

(No. 7834.)

"ANTINOE" (S.S.).

THE MERCHANT SHIPPING ACT, 1894.

REPORT OF COURT.

In the matter of a Formal Investigation held at the Royal Courts of Justice, Strand, and the Law Institute, Bell Yard, London, on the 22nd, 23rd, 24th, 25th and 31st days of March, 1926, before Alick James Tassell, Esquire, one of the Magistrates of the Police Courts of the Metropolis, assisted by Captain James Garriock, Captain H. F. David, R.D., R.N.R., and Engineer Lt.-Cdr. W. M. Fletcher, R.D., R.N.R., Assessors, into the circumstances attending the abandonment and supposed loss of the British steamship "Antinoe," of London, in the Atlantic Ocean on or about the 28th day of January, 1926.

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 abandonment of the s.s. "Antinoe" in the North Atlantic (Lat. 47.50 N. and Long. 36.00 W.) on January 28th, 1926, at or about 1 a.m., was attributable to the following causes:—

The entry of water into the holds and stokehold under the very exceptional weather conditions, which gradually increased the slight list caused originally by the shifting of the grain cargo.

In the opinion of the Court no blame can be attached to any of the parties to the Inquiry.

The Court also wish to record their deep appreciation of the efforts of the captain and crew of the s.s. "President Roosevelt," which resulted in the saving of all aboard the s.s. "Antinoe." They also wish to express their admiration for the courage and excellent discipline displayed by all aboard the s.s. "Antinoe" in their efforts to save the vessel in circumstances of exceptional difficulty.

Dated this 31st day of March, 1926.

ALICK J. TASSELL, *Judge*.

We concur in the above Report.

JAS. GARROCK,
HUGH F. DAVID,
WM. M. FLETCHER, } *Assessors*.

ANNEX TO REPORT.

This Inquiry was held at the Royal Courts of Justice, Strand, and the Law Institute, Bell Yard, London, on the 22nd, 23rd, 24th, 25th and 31st days of March, 1926, before Alick James Tassell, Esquire, one of the Magistrates of the Police Courts of the Metropolis, assisted by Captain James Garriock, Captain H. F. David, R.D., R.N.R., and Engineer Lieut.-Commander W. M. Fletcher, R.D., R.N.R., M.I. Mech.E., M.Inst.N.A., as Assessors.

Mr. L. F. C. Darby (instructed by the Solicitor to the Board of Trade) appeared for the Board of Trade; Mr. Lewis Noad (instructed by Messrs. William A. Crump and Son) appeared for the owners, the New Egypt and Levant Shipping Company, of 42, Leadenhall Street, London; Mr. Ward Higgs, of the firm of Messrs. Rehder and Higgs (instructed by the Imperial Merchant Service Guild), represented the master of the vessel, Harry Tose, and the chief officer, George Willis. The other parties to the Inquiry were the second officer, Harry Price, and the chief engineer, John Moir.

The s.s. "Antinoe," official number 115657, was a single screw steel cargo steamer. The vessel was built at Sunderland in 1902 by Messrs. Bartram and Sons. She was schooner rigged and had two decks, a main deck and a spar deck, which except for the

portions which were exposed to the weather were also of steel, the exposed portions being of iron. Her dimensions were as follows:—Length 382.5 feet, breadth 46.1 feet, depth 26.25 feet, with a fore-castle and poop of 35 and 37 feet in length respectively. Her tonnage was 3,747 gross and 2,386 net. She was fitted with six bulkheads, one forward making a collision bulkhead, No. 2 separating Nos. 1 and 2 holds, No. 3 between No. 2 hold and the stokehold, No. 4 at the after end of the engine room, No. 5 separating Nos. 3 and 4 holds, and No. 6, which formed the forward boundary of the after peak. A wooden bulkhead divided No. 2 hold into two unequal portions, which were operated from No. 2a hatchway on the bridge deck. No. 1 hatchway was on the forward part of the spar deck, No. 2 was on the open deck with its after end about 8 feet forward of the end of the bridge superstructure, No. 2a was just abaft the saloon house on the bridge deck, No. 3 was 8 feet abaft the after end of the bridge superstructure on the spar deck, and the after end of No. 4 hatchway was 4 feet forward of the break of the poop. Hatchways of similar sizes were in corresponding positions on the main deck, with the exception of No. 2, which was 4 feet longer than the one on the spar deck. In the bridge space there were two small bunker hatchways on each side, with corresponding hatchways on the deck below, and there was one hatchway on the poop deck. The dimensions of the hatchways on the spar deck were as follows:—

