

(No. 7779.)

"PORTGWARRA."

THE MERCHANT SHIPPING ACT, 1894.

In the matter of a Formal Investigation held at the Law Courts, Cardiff, on the 10th, 11th and 15th days of March, 1922, before Sir Thomas LEWIS Stipendiary Magistrate for the City of Cardiff, assisted by Admiral R. PUREFOY, Commander C. J. BENTON, R.N.R., and Captain James GARRIOCK (Nautical Assessors), and Mr. Duncan M. WALLACE (Engineering Assessor), into the circumstances attending the loss of the British Steamship "Portgwarra," of Cardiff, off the Maas Light Vessel, North Sea, on the 31st December, 1921, 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 loss of the vessel was due to the tarpaulins covering No. 2 hatchway—although in good condition—being defective in strength to withstand the great strain to which they were subjected by heavy seas breaking on the abnormally large area of hatchway which the tarpaulins covered; and consequently the seas flowing through the hatchway into No. 2 hold in quantities with which the pumps could not cope.

Dated this 15th day of March, 1922.

Thomas LEWIS, *Judge.*

We concur in the above Report.

R. PUREFOY, *Assessor.*

C. J. BENTON, *Assessor.*

JAS. GARRIOCK, *Assessor.*

D. M. WALLACE, *Assessor.*

ANNEX TO THE REPORT.

This Inquiry was held at the Law Courts, Cardiff, on the 10th, 11th and 15th days of March, 1922. Mr. L. H. A. PRATT (Messrs. Vachell & Co.) appeared for the Board of Trade, and Mr. Ivor DOWNING for the Master. Mr. B. W. GINSBURG, LL.D., appeared to watch the proceedings on behalf of the Chief Officer.

The "Portgwarra" (formerly named "Simoom") was a steel single screw steamship built in 1914 at Sunderland by Messrs. J. Priestman & Co., and was classed 100 A1 at Lloyds. She was registered at the Port of Cardiff, and her official number was 135795.

Her length was 290.0 feet; breadth, 40.8 feet; depth of hold from tonnage deck to ceiling at midships, 17.9 feet.

She was a self trimmer, of the quarter deck type, with a well deck forward. She had a poop 24 feet 2 inches in length, a raised quarter deck 90 feet 1 inch in length, a bridge 52 feet 2 inches in length, a well deck 96 feet in length and a fore-castle head 27 feet 7 inches in length. The upper and lower navigating bridges were above the fore end of the bridge deck.

She had two pole masts and one funnel; and was fitted with wireless apparatus.

The vessel had four watertight bulkheads, i.e., one abaft the stem, one at the forward end of the boiler space, which was fitted with a vertical sliding cast iron watertight door, the bottom of which was 2 feet 6 inches above the double bottom tank top, one at the after part of engine room, and one forward from the stern post.

The space between the forward bulkhead and the boiler room bulkhead was divided into two parts, with a wooden bulkhead—which was not watertight—and fitted with two hatchways, thus forming No. 1 and No. 2 holds. The space between the after bulkhead and the engine room bulkhead was divided in a similar manner and formed No. 3 and No. 4 holds.

A cellular double bottom was fitted the full length of the vessel up to the bulkheads, but a portion under the boilers was a dry tank fitted with man hole doors.

The after peak was used for water ballast and the fore peak for boatswain's stores.

The capacity of the water ballast tanks, which were divided with a longitudinal bulkhead, was as follows:—

	tons.
After tank	64
After main tank	160
Fore main tank	163
Fore tank	114
After peak tank	60
	<hr/>
	561
Dry tank	49
	<hr/>
Total capacity	610

The vessel was constructed to carry 3,350 tons deadweight, on Lloyds specifications. Her summer draft was 18 feet $\frac{1}{2}$ an inch; and on this draft her immersion was 25 tons per inch. Her winter draft was 17 feet $9\frac{1}{2}$ inches, which gave her a freeboard of 2 feet $6\frac{1}{2}$ inches; and at this draft her deadweight was 3,275 tons. Her gross tonnage was 2,222.39 tons, and net registered tonnage 1,365.10 tons.

The vessel was fitted with one set of vertical direct acting triple expansion engines with a nominal horse power of 222. The cylinders were 21 inches, 35 inches and 57 inches respectively, and the length of stroke 39 inches. She had two single ended multitubular steel boilers working at 180 lbs. pressure. Her loaded speed was $9\frac{1}{2}$ knots, with the engine working at 64 revolutions. The engines and boilers were constructed by George Clark Limited, at Sunderland in 1914.

The coal bunkers were at the sides of the engine and boiler space and in the bridge space; and were of the following dimensions:—

	tons.
Engine room port	27
Engine room starboard	64 $\frac{1}{2}$
Pocket port	9 $\frac{1}{2}$
Pocket starboard	9 $\frac{1}{2}$
Bridge alleyways	142
Bridge fore part	57
Coal shute	11 $\frac{1}{2}$
	<hr/>
Total	321

She had two bilge pumps, two feed pumps, air and circulating pumps, which were all worked by levers from the main engines; one independent ballast donkey pump 9 inches by 10 inches by 9 inches capable of pumping about 120 tons per hour; one independent general service feed donkey pump 6 inches by 4 inches by 6 inches; and a Downton hand pump. The pumps were connected to the bilges and ballast tanks throughout the vessel. Nos. 1 and 2 holds formed one compartment with one bilge suction $3\frac{1}{2}$ -inches diameter, fitted on each side at the after end.

