(No. 7587.)

"TENET" (S.S.).

The Merchant Shipping Act, 1894.

In the matter of a Formal Investigation held at the Recorder's Courthouse, Townhall Street, Belfast, on the 12th, 13th, 14th, 15th, 17th and 20th days of March, 1913, before Sir Andrew Newton Brady, Resident Magistrate, assisted by Rear Admiral T. P. Walker, Captain J. F. Ruthven, and Professor Welch, M.Sc., into the circumstances attending the capsizing of the British steamship "Tenet," of Belfast, about three miles off Skokham Island, Saint George's Channel, on or about the 29th day of October last, whereby loss of life ensued.

Report of Court.

The Court having carefully inquired into the circumstances attending the above-mentioned shipping casualty, finds for the reasons stated in the Annex hereto, that the capsizing of the vessel with the loss of six of the crew was due to the vessel shipping a succession of heavy seas abaft the beam over the port side which not only flooded both wells, but also filled the starboard alleyway as the storm boards for closing the latter had not been shipped. The effect of this considerable quantity of water in the alleyway, added to that in both wells, was to give the vessel a very heavy list to starboard, this list being accompanied by the shifting of the cargo. Seas continuing to break over the vessel increased the list, and water quickly gained access to the interior through the forecastle hatch and after companion, both of which were open. The over-immersion of the vessel would be a contributory cause of the disaster.

The Court considers that the mate, Mr. Patrick McKinney was in serious fault for not seeing that the storm boards, provided for closing the alleyways in heavy weather, were shipped on this occasion, it being his duty to do so.

The Court makes no order as to costs.

Dated this 20th day of March, 1913.

A. Newton Brady,
Judge.

We concur in the above report.

T. P. Walker,
J. F. Ruthven,
J. J. Welch,
} Assessors.

Annex to the Report.

This Inquiry was held in the old Recorder's Court, Townhall Street, Belfast, on the 12th, 13th, 14th, 15th, 17th, and 20th days of March, 1913. Mr. Gerald Dougherty B.L. (instructed by Mr. J. S. McTear), appeared for the Board of Trade, Mr. J. C. W. Rea (Messrs. Carson and McDowell, solicitors), represented Mr. W. A. Grainger, the owner of the vessel, and Mr. Fred. H. G. Wilson, solicitor, appeared on behalf of the widow of the late Captain Thomas Ferguson, who was in charge of the "Tenet."

The "Tenet," Official Number 129631, was a British steamship, built of steel, at Belfast, in 1910, by Messrs. Workman, Clark and Company, Limited, and her respective dimensions were:—Length, 186·8 feet breadth, 28·7 feet; depth in hold from tonnage deck to tank top amidships, 11·83 feet. Her gross tonnage was 602·79 tons, and registered tonnage 232·17 tons. She was fitted by Messrs. McColl and Company, Limited, Belfast, with one set of inverted direct-acting triple-expansion-condensing engines of 79 nominal, and 600 indicated horse power, the diameters of the cylinders being 14½, 24, and 40 inches, and the length of the stroke was 36 inches. She was supplied with one horizontal multitubular steel boiler by Messrs. Workman, Clark and Company, Limited, loaded to a pressure of 180 lbs. per square inch. Her speed, as stated in the register, was 10 knots. She had two masts, was schooner rigged, and was, as stated by the registered managing owner, built to sail in case of a break down of machinery. She was of the raised quarter deck type, with an open top gallant forecastle 29 feet long. The quarter deck, which was 107 feet long, was raised 2 feet 6 inches above the level of the main deck. She had a deck house amidships, 44 feet long, containing the master's room and the galley, and through which the funnel and fidley casing passed. It had an alleyway 6 feet wide each side. The boat deck (6 feet 6 inches above the raised quarter-deck), which formed the top of this house was the full width of the vessel, and the side plating was carried up to its level. On the fore end of the boat deck was the main bridge and wheel house, in which was the hand steering gear, and abaft the funnel the fidley casing projected 1½ feet, and the engine-room skylight 3½ feet above the deck. Abreast of the engine-room skylight were two lifeboats, each capable of taking all the crew, and forward of the starboard lifeboat was a ship's boat. Abaft the engine-room skylight was a 400 gallon tank for fresh water. The fore end of the alleyways could be closed by a steel door each side, opening outwards. Storm boards were provided to ship in channels at the after end of the alleyways to effectually close them against the entrance of water in bad weather, a Collinson's scupper fitted in each alleyway would allow the escape of any water that might leak through when the boards were shipped. Immediately over the main bridge was the flying bridge on which was situated the steam steering gear. In front of the wheel on the flying bridge was a Kelvin compass, and another compass by the same makers was in the wheel house. It was stated that they had been adjusted by Kelvin and White's representative, and were magnetic, but no deviation cards were produced. The vessel was supplied with a Kelvin sounding machine. The registered managing owner stated that distress signals were supplied to the satisfaction of the Board of Trade officer.