No. 1—20 feet by 16 feet, with cross web and 3 fore and aft supports for covers.

No. 2—20 feet by 16 feet, with cross web and 3 fore and aft supports for covers.

No. 3—24 feet by 16 feet, with cross web and 3 fore and aft supports for covers.

No. 4—24 feet by 16 feet, with cross web and 3 fore and aft supports for covers.

No. 2a—8 feet by 16 feet.

The bunker hatchways were each 7 feet 9 inches by 3 feet 9 inches on both decks. The height of the coamings of all hatchways on the spar deck were 30 inches at the sides and 36 inches at the centres, those on the bridge deck had 9 inch coamings. The hatch covers on the bridge and spar decks were of 3 inch Baltic pine and of 2½ inch pine on the main deck. Cleats approximately 2 feet apart were fitted round all hatchways. Two ventilators of 23 inches diameter and with 3 feet coamings were fitted to each hold.

Two steel watertight doors were fitted in the fore part of the bridge space, and the tonnage openings at the after end of the bridge space were closed by wooden cross pieces placed in iron grooves and caulked. There was also a tonnage opening doorway in the poop bulkhead on the port side.

The vessel had six double bottom ballast tanks in addition to an after peak trimming tank, with the following capacities:—No. 1, 111 tons, No. 2, 300 tons, No. 3, 65 tons, No. 4, 71 tons, No. 5, 216 tons, No. 6, 105 tons, and the after peak 55 tons, giving a total capacity of 923 tons. The only watertight subdivided ballast tank was No. 4, which was situated under the engine room; in all the others water was free to run to either side.

There were seven freeing ports in the bulwarks on each side of the well decks, each 3 feet 9 inches long by 18 inches wide, with the bottom edges 9 inches above the level of the deck. The flaps of these ports had been removed and three fore and aft round iron bars had been placed across the apertures. Seven suppers were also provided on each side. The bulwarks were 4 feet high all round the spar deck.

Two life boats were carried and were stowed one on each side of the after end of the boat deck with a capacity of 50 and 51 persons respectively. These boats, which had been examined at Cardiff in August, 1925, by Mr. Thomas Harrison, a Board of

Trade Surveyor, and found to be in good order, were housed on chocks under radial davits fitted with the usual lowering tackles. A gig and a dinghy which had been examined, although less stringently, at the same time and found also to be in good order were housed on the forward end of the boat deck. The equipment of 50 lifejackets and seven lifebuoys were also in good order. Anchors and chains were provided in accordance with Lloyd's requirements.

The vessel was also fitted with a $1\frac{1}{2}$ kilowatt wireless installation with a range of approximately 280 miles by day and about twice that distance by night. This was housed in a room situated abaft the engine room skylight.

The steering engine was placed at the after end of the engine room recess and was connected with the tiller and rudder head by rods and chains and the necessary fairleads and buffer springs. This engine was constructed by John Linn and Sons, of Sunderland, and had cylinders of 9 inches diameter with a stroke of 8 inches; the rods and chains were of $1\frac{1}{8}$ inches and $1\frac{1}{2}$ inches diameter respectively. The steering engine had been thoroughly overhauled at Cardiff in 1925, and a new rudder fitted and chains renewed where necessary. The engine was controlled from the bridge by a combination of rods extending from the wheel standard. Screw hand steering gear was also provided on the poop.

