., and Captain Kiddle, R.N., as Assessors, into the circumstances attending the damage sustained by the steamship "Glamorgan," of Liverpool, and the loss of the lives of 6 of those on board of her, and the subsequent abandonment and loss of the said vessel, whilst on a voyage from Liverpool to Boston in February last.

Report of Court.

The Court, having carefully inquired into the circumstances of the above mentioned shipping casualty, finds, for the reasons annexed, that when the said vessel left Liverpool on her last voyage she was in a good and seaworthy condition, and was not overladen; and that the damage and loss of life and the subsequent abandonment and loss of the said vessel were due to the extraordinary violence of the sea which swept her decks on the 14th of February last.

The Court is not asked to make any order as to costs.

Dated this 14th day of April 1883.

(Signed) H. C. Rothery,
Wreck Commissioner.

We concur in the above report.

(Signed) A. Anderson,
W. B. Robinson,
Chief Constructor R.N.,
James Kiddle,
Captain R.N.,
} Assessors.

Annex to the Report.

This case was heard at Liverpool on the 13th and 14th days of April instant, when Mr. Mansel Jones appeared for the Board of Trade, and Mr. Walton for the owners of the "Glamorgan." Thirteen witnesses having been produced by the Board of Trade and examined, Mr. Mansel Jones handed in a statement of the questions upon which the Board of Trade desired the opinion of the Court. Mr. Walton was then heard on behalf of his parties, and Mr. Mansel Jones having replied for the Board of Trade, the Court proceeded to give judgment upon the questions on which its opinion had been asked. The circumstances of the case are as follow:—

The "Glamorgan" was an iron screw steamship belonging to the port of Liverpool, of 2,568 tons gross and 1,666 tons net register, and was fitted with engines of 400 horse power. She was built at Renfrew in the year 1872, and at the time of her loss was the property of the Glamorgan Steamship Company, Limited, Mr. John Brooking, of No. 20, Water Street, Liverpool, being the manager. She left Liverpool on the 8th of February last for Boston with a crew of 36 hands all told, twelve cattle men, and three stowaways, and having on board a cargo of 1,416 tons of general merchandise, besides 743 tons of coal in her bunkers. Thus laden, we are told that she drew 21 feet 1 inch forward and 21 feet 9 aft, giving her a mean of 21 feet 5 inches. From the time of leaving she seems to have experienced very bad weather, and between 10 and 11 a.m. on the 11th she was hove to, and was kept with her engines going easy ahead, just sufficient to give her steerage way, until the forenoon of the 12th, when, the weather having moderated, she proceeded on her voyage. On the following day, however, the 13th, the gale recommenced, and continued to blow hard all the day, commencing at S.E. and gradually working round to W.S.W., the vessel all the time being kept steaming easy ahead sufficient to give her steerage way. At midnight, when the second and third officers came on deck to take the watch, it was blowing, we are told, with hurricane force, the barometer being down to 27·90. The second officer at once went to the bridge to relieve the chief officer, whilst the third officer went to the wheel house aft, to see that the vessel was kept on her course, with the wind and sea about a point on her port bow. Between 1 and 2 a.m. of the 14th, the vessel fell off about a point or a point and a half, and at the same time an enormous sea broke over her, carrying away the foremast by the deck, wrenching off the sockets or coamings of the two foremost ventilators, and Nos. 1 and 2 steam winches, and smashing in the fore and main hatchways. Going on it struck the front of the midship deck-house, carrying away the saloon, the captain's cabin, all the cabins on the port side except the two aftermost, and on the starboard side all as far as the lamp-room; also the chart-room, flying bridge, all four boats, the funnel, all the rails forward of the bridge-house, and some abaft it, the forward fiddley gratings, and the bunker lids in the alley ways, and smashed in the front of the engine-room casing. Then going aft it carried away the after deck-house, the ventilator sockets aft, and stove in the fore part of the wheel-house, knocking down and seriously injuring the man at the wheel, and damaging all the compasses. The chief officer, who had only just returned from the captain's cabin, where he had been talking with him about the state of the weather, and expressing an opinion that it was going to mend, was on the point of lying down when the sea struck her. He immediately jumped up, but was at first unable to get out of his cabin, owing to the pressure of the water in the alley way. When, however, he got out, he found the water up to his armpits. He immediately made his way to the wheel-house aft, and on his arrival there found, as he has told us, that the steam steering gear had become damaged, and that the vessel had fallen into the trough of the sea. In the meantime the carpenter and the boatswain had come to the wheel-house, and he directed them to assist the 3rd officer to ship the hand gear. On then going forward he met the chief engineer, who told him that the fires were nearly drowned out, owing to the quantity of water that had come into the engine-room, and that the engines would soon have to stop. On mustering the crew it was found that the master, the second officer, the second steward, two A.B's., and two of the stowaways had been drowned. An attempt was then made to set the donkey pumps going, but the steam giving out the pumps stopped, and as it was impossible to work the deck pumps, all hands were sent into the engine-room. They attempted also to cover the forward fiddley gratings and the front of the engine-room casing, but as fast as they put canvas on the openings it was washed away. There were no means of getting forward to cover up the hatches or ventilator holes, as the sea was breaking over the vessel, rendering it impossible to stand on the deck, and the water kept pouring into the fore and main holds through the hatchways and forward ventilators, and into the engine-room and stoke hole through the opening in the front of the engine-room casing. They continued baling all through that day and the following night, without, however, being able to keep the water from gaining; but on the morning of the 15th, the weather having somewhat moderated, they found that by constant baling they could just manage to make head against it. During the following night, the weather becoming bad, she again began to make water rapidly, and was evidently settling down with a list to port; and by the morning of the 16th the top of the spardeck on the port side was on a level with the water; whilst on the starboard side it was about 3 to 3½ feet above it. They still continued baling, and between noon and 1 p.m. the steamship "Republic," belonging to the White Star Line, hove in sight, and in reply to their signals bore down towards them; and although the sea is described as at that time running mountains high she at once proceeded to lower a boat. They had, however, hardly got her over the side when she was smashed, and all hands were thrown into the water,