The "Tenet" had four watertight bulkheads to the weather deck, the first dividing the crews' quarters and fore peak tank from the forehold, the second between the forehold and the bunker, the third between the engine space and after hold, and the fourth divided the after hold from the officers' quarters and after peak tank. The vessel could carry 180 tons of water ballast, including the forward and after peak tanks holding respectively 50 and 30 tons. The main ballast tanks were under the machinery and after hold compartments, and held respectively 60 and 40 tons. The ship was supplied with the usual deck pumps, bilge, engine room and ballast pumps, with connections to all tanks and holds (3 strums each side), all fitted to Lloyd's requirements. The forehold had a capacity of 19,040 cubic feet, and the after hold 13,820 cubic feet, and both were fitted with partial self trimming hatches. The fore hatch was 38·5 feet long by 15 feet wide. There were three portable athwartship beams into which fitted a triple row of short steel fore and afters, the hatch covers being of 3-inch white pine. The after hatch was 30·5 feet long by 15 feet wide, with two portable athwartship beams, being in all other particulars similar to the fore hatch. In both hatches the coamings were 4 feet high. All were stated to have been well battened down in the customary manner with double tarpaulins. The bunker hatch, which was at the after end of the forward well and just forward of the master's cabin, measured 4 feet 6 inches fore and aft by 15 feet athwartships, and had coamings 4 feet high, secured in the usual way.

The seamen and firemen were berthed forward under the main deck, and access to their quarters was by a steel companion with starboard and port doors opening outwards. There was a 6-inch ventilator with mushroom top from the forecastle head between the hawse pipes to the boatswain's store room (which was forward of the men's quarters). A square scuttle 1 foot 10 inches by 2 feet, with suitable cover under the forecastle also lead to the boatswain's store, and there was one 9-inch ventilator each side from the forecastle head to the crew's quarters. There was one

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10-inch ventilator on the port side to the fore hold with the cowl 3 feet 6 inches above the forecastle head. Alongside the foremast, on the port side, was a 2 feet square scuttle with coamings 2 feet 6 inches high under the forecastle leading to the fore hold. There was a 10-inch ventilator to the bunker on the starboard side with cowl 3 feet 9 inches above the boat deck and a cast-iron ventilator 10 inches by 4 inches each side. In addition, an escape hatch 2 feet high and 2 feet diameter opened out of the bunker each side into the alleyway with hinged cover. There was an 18-inch ventilator each side to the stokehold through the fidley casing with cowl 10½ feet above the boat deck. There was a 6-inch ventilator to the galley from the port side of the boat deck, above which the cowl had an elevation of 3 feet. On the port side, abreast of the mainmast, was a 10-inch ventilator to the after hold, with cowl 3½ feet above the raised quarter deck. Near the after watertight bulkhead there was on the starboard side a 10-inch ventilator to the after hold with cowl 4½ feet above the quarter deck, and on the port side a 6-inch ventilator to the tunnel. All these ventilators were fitted with the usual and suitable coamings.