The propelling machinery, which was built by John Dickinson and Sons, Ltd., of Sunderland, consisted of one set of triple expansion direct acting surface condensing engines, the cylinders of which had diameters of 25 inches, 42 inches and 68 inches, with a stroke of 48 inches. There were two single-ended multitubular steel boilers which with a working pressure of 180 pounds to the square inch gave a nominal horse power of 352. A single-ended multitubular donkey boiler with a working pressure of 120 pounds to the square inch was fitted at the spar deck level within the engine and boiler casing abaft the funnel. Two plunger bilge pumps, each of 4 inches diameter with strokes of 24 inches, were provided, and also a main circulating pump of 14 inches diameter and 24 inches stroke, fitted with a 5-inch bilge injection branch. These were driven by levers from the main engines. In the engine room, and available for pumping either bilge or ballast water, was a ballast pump with a steam cylinder 9 inches diameter, water end cylinder of 11 inches diameter and a stroke of 10 inches, and also a general service duplex horizontal pump with steam cylinders $7\frac{1}{2}$ inches diameter, water end cylinders of $4\frac{1}{2}$ inches diameter and a stroke of 10 inches. The main circulating pump bilge injection was fitted with a rose box at its lower end situated on the port side, and was not otherwise connected with the pump line system. The two auxiliary pumps, viz., the ballast and general service pumps, were connected to the general pumping system through distribution valve boxes in the engine room and stokehold. Suitably placed suction pipes were fitted to all holds and double bottom tanks. Hand pumps were fitted to the fore peak and to each side of the after end of No. 1 hold.

When first constructed the vessel was named the "Benarty," but on her purchase by the New Egypt and Levant Shipping Company in April, 1924, for the sum of £19,000, she was renamed the "Antinoe." After her change of ownership the boats and life-saving apparatus were overhauled and examined and passed by the Board of Trade, and she was fitted with a new and complete set of white spruce grain shifting boards at a cost of £280. On her first voyage under her new owners she proceeded in ballast from Port Said to the River Plate, where she loaded grain for London, and she duly delivered that cargo on the 24th August, 1924, in good order without any shifting in spite of heavy weather which she encountered. On her next round voyage she carried a cargo of grain in bags from Karachi to Birkenhead, where she arrived on the 25th November, 1924, with her cargo again in good condition. In the early part of 1925

she carried another cargo of grain in bags, also from Karachi, and discharged this at Hull in good condition in March, 1925. She was sent from Hull to Cardiff, where she arrived on 31st March, 1925, and was put into dry dock for certain repairs. These were executed to the satisfaction of Lloyd's surveyor, and on completion she was again classified \times 100 A 1. On the 14th April, 1925, she received a load line certificate, which shows that the centre of the disc was placed at a point 5 feet $2\frac{1}{2}$ inches below the level of the spar deck, and was marked in accordance with the provisions of the Merchant Shipping Acts. The repairs were completed on the 24th April, 1925, and she remained laid up at Cardiff until July, 1925. On the 21st July, 1925, she was chartered under a time charter by her owners to Frank C. Strick and Company, Limited, for one round voyage, not to proceed east of Singapore nor to Baltic or White Sea ports nor any British North American ports, but including the United States of America. The following insurances were effected upon the vessel for this voyage:—Hull and machinery, £24,000; unexpired premiums, £1,050; hire money at risk, £1,050. From the evidence produced to the Court it appears that the insurance for £24,000 was increased by the underwriters themselves to that amount from a lower figure which was desired by the owners in order that the Particular Average Franchise should be raised to a larger figure than it would have been had the market value been adopted. It should be mentioned that subsequently on a claim being made the underwriters paid in full on the basis of a total loss.