L 367. 1541. 150.—4/83. Wt. 171. E. & S.

but with the exception of one man they were all rescued. They then at once proceeded to get out another boad, and having done so pulled towards the "Glamorgan." Finding it impossible, however, to get alongside they threw some life buoys as near to the vessel as they could for the men to get hold of. None of the crew being willing to go over the vessel's side to get hold of these life buoys, the chief officer of the "Glamorgan" volunteered to go himself, and having twisted a rope round his arm, he lowered himself over the side of the vessel, but was unable to get hold of any of the buoys. Whilst in this position the boat was washed under the ship's lee, and the men in it getting hold of the mate's legs pulled him forcibly into the boat. Two other men then followed his example, lowering themselves by ropes over the vessel's side, and were successfully taken into the boat. The boat then returned to the "Republic," but in getting alongside she also was smashed, but nevertheless all were got safely on board. It was then blowing so hard that they did not dare to launch another boat, but they remained by the ship, and at about 8 o'clock, the weather having slightly moderated, they launched a third boat, and in four trips succeeded in taking off the whole of the remainder of the "Glamorgan's" crew, and bringing them on board the "Republic;" but in so doing the bows of the boat were stove, and this boat also was lost. Thus by the exertions of the master, officers, and crew of the "Republic" the whole of the survivors of the crew of the "Glamorgan" were safely got on board the "Republic;" a more gallant feat has perhaps hardly ever been performed by any men, or more skilfully. The "Republic" then proceeded on her voyage to New York, where she landed the "Glamorgan's" crew, who have since come to this country. Before leaving the "Glamorgan" we are told that she was so deep in the water that she was described by one of the witnesses as being like a half-tide rock, and there can be little doubt that she foundered during the night.

These being the facts of the case, the first question upon which our opinion has been asked is, "Whether, "when the vessel left Liverpool, she was in good and "seaworthy condition for a North Atlantic winter "voyage?"

The vessel, we are told, was built under special survey of the Liverpool Registry, and on completion was classed 20 years. She was a spar-decked vessel, and was at first employed as a passenger and cargo ship, the whole of the space between the spar and main decks being fitted with cabins. In 1874 she passed into the possession of her late owners, and was employed for some time in the India and Mediterranean trades, but in 1879 she was converted into a cattle ship, carrying general merchandise outwards and provisions and cattle on the return voyage, and making on the average about 8 voyages a year between Liverpool and Boston. To fit her for a cattle ship the whole of the cabin fittings were removed, and some of the companions and deck openings, being no longer required, were closed up; and a deck-house for the accommodation of the officers, some 7 feet high, was erected in the centre of the vessel, extending 74 feet forward from the after engine-room bulkhead to 20 feet beyond the fore part of the stoke-hole. It thus covered over the more vulnerable parts of the vessel, the engine-room and stoke-hole, and must have added very greatly to the security of the vessel. She seems to have retained her high class to the last, and according to the Liverpool registry book she was last surveyed in January 1882; and we were told by the overlookers, engineers, and others in the service of the owners, that they examined her up to the very last, and found her in very good order. All the officers also have spoken of her as being in first rate condition. We can therefore have no doubt that the vessel, when she left Liverpool in February last, was in a perfectly good and seaworthy condition for a North Atlantic winter voyage.