The officers' and engineers' mess room and sleeping accommodation was under the raised quarter deck immediately abaft the aftermost watertight bulkhead. It was entered through a steel companion on the starboard side 6 feet in height, with door on the after side, opening outwards. Immediately abaft it, but standing amidships, was a skylight 3 feet 10 inches fore and aft by 5 feet 6 inches wide, with steel sides 2 feet high and hinged teak covers. Through the centre was an 8-inch mushroom ventilator 1 foot high. There were two 2-inch swan neck ventilators each side to the officers' cabins.

The height of the bulwarks on the main deck forward was 5 feet, and on the raised quarter deck 4 feet, on the main deck there were three freeing ports each side, 2 feet 6 inches by 1 foot 8 inches, fitted in the usual way, and with brass pins in the hinges. In the after bulwarks there were two ports each side of the same dimensions. In addition, there was a mooring pipe each side forward, and the same aft, with an area of about three quarters of a square foot.

There were two doors to the engine room, one opening into the port alleyway near its after end, and the other in the after bulkhead of the engine room on the starboard side, opening outwards on to the raised quarter deck. There was one door each side in the alleyway to the stokehold. Abreast of the stokehold door, each side, was an ash port 18 inches by 18 inches, served by a shoot about 3 feet high.

The centre of the disc marking the load line was fixed at 10 inches below the statutory deck for summer, and the winter mark was 2 inches below it. The mean draughts corresponding to these two conditions were 14 feet 2 inches and 14 feet respectively, the corresponding deadweights being 776 and 756 tons respectively. The mark for fresh water was 3½ inches above the corresponding salt water mark.

The vessel was built to the highest class at Lloyd's, and in many respects her scantlings exceeded their requirements.

The master, Captain Thomas Ferguson, held a certificate of competency as master of a foreign going ship.

The vessel was owned by Mr. William Arthur Grainger, of Belfast, in the County of the City of Belfast, who is designated managing owner by advice under his hand received 28th February, 1910.

The "Tenet" was designed by Mr. Grainger, the managing owner, and was a development from his earlier vessel "Tryst"; the last-named was built by the Ailsa Shipbuilding Company, Limited, in 1904, and was sunk in collision with the "Ortona" in the English Channel in 1909. The "Tryst" design was based upon the earlier vessel "Theory" built by Messrs. McIlwaine and McColl, in 1894, and completed by Messrs. Workman, Clark and Company, Limited, who had taken over the shipbuilding business of the first-named firm. The "Theory" was built in 1894, and is still in service.

In settling upon the design for "Tenet," the owner had before him a half block wood model of "Tryst," showing her form, height of decks, &c., and instructed Mr. Elias W. Bell, a foreman pattern maker, to produce a model of a somewhat similar vessel with certain modifications. These modifications included an increase of 6 inches in the breadth of the vessel, 18 inches increase in the sheer of the main deck forward, and a diminution of 6 inches at stem between the main deck and forecastle. This model, with a 'midship section of "Tryst," and a specification based on that vessel, was handed to Messrs. Workman, Clark and Company, Limited, for guidance in building "Tenet," the specification stating that "the vessel is to be built to owner's model, mid-section plan and outline supplied by him." The owner did not ask the builders to furnish any informatoin as to the stability of the vessel, and stated frankly to the Court that he did not understand the subject or know that such calculations could be made. His reason for making the beam of "Tenet" 6 inches more than that of "Tryst" was to avoid the flat appearance he had noticed in the side of the latter and to make a bolder waterline. The summer freeboard of "Tryst" was 1 foot 1½ inches, and that of the "Tenet" was 10 inches. Mr. James Maxton, naval architect, superintended the construction of this vessel on behalf of the owner, but he was not in any way concerned with the design.

Before the vessel was delivered, the builders made an inclining experiment, in accordance with their usual practice, to ascertain the metacentric height (6 inches), in the light condition, and this result was communicated to Mr. Maxton. It was not passed on to Mr. Grainger, but as he stated to the Court, he could not have made any use of it, if such information had been given him. No calculation of the metacentric height as fully laden was made, nor curves of stability constructed, except for the purposes of this inquiry. The metacentric height when fully laden with coal was 15 inches, the angles of maximum and of vanishing stability with bridge space assumed intact were 55 degress and 90 degrees respectively, the corresponding angles with open spaces under the bridge deck accessible to water being 48 degrees and 80 degrees respectively. At 45 degrees the arm of righting lever with spaces under bridge deck closed was 35 per cent. greater than when water had access to that alleyway, whilst the dynamical effect of water shipped on board, and lodging in the alleyway, would be greater than indicated by the statical curves.