After a voyage under this charter to the Persian Gulf, the "Antinoe" arrived at New York on the 29th December, 1925, and was prepared to receive a grain cargo in accordance with the rules of the Board of Underwriters of New York. The amended rules of this body for the loading of grain in bags or bulk, dated the 1st April, 1925, had been submitted to and approved by the Board of Trade in pursuance of the powers vested in them by Section 453 of the Merchant Shipping Act, 1894. Feeders and shifting boards were erected under these rules by contract with the Mutual Contract and Stowage Company, of the Produce Exchange in New York, in the following manner:—

- No. 1 hatchway—a feeder occupying the after half of the hatchway, shored from the ship's side with timber 5 inches by $7\frac{1}{2}$ inches, with uprights from the main deck to spar deck of 5 inches by 4 inches scantling, at intervals of 2 feet.
- No. 2 hatchway—a feeder occupying two-thirds of the hatchway, and uprights similar to those in No. 1 hatchway.
- No. 2a hatchway—a feeder occupying the whole hatchway.
- No. 3 hatchway—a feeder and uprights as in No. 2.
- No. 4 hatchway—a feeder and uprights as in No. 1.

Shifting boards, each 11 inches by $2\frac{1}{2}$ inches, were erected from the ceiling of the lower holds up to the main deck, and were shored from the sides of the ship at intervals of 8 feet by timber 6 inches by 8 inches and 5 feet down from the main deck. Four wing trimming hatches were cut in Nos. 2 and 3 hatchways, two on each side, and each 6 feet by 6 feet. No. 2a hatchway had only two trimming hatches. The four trimming hatches in No. 1 hold and the two in No. 4 hold were each 3 feet square. The two after trimming hatches in Nos. 2 and 4 holds were trunked up to the upper deck to act as feeders to their respective holds. On the 11th January, 1926, the surveyor appointed by the New York Board of Underwriters, in the presence of the master, approved of the work and certified the vessel as fitted to carry a cargo of grain in bulk or in bags. The loading of the grain was commenced on the 12th January at an elevator in Jersey City, N.J., the loading in bulk

proceeding in all holds at the same time. This was watched at first by the chief and 2nd officers, assisted by two seamen, but later the chief officer had to leave this work to proceed on shore on duty. By 6 p.m. the lower holds were all full, and also the feeders to Nos. 2, 2a, 3 and 4 holds. Next day, the 13th January, the filling of No. 1 feeder was completed and the loading of the cargo finished by taking on board 3,500 bags of grain, which were stowed in Nos. 3 and 4 holds 'tween decks. The full cargo consisted of 4,687 tons of grain in bulk in lower holds, 240 tons in feeders, and 200 tons in bags in 'tween decks, a total of 5,127 tons, and the ship then had a draft of 23 feet 1 inch mean.

Bunkers to the amount of 610 tons were then taken on board and stowed in the bunkers and in the side spaces on the spar deck under the bridge deck. After bunkering her draft was 23 feet 5 inches aft and 23 feet 8 inches forward, which allowed for a rise of $3\frac{1}{2}$ inches for water density, a figure given to the master officially by the New York surveyor who had supervised the loading and issued a certificate of draft and loading. This gave the vessel a draft of 23 feet $1\frac{1}{2}$ inches forward and 23 feet $5\frac{1}{2}$ inches aft in salt water, which brought her to her winter load line with a freeboard of 5 feet $7\frac{1}{2}$ inches. All hatches were battened down securely and all ventilator coamings covered and secured.

The s.s. "Antinoe" sailed from New York on the 14th January, 1926, under the command of Mr. Harry Tose, who holds a certificate of competency as master in steam No. 004675, bound for Queens-town for orders. Fine weather with a following wind and sea were experienced until the early morning of the 23rd January, when an increasing W.S.W. gale was brewing, with a rising sea. At 6.20 a.m. on the 23rd January, when the ship was steering N. 69 E. (true), the 2nd officer, Mr. Price, who was on watch noticed an abnormal and big sea almost in the nature of a tidal wave advancing upon the ship from the direction S.S.W., and he instantly ordered the helm to be put hard-a-starboard, but before the order could be fully executed a huge mass of water broke aboard on the after end of the bridge and the boat deck with great violence, carrying away the dinghy, an ice chest and the teak bulwarks round the captain's bridge, striking the ventilator and breaking the canvas cover over the mouth of the cowl and bursting in the cabin door of the saloon. The wreckage of the ice chest, which was very heavy, bent the forward horizontal connecting rod of the steering gear and locked the wheel, and the ship fell off under starboard helm, bringing wind and sea round the stern on to the port quarter and beam. The telegraph from the bridge to the engine room was also damaged and made useless. The connecting rod was repaired at once, and in less time than it would have taken to put the vessel in hand steering gear, all wreckage was thrown overboard and the vessel hove-to on the port tack heading about west. Owing to the damage to the engine room telegraph the master had to transmit all messages to the engine room by messenger. The ship could not be kept head to wind and sea, and it consequently fell off into the trough. It rolled heavily, shipping a lot of water on deck and took a slight list to starboard of about 6 degrees, which was evidently caused by the grain cargo settling over to the starboard side.