The second question which we are asked is, "Whether "the load-line disc was so placed as to give the vessel "sufficient freeboard?" It seems to be admitted that the distance between the load-line and the top of the spar deck was 6 feet 10, which is the height given in the ship's articles; and as the spar deck was from 7 feet to 7 feet 6 above the main deck, that would put the load-line above the main deck. Let us see, however, what freeboard she ought to have had. We have not all the measurements necessary to ascertain with strict accuracy what this vessel's freeboard should have been; but I think that we have sufficient to determine it within certain limits. Taking first Lloyd's rules, we find that she had a co-efficient of fineness of about ·70, and that her moulded depth was about 22 feet 2 inches. With these dimensions by Table B she ought to have had a minimum freeboard of about 7 feet 6 from the top of the spar deck. Whether any or what deductions would have to be made from this for extra sheer or camber, if any, we have no means of knowing. Taking next the Board of Trade Tables, we find that a flush-decked steam vessel 325 feet long (and this vessel was 320·1 feet) should have 3·2 inches per foot depth of hold, and this on a depth of hold of 21·35 feet would give us a little more than 68 inches. As this vessel, however, was a spar-decked ship, we have to take one-third of this for the position of the load-line below the main deck, that is to say, 1 foot 10¾ inches, to which, however, would have to be added the height of the spar deck from 7 feet to 7 feet 6, giving a total freeboard below the spar deck of 8 feet 10 to 9 feet 4 inches. This being so, it is clear that both by Lloyd's, as well as by the Board of Trade Tables, if she had been loaded down to the centre of her disc, which would have given her a clearside of only 6 feet 10 inches, she would not have had a sufficient freeboard.

The third question which we are asked is, "Whether "when the vessel left Liverpool she was overladen, and "whether she then had sufficient freeboard?" The quantity of cargo which this vessel had was 1,416 tons, besides 743 tons of coal in her bunkers, making a total of 2,159 tons. This would be about 30 per cent. above her registered tonnage, and only 84 per cent. of her gross tonnage, from which we might fairly conclude that she would not be overladen. But what was her freeboard? We are told that her draft was 21 feet 1 inch forward and 21 feet 9 inches aft, giving her a mean of 21 feet 5 inches. Mr. Mansell Jones has told us that her total depth at side amidships was 31 feet 5½ inches, but he could not give us the details of that measurement; and according to the best estimate that we can make of the side from the plans before us, we can only make it about 30 feet 9 inches, and deducting 21 feet 5 inches therefrom we get 9 feet 4 inches as her freeboard. This, too, would seem to agree with the estimate given to us by the chief officer; for according to him the disc was well out of the water, the centre of it being about 2 feet 6 inches above it, and as the centre of the disc was 6 feet 10 below the top of the spar deck we get again 9 feet 4 as her freeboard when she left this country, which in the opinion of the assessors would be quite sufficient.

The fourth question which we are asked is, "Whether "the hatchways, deck house, fiddleys, engine room "skylight, and all other deck openings were properly "constructed; whether they were of sufficient strength, "and whether proper means existed whereby they could "be properly and efficiently secured in heavy weather?" We are told that the hatchways were all 12 feet by 10 feet, with the exception of the main hatchway, which was 20 feet by 10 feet. The coamings were of ½-inch iron, 18 inches high; the fore and afters were 9 inches by 11 inches, that in the main hatch being supported by a transverse iron beam, and the hatches were of pitch pine, solid 2½ inches thick. Nothing in our opinion could be better so far as the construction of the hatchways went. The midship deck house was constructed of iron ⅜ of an inch thick, with coamings ½-inch thick and 18 inches high, secured to the iron deck by ⅞-inch bolts 6 inches apart. The bulkheads at the fore and aft ends were secured to the coamings by angle irons 5″ × 3″ × ½″, and were strengthened by 9 angle irons with 2 feet knee plates of the same thickness on the framing. There were two doors in each bulkhead, one at each end, opening outwards, and secured on the inside with a strong iron latch and bolt. The engine room casing was carried 3 feet above the deck-house by ¼-inch or ⅜″ plate, and above this was the engine room skylight and fiddley gratings. The engine room skylight was of pitch pine with bull's eyes, and there were iron covers to go over the fiddley gratings secured by key bolts. The ventilator coamings were also of ½-inch iron 18 inches high, and there were wooden plugs to fit into them in bad weather, when the ventilating tubes had to be unshipped, and canvas covers to go over them. We were told by Mr. Hepburn, the Naval Architect and Consulting Engineer, under whose designs the alterations were made, and the deck house constructed, that they were all well and substantially made, and that, although the vessel had been running backwards and forwards across the Atlantic, making about 8 voyages a year, she seems never to have met with any damage. Our attention however was called by Mr. Mansel Jones to the way in which the front and back had been secured to the iron deck, it appearing