A representative from the Ailsa Shipbuilding Company, Limited, explained that no inclining experiment had been performed, or curves of stability made for the "Tryst," so that Mr. Grainger was without information as to the effect on the stability of his vessels of omitting to ship storm boards in rough weather. The Court considers that had he asked for advice from the builders or other experts, the importance of shipping these storm boards would have been pointed out to him, and he could have instructed the master accordingly. It was given in evidence by Captain Mathew Ferguson, the brother of Captain Ferguson of the "Tenet," that he had taken his brother's place on four voyages of the vessel named, and on one of these had found it necessary to ship storm boards; but no attempt was made to put these fittings in place during the voyage under review.

The "Tenet" was loaded, under charter, at Newport, Monmouthshire, on the 28th October, 1912, with a cargo of 714 tons 16 cwt. of Powells Tillery large steam coal. The holds were not quite filled, and after trimming there would be, it is calculated, a space of at least 70 tons capacity, basing this calculation on the evidence of Lewis Williams, the foreman stevedore, as to the rate of stowing of this class of coal. Out of this space, according to the evidence, there was left a space of about five tons in the fore end of the fore hold and about 10 tons at the after end of the after hold, the remaining 55 tons space being partly in the hatches and partly in the holds. Bunker coal, 30 tons 3 cwt. was shipped. The exact quantity of coal in the bunker was a subject on which contradictory evidence was given. The bunker was calculated to hold 60 tons at 44 cubic feet per ton. It was agreed that 30 tons 3 cwt. was the amount placed on board at Newport, and both the shore trimmers engaged on this work stated that this amount, together with the quantity already on board, filled the bunker except for a space in the centre, which, they stated, would hold about four tons. The foreman stevedore stated that this coal stowed from 40 to 42 cubic feet to the ton, and this would indicate that considerably more than 20 tons were on board before coaling. On the other hand, both the chief and second engineers of the vessel stated that not more than 10 tons were left before coaling began at New-

port. Weighing all the evidence very carefully, the Court reached the conclusion that there were at least 50 tons of coal in the bunker when the vessel left Newport.

It was given in evidence by Mr. Lovett, naval architect of the firm of Messrs. Workman, Clark and Company, Limited, that about five tons of sundries, such as fresh water and provisions, &c. would be included in the 756 tons of deadweight which the vessel would carry on her winter draught of 14 feet, and as 714⅘ tons of cargo coal was on board, the total deadweight at time of leaving was 714·8 tons plus 50 tons plus 5 tons, total 769·8 tons, an excess of 13·8 tons; this represents very nearly 1½ inches excess draught, and shows that the mean draught at time of leaving was 14 feet 1½ inches.

The coaling was finished at 5 o'clock p.m. Shifting boards were not used.

The water ballast tanks had previously been pumped dry.

The vessel, after taking in cargo, proceeded out of dock, and according to the evidence of Captain Bertram Roberts, deputy dock master, who himself took the draught and recorded it, she was drawing 13 feet 3 inches forward, and 15 feet 6 inches aft; this draught would make the vessel 1½ inches below her winter load line at sea. This officer's evidence accords generally with the evidence to be obtained from calculations based on the weights on board. The water was half salt and half fresh, which would ensure a rise of 1¾ inches in sea water, so that the mean draught at sea would be 14 feet 2¾ inches, this would make the vessel 2¾ inches below her winter load line at sea.

The Court considers the vessel was overladen to, at least 1½ inches.