During the afternoon of the 23rd the weather went from bad to worse and the wind increased to a very high gale with very heavy seas from the S.W. While hove-to a heavy sea hit the ship on the port side of the fiddley casing, and it was found that the angle iron round the foot of the fiddley casing on the port side of the bridge deck had been burst away from the fiddley. Water which came through this break eventually found its way round the foreside of the fiddley and down into the starboard bunker by way of the open starboard bunker hatchways on the spar deck. Continued efforts were made to caulk the break, but no permanent stopping of the leak could

be effected owing to the straining of the vessel in the heavy sea.

About 3 a.m. on the 24th January a heavy sea coming over the port side of the after well deck washed away the wedges and iron battens from No. 3 hatchway and stripped the tarpaulins from the hatch-covers. The tarpaulins were replaced, and with spare wedges and improvised wooden hatch battens all efforts were made to secure the hatchway, but at 4 a.m. the starboard after bunker hatchway on the bridge deck was stove in, and immediately afterwards the chief engineer reported to the master that water was coming into the stokehold and engine room through the starboard bunker. A new hatch cover was placed upon the hatchway and covered with tarpaulins and battened down and the water was dealt with by means of the pumps. Owing to the list of the ship the port side suction could not be used, and all pumping operations had to be confined to the starboard side. The steam for the pumps was obtained from the main boilers and it was available until the morning of the 25th, when owing to the list of the ship water reached the fires of the starboard boiler and the starboard fires were drawn. This curtailed the steam supply and the main engines were stopped and with them the two plunger bilge pumps and the main circulating pump. The starboard bunker hatchway gave constant trouble and was stove in at least three times. After the first occasion all the water which entered the engine room was pumped out and the bunker door shut down to prevent further flooding and also to stop coal being washed out into the bilges, but later on the 24th, owing to the entry of more water through the bunker hatchway, this door was burst open and carried away and the stokehold was flooded. The ballast pump and the general service pump continued working on the steam provided from the port boiler until the evening of the 26th January, when, owing to the list, which was then about 30 degrees to starboard, and the entry of water, the engine room and stokehold platforms were washed up and the steam supply failed. From this time onwards no further pumping operations could be performed as the distribution valves for the ballast and general service pumps were under water in the engine room and no useful purpose would have been served by raising steam in the donkey boiler, which was on the spar deck. Every effort had been made by the chief engineer and his staff by cutting suction pipes and clearing rose boxes, etc., to keep his pumps working, and their failure was only due to the difficult conditions which they could not remedy.

The wind and sea continued to be very violent, and further trouble was experienced with No. 3 hatchway and the starboard bunker hatchway owing to lee water surging over the starboard side, and at about 5 a.m. on the 24th January the master ordered the wireless operator to circulate an S.O.S. call, stating that his No. 3 hatchway had been stove in and that his ship was filling rapidly. This call was picked up by a Newfoundland wireless station, a circumstance which the wireless operator of the "Antinoe" stated could only have been due to a "freak," and was broadcast again by that station and picked up by R.M.S. "Aquitania." On being asked by that vessel if he wished to abandon ship the master of the "Antinoe" replied that he did not wish to do so, but wanted a ship to stand by until he was able to ascertain the full extent of the damage. This message was passed on to the s.s. "President Roosevelt" (Captain Fried), which vessel came up to the "Antinoe" about 12.30 p.m. on the 24th January.