that they had not been carried through the wooden deck so as to bring iron to iron, but that the bolts by which they were secured had been carried through the wooden deck. No doubt it would have been better if the bulkheads had deen carried through the wooden deck; a wave, however, that had sufficient force to snap the iron mast level with the deck, and to wrench off the steam winches and ventilator sockets, would probably have carried away the front of that house, even if it had been carried through the wooden deck. Again it was said that it would have added very considerably to the strength of this house if the front had been circular; that is quite possible, but I am advised by the assessors that there are objections to that mode of construction; for you must either take a larger piece off the deck, or you must reduce the capacity of the interior, and Mr. Robinson, a very competent authority on such matters, tells me that it is not usual to make the fronts circular, but that they are ordinarily flat, and that he sees no objection to that form. But whether this be so or not, the assessors are clearly of opinion that the vessel, when converted into a cattle ship was in all respects stronger and safer than when she was being used as a passenger vessel, seeing that she had then fewer deck openings, that she had a strong and substantial erection over the engine-room and stoke-hole, which are the more vulnerable parts of the ship, and that the fiddley gratings and engine-room skylight were raised 7 feet higher than they had been out of the water.

The 5th question which we are asked, is, "Whether "the midship deckhouse was so constructed as to pre-"vent water getting below it?" There seems to be no doubt that it was, for it raised the fiddley gratings and engine room skylight some 7 feet higher above the water than they had been before, when she was a passenger ship, and to that extent made it more difficult for the water to get into the engine room and stoke hole.

The 6th question which we are asked is, "Whether "on the evening of the 13th February proper means "were taken to ascertain that the bunker hatches, "engine room skylight hatchways, fiddley gratings "and all other deck openings were properly secured?" It would seem that the alley way doors were closed, that the ventilating tubes were unshipped and the wooden plugs put into the sockets and covered over, and that all the deck openings were properly secured, except indeed the fiddley gratings, over which we are told that the iron covers were not put. The chief engineer told us that, being so high out of the water, he did not think it necessary to have them put on, and the firemen always, as is well known, object to it, as it prevents the air getting down to the stoke hole, and renders it therefore extremely hot. When too it is remembered that the distance from the water to the top of the spar deck was 9 feet 4, that the deckhouse stood 7 feet above this, and the fiddley gratings 3 feet above the top of the deck house, or a total of between 19 and 20 feet, there is some excuse for not putting them on, the more so as the chief engineer, who had been in the vessel for more than 2 years, told us that he had never before known any water to come down them.

The 7th question which we are asked is, "What were "the circumstances under which one sea carried away "the foremast, the two winches from the deck, broke "in the hatches, washed away the cabin, carried away "the bunker lids, crushed in the fiddley coamings, "smashed in the wheel house, carried away the bridge, "chart house, after house, compasses, boats, crushed "the coamings of the ventilators, completely wrecked "the vessel, and caused the loss of 7 lives?" The circumstances under which all this damage was done, have been already stated, and they show that on the occasion in question an exceptionally high wave broke over this vessel, such a wave as is occasionally met with in the Atlantic. One of the assessors tells me that on one occasion only he encountered such a wave, which carried away his first and second officers, two seamen, the three life boats, and swept everything off the deck, very much as this wave did. It seems probable from the alterations in the direction of the wind, and from the the low condition of the barometer, 27·90, that the vessel was in one of these violent cyclones, which are known occasionally to traverse the Atlantic, and that she was probably near the centre, and at the point of its greatest intensity, when the wave broke over the vessel, leaving her a complete wreck.

The 8th, 9th, and 10th questions are as follow:— "Whether every possible effort was made thereafter to "repair the damage and keep the water under?" "Whether every possible effort was made to save the "vessel?" "Whether the officers and engineers are "or either of them is in default?" and "Whether "blame attaches to the managing owner?" In our opinion, everything was done that could have been done to save this vessel; but, with the fires out, the foremast gone, the vessel lying in the trough of the sea, and without any means of preventing the water getting into the vessel, it is marvellous that they were able to keep the vessel afloat as long as they did. Nor, in our opinion, does any blame attach to the managing owner. In conclusion, we have only to repeat that a more gallant effort to save the lives of these men has perhaps never been made than was made by the master, officers, and crew of the "Republic," conducted too with great skill and judgment, only one life having been lost, and that from the salving vessel herself.

The Court was not asked to make any order as to costs, or to deal with the certificates of any of the survivors.

(Signed) H. C. Rothery,
Wreck Commissioner.

We concur.

(Signed) A. Anderson,
W. B. Robinson, Chief Constructor R.N.,
James Kiddle, Captain R.N.,
} Assessors.