The following narrative as to the voyage and the capsizing and foundering of the vessel is deposed to by the mate, the second engineer, and the other four survivors of the crew:—

At 7 o'clock p.m. on the 28th October, 1912, the vessel left the docks at Newport, and proceeded on her voyage to Londonderry, at which port she was to have discharged cargo. The mate states that the vessel was secured for sea, hatchways covered, &c. She proceeded at her full speed, about 10 knots, and, from the statement of the mate who came on deck on watch at 4 a.m. on the 29th October, she was coming up for St. Ann's Head, about eight miles away on the starboard bow, a strong W.S.W. breeze blowing, and a pretty heavy sea running. It was raining at the time. The master was on deck and remained there throughout. The course at 4 a.m. was N.W. by N. St. Ann's Head was passed about four miles out shortly before 5.30, course was altered to N.N.W., the wind and sea still remaining in the same direction, viz., W.S.W. The vessel was not rolling heavily, but behaved much in the same manner as she usually did in such weather; she was not shipping overmuch water. Hand steering gear was used, and no difficulty was experienced by the helmsman in keeping the ship steady on her course.

Bishop's Light was sighted, and course altered to N. by W. at 6.10 a.m. the vessel was on this N. by W. course between Grassholm Island to port, and abreast of Skokham and Skomar Island, to starboard.

Very little evidence of value could be given by the mate as to the state of the tide at this time. He thought it was four hours flood at 4 a.m. judging by the tide in Milford Haven, but he stated he could not say much about the tides.

It appears from an examination of the Admiralty sailing directions for the west coast of England, and of the tide tables for 1912, that at 6 a.m. the north going tidal stream had set in and had been running for about half an hour. In the position where the ship was, the velocity of the stream, though considerable, would not then be very great and its effect on the sea would be small.

About 6.20 a heavy sea struck the vessel from abaft the port beam, and came on board, flooding the main deck forward, the raised quarter deck, and filling the starboard alleyway under the bridge deck with water. The vessel listed to starboard, the master ordered the helm to be put hard-a-port, and the mate assisted the helmsman to put the wheel over; she did not answer her helm, but her head paid off about 1½ points. The seas continued to break over the vessel, and the list to increase. The master ordered hard-a-starboard. The vessel would not answer her helm, but came back a point. The master ordered the lifejackets to be served out, and the boats to be cleared away. By this time the chief engineer, Mr. James McConnell, the second engineer, Mr. Ephraim Hoy, the steward, and Robert Norwood, A.B., were on the bridge deck. The second engineer who had gone off watch at 4 a.m., and turned in in the after cabin, the port side, stated in evidence that he was sleeping off and on until past 6 o'clock, when he turned out because he heard heavier seas than usual being shipped, he spoke to the steward and went on deck; he noticed as he came up the after companion that the water was halfway up the skylight just abaft the companion hatch and the ship listing to starboard. The position of this water indicates that it was the result of seas breaking over the vessel and not water which had come over the lee side due to the list. The steward had been called by Robert Norwood, A.B., who had been sent by the master to tell him to get some tea. Norwood, A.B., who had been relieved from the wheel at 6.10 stated that when down below calling the steward he felt the water come on board and the ship list to starboard. When he came on deck he saw the deck and starboard alleyway flooded, and got on to the bridge deck by way of the hatch of the after hold. The chief engineer, Mr. James McConnell, who was on watch, felt the ship lurch to starboard; he tried to get on deck through the door opening aft on the starboard side, but could not open it on account of the pressure of water which was squirting through the door. He crossed over to the port door in the alleyway, went on the bridge deck and opened and made fast the steam whistle. The helmsman, John Dynes, A.B., stated that he had seen heavy water taken on the main deck forward.

The list to starboard rapidly increased, the water rose to the height of the bridge deck, and by this time there is very little doubt but that the cargo shifted. The ship went over on her beam ends. Norwood, A.B., saw the mainstay catch the starboard lifeboat, which was afloat, and turn it bottom up. The master and those of the crew who were on the bridge deck, and who were endeavouring to clear away the boats were washed off as the vessel quickly capsized and turned completely over. There had been no time to call the men in their bunks in the forecastle. The fireman in the stokehold had been unable to get on deck in time. The final catastrophe must have occurred in the space of a few minutes.