Captain Fried also asked the master of the "Antinoe" if he wished to abandon, but receiving a negative reply he stood by as desired. The "Antinoe" continued to be swept by heavy seas, and all the doors on the port side of the engineers' cabins were burst in and the cabins flooded. A heavy 45-foot derrick, which was lashed to stanchions and

ring bolts on the starboard well deck was washed adrift, but as it was constantly under water no examination could be made to ascertain if damage was caused to the deck thereby. About 9.30 a.m. the starboard bunker hatchway had been again burst in, and a large quantity of water entered the stokehold before a new cover could be fitted. This cover was not lost again, but it was found impossible to keep the tarpaulins battened down owing to the wedges being constantly washed adrift. Lee water coming aboard stove in the bulkhead of the engineers' rooms situated about 4 feet from the after end of the bunker hatchway, and made a rent in the iron for a distance of about 2 feet. At 10 p.m. it was found that salt water had entered the wireless cabin and put the wireless instruments out of order, and in spite of the efforts of the wireless operator to remedy this they could not be used again. At 2.30 a.m. on the 25th the main engines stopped owing to lack of steam consequent on the water reaching the starboard boiler fires, and the ship lay broadside to the sea, which was extremely heavy, with a wind of about force 10. There were frequent snow squalls, and the "President Roosevelt" was lost sight of for some hours. The wedges were washed out of No. 4 hatchway and the list of the vessel increased. Two of the hatch covers had been washed out, and as the grain in the feeder swelled they could not be replaced, but tarpaulins were lashed over and were wedged down. The list at this time was so great that the hatch coamings were awash and water must have entered continually. At 4 a.m. the lights of two steamers were seen and rockets were fired and blue lights shown on board the "Antinoe," but without result. About 1 p.m. a heavy sea came over the port side, damaged and made useless the port lifeboat, and continued over the deck and washed away the starboard lifeboat. About 3.30 p.m. the "President Roosevelt" was again sighted, and by means of flags the master of the "Antinoe" signalled that he wished to abandon ship but had no means to do so, all his boats having been lost or damaged so as to make them useless. Fuel oil was pumped from the "President Roosevelt" and a lifeboat under the command of the chief officer of that vessel was at once launched, but was almost immediately capsized and all the occupants thrown into the water. Of these men, six managed to scramble aboard their vessel again, one was lost almost at once and the other was seen to drift away past the "Antinoe" clinging to the upturned boat. The crew of the "Antinoe" tried to reach him by means of lines, but these efforts were ineffectual as also were those of the master of the "President Roosevelt," who steamed so as to try and head off the drifting boat, and this man also was unfortunately lost. Owing to the state of the weather Captain Fried suspended further operations but remained standing by. On Tuesday, 26th January, the list of the "Antinoe" had increased to 20 degrees, and with the exception of No. 1 hatchway all the hatchways were giving constant trouble due to the washing away of the wedges and tarpaulins. The after well deck was constantly under water, and much water must have entered into the bridge space by way of the tonnage opening on the starboard side of the after end of the bridge and so by way of the open bunker hatchway on the spar deck to the engine room and stokehold. The Court questioned the master as to the advisability of battening down the bunker hatches on the spar deck, and he replied that in his judgment it was better to let the water get down below, there to be dealt with by the pumps, than to imprison it in the bridge space and so increase the already heavy list of the vessel.

At noon on the 26th January the Lyle gun on board the "President Roosevelt" was used in an attempt to get a line aboard the "Antinoe," but this was not successful. Subsequently another lifeboat was lowered and was drifted under the stern of the "Antinoe," but owing to the exhausted state of the crew they could not take advantage of the chance

that was offered and the boat was lost in the heavy sea. Night set in with further heavy snow and hail squalls, and the "President Roosevelt" took up station to windward and awaited a further opportunity to help. By Wednesday, the 27th January, the list had increased to 30 degrees and the bulwark rails on the after starboard side of the well deck were never above water, the ship was lying helpless very much down by the stern and with the starboard hatch coamings constantly under water. At day-break on the 27th the "President Roosevelt" continued manœuvring with the object of getting a line on board the "Antinoe," further attempts were made with the Lyle gun to throw a line, and although on one occasion it was successfully done the line parted as it was being hauled in. Every effort appears to have been made by the master of the "President Roosevelt," and his efforts were not without danger to his own vessel, which was a 14,000 ton boat with a large number of crew and passengers on board, and which was itself being severely handled by the weather, rolling at times to angles of over 35 degrees each side of the vertical.

At 4 p.m. on the 27th, the weather having moderated slightly and the wind having shifted from W. to N.W. and decreased to force 4, Captain Fried signalled to know which was the best place for a boat to come alongside. Captain Tose replied that in his opinion the starboard side abreast No. 1 hatchway was the best place, and at 7.20 p.m. a boat under the command of the chief officer of the "President Roosevelt" was launched and by clever handling managed to get alongside the "Antinoe" and take off 12 of the crew. The boat was in great danger all the time, and many oars were broken in the efforts made to fend her off the ship's side. All the men were safely transferred to the "President Roosevelt," which continued to stand by, and about 12.40 a.m. another boat was launched from that vessel again under the command of the chief officer, who thus took part in all the three attempts at rescue by boat, and approaching the "Antinoe" from the stern it went alongside and took off the master and the remainder of the crew to the number of 13. Wind and sea were still high, but all were safely transferred to the "President Roosevelt," which in its efforts to effect this rescue had lost two members of its crew, six lifeboats and a large quantity of material.

The "Antinoe" was abandoned about 1 a.m. on the 28th January, 1926, in latitude 47.50 North and longitude 36.00 west, with a list of over 50 degrees, its forward and after well decks under water and with every indication that she could only remain afloat a very short time. She was not seen again and she may be presumed to have foundered within a short time of the abandonment.

As a result of the evidence placed before the Court it is recommended that on winter passages additional security should be given when battening down hatches on weather decks by the use firstly, of folding wedges,* secondly of locking bars in suitable numbers and positions to secure hatch coverings, and finally by the use of wire cross lashings set up by screws or other equally effective means. The Court is also of opinion that the Rules for the loading of grain issued by the New York Board of Underwriters should be amended so as to make the precautions *re* hatch coamings mentioned in para. 23 applicable also to two deck ships so as more effectively to provide for the filling of the spaces between the beams in the lower holds.

At the close of the evidence the following questions were put to the Court by the Counsel for the Board of Trade:—

1. When and for what sum was the s.s. "Antinoe" purchased by her owners? What was her value at the time of her loss? What Insurances were effected upon and in connection with the ship?

* Also known as double or fox wedges.

2. When the vessel left New York on the 14th January last

(a) Was she in good and seaworthy condition as regards hull? Were the machinery and pumps in good working order?

(b) Was she provided with sufficient boats and life-saving appliances and were they in good order? Were the boats properly equipped?

(c) Was she provided with sufficient spare hatches, tarpaulins and wedges for securing them? Were such hatches, tarpaulins and wedges, if any, stowed so as to be readily available if or when required?

3. Was the cargo of grain properly trimmed to ensure good storage and were proper and sufficient measures taken to prevent it shifting?

4. Were all hatchways and other deck openings properly covered and secured?

5. Was the vessel upright and in good trim and had she the required freeboard for a winter voyage?

6. What was the cause of the damage received on deck and to the steering gear on the 23rd January last? Did the vessel take a list then, and, if so, what was the cause of it? Were prompt and proper measures taken to repair the damage sustained and for the safety of the ship?

7. What was the cause of the damage sustained on the 24th January last to bunker and deck hatchways? Were prompt and proper measures taken to cover and protect the hatchways and prevent water getting down into the holds, engine room and stokehold?