The mate, chief engineer, second engineer, and the two A.B.'s John Dynes and Robert Norwood, were successful in climbing into and on the two lifeboats which were floating near. The master was seen in the water, but both he and the steward were drowned, and no assistance could be given by those in the boats.

Out of the two A.B.'s and two firemen forward, only one fireman was saved, William Gregg, who stated he was thrown out of his bunk by a heavy roll to leeward, shouted to warn the fireman on his side of the forecastle, and had just time to get up the companion, the starboard side, without his clothes, as the ship was going over. Water was commencing to come down the companion, and he was swept off as soon as he got on deck.

The shipping on one side of so much water in the alleyway at the widest part of the ship, added to that which might ordinarily, in heavy weather, be expected to come on board in the open part of the decks, resulted in a heavy list, sufficient in the opinion of the Court to cause shifting of cargo and bunker coal, and to prevent the vessel righting herself. Heavy seas continuing to break on the port side, the list increased, and water found its way down the forward and after companions, both of which were open.

The testimony of all the survivors was to the effect that there was nothing unusual in the weather or sea beyond that commonly experienced in winter, or in the vessel's behaviour, till a short time before the accident when the course was altered bringing the sea abaft the beam. At the same time the rapid decrease in the depth of water along the line of advance of the waves would have a tendency to make them shorter and steeper.

All the survivors testified to seeing the vessel floating keel up, and the vessel was still floating when last seen. There was a considerable amount of coal dust floating in the water after the vessel capsized.

The survivors were shortly afterwards picked up by the steamship "Wheatsheaf," which was about a mile to the westward, steering on a parallel course to that of the ill-fated "Tenet" when she capsized, and were landed at Belfast.

With reference to the regrettable action of the mate in not having taken the precaution of shipping the storm boards in the alleyways when the rough weather came on, the Court had the evidence of the chief and of the second engineer that the storm boards had on previous occasions been used.

At the conclusion of the evidence Mr. Gerald Dougherty, on behalf of the Board of Trade, submitted the following questions for the opinion of the Court:—

1. By whom was the steamship "Tenet" (*a*) designed and (*b*) constructed? Were measures taken by the owner or the builders to ascertain the stability of the vessel before she proceeded to sea? If not, ought such measures to have been taken?

2. What was the cost of the vessel to her owners? What was her value at the time she left Newport, Monmouth, on her last voyage?

What insurances were effected upon and in connection with the ship on her last voyage?

3. Were reasonable and sufficient measures taken by Mr. William A. Grainger, registered managing owner, to ascertain whether the vessel as laden would have sufficient stability before allowing her to go to sea on her last voyage?

4. When the vessel left Newport, Monmouth, on the 28th October last—

(*a*) Was she in good and seaworthy condition as regards hull and equipments?

(*b*) Was she supplied with adequate boats and life-saving appliances?

(*c*) Was the cargo properly stowed, trimmed, and secured from shifting?

(*d*) As laden, had the vessel sufficient stability?

(*e*) Had the vessel the freeboard required by the statute?

4A. Were proper and efficient means provided for quickly freeing the well deck, the alleyways under the bridge deck, and the after raised quarter deck, of water shipped upon them?

5. What was the cause of the vessel capsizing between Skokham and Grassholm Islands, Irish Sea, at or about 6.30 a.m. on the 29th October last, and the loss of six of the crew?

6. Does blame attach to Mr. William A. Grainger, registered managing owner?

Mr. J. C. W. Rea having addressed the Court on behalf of the owner, and Mr. Fred H. G. Wilson on behalf of the master, and Mr. Gerald Dougherty having replied on behalf of the Board of Trade, the Court gave judgment and returned the following answers to questions of the Board of Trade:—

1. (*a*) The steamship "Tenet" was designed by the registered managing owner, Mr. William Arthur Grainger, for which purpose he had a model prepared for the proposed ship, based upon that of the "Tryst," which, in its turn, was a modification from the earlier vessel "Theory." All these vessels were owned by Mr. Grainger. The "Theory" was built in 1894 by Messrs. McIlwaine and McColl, and finished by Messrs. Workman, Clark, and Company, Limited, of Belfast, who had taken over the shipbuilding business of the first-named firm.