8. Were the means taken to cover and protect the bunker and hold hatchways effective, and if not, why not? Did water get into the holds, engine room and stokehold, and, if so, was every possible effort made by the engineers to keep it down by means of the pumps?

9. What was the cause of the vessel taking an increased list during the 24th of January and following days? Was everything possible done by the master, officers and chief engineer to save the ship?

10. When, where and in what circumstances was the vessel abandoned? What was her condition at that time? Was she prematurely abandoned?

11. How and by what vessel were the crew of the s.s. "Antinoe" saved?

12. Was the abandonment of the s.s. "Antinoe" caused by the wrongful act or default of the master, chief and 2nd officers and chief engineer, or of any, and, if so, which of them?

The Court was then addressed by Mr. Lewis Noad on behalf of the owners and by Mr. Ward Higgs on behalf of the master and the chief officer.

To the questions set out above the Court gives the following answers:—

1. The s.s. "Antinoe" was purchased by her owners in April, 1924, for the sum of £19,000. Her value at the time of her loss was £17,000. The following insurances were effected upon and in connection with the ship:—

	£
Hull and machinery	24,000
Unexpired Policies	1,050
Risk of Hire Money	1,050

2. (a) Yes, she was in good and seaworthy condition as regards hull, and the machinery and pumps were in good working order.

(b) Yes, she was provided with sufficient life-saving apparatus, which was in good order, and the boats were properly equipped.

(c) Yes, she was provided with sufficient spare hatches, tarpaulins and wedges, and they were readily available.

3. Yes. On the evidence the Court could come to no other conclusion.

4. Yes; all weather deck hatchways and deck openings were properly covered and secured.

5. Yes.

6. The cause of the damage received on deck was a heavy cross sea coming aboard on the starboard side of the bridge deck at 6.20 a.m. on 23rd January, 1926, and so dislodging a boat and then carrying an ice chest against the athwartship section of the steering engine control rod. No; the vessel did not then take a list, but in consequence of the steering engine control rod being bent the ship was not under control. After repairs had been effected she was hoove-to on the port tack, and in heaving-to she took a slight list of about 6 degrees to starboard owing to the heavy rolling, which caused the grain to settle over to the starboard side. Prompt and proper measures were taken to repair the damage sustained and for the safety of the ship.

7. The cause of the damage to the bunker hatchway was the entry of lee water which burst the hatch covers. The damage to the deck hatchway was caused by a heavy sea which came over the port side, and washing wedges and hatch battens away stripped the tarpaulins from the hatches.

Having regard to the state of the weather prevailing at the time prompt and proper measures were taken to cover and protect the hatchways and prevent water getting down into the holds, engine room and stokehold.

8. No; the means taken to cover and protect the bunker and hold hatchways were not entirely effective owing to the abnormal weather and sea conditions.

Yes; water did get into the holds, engine room and stokehold, and every effort was made by the engineers to keep it down by means of pumps.

9. The cause of the increased list was the entry of water into No. 3 hold by way of No. 3 hatchway, and into the stokehold by way of the starboard bunker hatchway. Yes; in the circumstances prevailing at the time everything was done by the master, officers and chief engineer to save the ship.

10. The vessel was abandoned at 1 a.m. on the 28th January, 1926, in latitude 47.50 North and longitude 36 West, in circumstances of extreme urgency and difficulty in order to save the lives of the crew. She was in an almost sinking condition with water in her holds, stokehold and engine room, and with a list of about 50 degrees to starboard. No; she was not prematurely abandoned.

11. The crew of the s.s. "Antinoe" were saved in two parties by being taken off in boats sent from and manned by the crew of the United States s.s. "President Roosevelt."

12. No; the abandonment was not caused by the wrongful act or default of any of the persons mentioned.

Dated this 31st day of March, 1926.

ALICK J. TASSELL, *Judge*.

We concur in the above Report.

JAS. GARRIOCK,	}	Assessors.
HUGH F. DAVID,		
WM. M. FLETCHER,		

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