(*b*) The vessel was constructed by Messrs. Workman, Clark, and Company, Limited.

No measures were taken by the owner to ascertain the stability of the vessel before she proceeded to sea. The builders inclined the vessel when completed in the light condition. No measures were taken to calculate the stability of the vessel, as laden, before she proceeded to sea. Measures ought to have been taken by the registered managing owner to ascertain the stability of the vessel, when fully laden, before she proceeded to sea.

2. The cost of the steamship "Tenet" to her owner was £12,500, and her value at the time she left Newport, Monmouth, on her last voyage, was estimated by the managing owner to be £14,000, in view of the recent rise in prices.

The only insurance effected upon and in connection with the ship on her last voyage was one for £6,000 on hull and machinery. The owner had no interest in or information concerning the insurance upon the cargo, but estimated the value of the cargo at, roughly, £600.

3. Reasonable and sufficient measures were not taken by Mr. William A. Grainger, registered managing owner, to ascertain whether the vessel, as laden, would have sufficient stability before allowing her to go to sea on her last voyage, inasmuch, as he took no steps to find out her stability when fully laden for sea. He did not appear to be aware of the importance that should be attached to calculations for stability, resting satisfied with the behaviour of somewhat similar vessels already owned by him.

4. When the vessel left Newport, Monmouth, on the 28th October last—

(*a*) She was in good and seaworthy condition as regards hull and equipments.

(*b*) She was supplied with adequate boats and life-saving appliances.

(*c*) The cargo was properly stowed, trimmed, and secured from shifting in accordance with the ordinary practice for coal cargoes.

(*d*) Inasmuch as she was laden in excess of the draught allowed by statute, the vessel had not sufficient stability.

(*e*) The vessel had not the freeboard required by the statute, as she was 1½ inches below her winter load-line at sea.

4A. Proper and efficient means were provided for quickly freeing the well deck and the after raised quarter deck of water shipped upon them. In the case of the alleyways, water would not accumulate in large quantities if in bad weather proper precautions were taken to ship the storm boards provided for this purpose. Means were provided for dealing with such small quantities as would be likely to get there.

5. The cause of the vessel capsizing was as follows:—When proceeding through the channel between Skokham and Grassholm, the vessel encountered a heavy beam sea with strong W.S.W. wind. The course was altered to N. by W., thus bringing the sea abaft the beam. A succession of heavy seas broke on board over the port (weather) side, flooding both wells and filling the starboard alleyway, as the storm boards, provided to close the after ends of the alleyways, had not been shipped. The effect of this considerable quantity of water in the alleyway, added to that in both wells, was to give the vessel a very heavy list to starboard, which heavy list would undoubtedly be accompanied by a shifting of the cargo. The seas, continuing to break over the vessel, caused the list to increase, so that water quickly gained access to the interior through the forecastle hatch and the after companion, both of which were open. All the evidence shows that the vessel capsized after the lapse of a few minutes. The over immersion of the vessel, through being overladen, would be a contributory cause of the disaster.

6. Some blame does attach to Mr. Grainger in that he did not take any steps to assure himself that the vessel had sufficient stability when fully laden for sea. He was, apparently, satisfied that the vessel was safe, judging from his four or five years' experience of the "Tryst," the immediate predecessor of the "Tenet." Alterations were, however, introduced and calculations for stability should have been made, and the attention of those on board drawn to the necessity of shipping the storm boards in rough weather.

Annexed is a list of the persons said to have lost their lives in this casualty, with the relatives of whom the Court desires to express its sympathy:—

Name.	Rating.	Nationality.
Thomas Ferguson ...	Master	British.
James McKillican ...	Steward	Do.
James Kerr	Seaman	Do.
Thomas Heffernan ...	Do.	Do.
Thomas Meany ...	Fireman	Do.
David McMullan ...	Do.	Do.

ANDREW NEWTON BRADY,
Judge.

We concur.

T. P. WALKER,
J. F. RUTHVEN,
J. J. WELCH,
} Assessors.

(Issued in London by the Board of Trade on the 11th day of April, 1913.)