The bulwarks to the forward well deck were of steel, 4 feet high, and were fitted on each side with four rectangular openings, 3 feet 6 inches long by 18 inches wide. There were no doors to these openings, but two bars were fitted across each for the protection of the crew.

The bulwarks to the raised quarter deck were 3 feet 6 inches high, and had on each side four freeing ports which were each 3 feet 6 inches long by 1 foot 3 inches wide (rectangular), and fitted with two guard rods but no doors. There were also one scupper opening and two mooring pipes on each side of the forward well deck, and three scupper openings and two mooring pipes on each side of the raised quarter deck.

There were four cargo hatchways of the under-mentioned dimensions:—

Ship beam 5, span 5.87. No. 1, 35 ft. 3 in. long by 26 ft. 0 in. mean width. Cover, 12 in. by 3½ in.

Ship beam 6, span 5.2. No. 2, 36 ft. 4 in. long by 28 ft. 0 in. wide. 10 ft. Cover, 12 in. by 3 in.

Ship beam 5, span 5.55. No. 3, 33 ft. 3½ in. long by 27 ft. 6 in. wide. 10 ft. long. Cover, 12 in. by 3 in.

Ship beam 4, span 5.88. No. 4, 29 ft. 4½ in. long by 25 ft. 9 in. mean width. Cover, 12 in. by 3½ in.

The hatch coamings were of steel, standing 4 feet above the steel deck at No. 1 and No. 2 hatchways, and 3 feet 6 inches at Nos. 3 and 4 hatchways. The hatch coamings were fitted with iron cleats, flat iron battens and hard wood wedges for securing the tarpaulins. No locking or other bars were provided for holding down the hatch covers and tarpaulins.

No. 1 hatch had five steel plate athwartship filling beams supporting wood covers which were placed fore and aft; and No. 2 had six; No. 3, five; and No. 4, four.

The wood covers on Nos. 2 and 3 hatches were generally about 10 feet long by 12 inches wide and by 3 inches thick, and made of white pine deals; and those on Nos. 1 and 4 hatches were similar except that they were 3½ inches thick. The covers on the after end of No. 2 hatches were about 5 feet long by 24 inches wide by 3 inches thick. Two tarpaulins were provided for being placed on each hatch, and a spare tarpaulin for each hatch was kept on board.

The vessel, being a self trimmer, had hatchways which occupied 52 per cent. of the whole area of the forward well deck, and 46 per cent. of the raised quarter deck; the sides of the hatchways being parallel with the ship's sides and 6 feet distant from the same. On account of the large space occupied by these hatchways, and the deck between the hatchways being raised to the top of the hatch coamings, the total quantity of water that the forward well deck could hold, if full to the top of the bulwarks, was 150 tons, which was equal to about 6 inches in the draft of the vessel; and that of the raised quarter deck was 140 tons, which was equal to about 5½ inches in her draft. There were 21 square feet of freeing port area on each side of the forward well deck and 17½ square feet on each side of the raised quarter deck, exclusive of scupper and mooring port openings, which was sufficient to quickly relieve both decks of water.

The deck between the after end of No. 1 hatch and the fore end of No. 2 hatch, and between the after end of No. 3 hatch and the fore end of No. 4 hatch, was raised to about the height of the top of the hatch coamings and formed a platform on which two winches were placed for each hatch.

The vessel was provided with two lifeboats, each of which had the complete Board of Trade outfit. They were 23 feet long and each capable of carrying 29 men. They were carried in chocks under davits on the boat deck, one on each side of the engine room casing. She also had a dinghy, which was 16 feet in length and carried in chocks under the davit on the starboard side of the lower navigating bridge. She had eight or nine lifebuoys, and 25 new lifebelts which were kept in a box on the lower bridge; also the usual supply of bluelights and distress signal rockets. The life saving appliances were last sur-

veyed and passed by the Board of Trade in December 1920, and the vessel was last examined by Lloyd's in dry-dock in August, 1921.

She had one Standard compass on the upper navigating bridge, one steering compass in the wheel-house, and one compass on the poop deck. The compasses were adjusted by Messrs. Ainsley and Company, of Cardiff, in August, 1920.

The steam steering gear was fitted in the after end of the engine room casing and controlled from the navigating bridge by rods and bevel wheels; the connection between the steering engine and the quadrant being made with chains and rods.

She had eight derricks—two on the forward and the after side of each of the masts. The ends of the two forward derricks when stowed rested in chocks on the fore-castle deck.

There were no ventilator openings on the well deck forward.

The capacity of the cargo compartments was as follows:—

	Grain capacity.
	Cubic feet.
No. 1 hold	... 43,465
No. 2 hold	... 47,035
No. 3 hold	... 44,635
No. 4 hold	... 31,865
Total capacity	... 167,000

The "Portgwarra" was owned by the Portfield Steamship Company Limited, and Mr. William Edward Hinde, of 128, Bute Street, Cardiff, was appointed Manager.

The vessel left Blyth at 6.30 p.m. on the 29th December last, bound for Rotterdam, with a cargo of 3,030 tons of coal and about 100 tons of bunker coal. Her draft on leaving was 18 feet aft, and 17 feet 6 inches forward, which gave her a freeboard of 2 feet 7 inches. Before leaving, the hatches were battened down and covered with two tarpaulins; No. 2 hatch being additionally secured by zigzag cross lashings. She had a crew of 23 hands, and was under the command of Captain Edward John Niblett, who held a certificate of competency as Master, No. 032177.

The weather was fine, but after passing Flamborough Head during the morning of the 30th the wind freshened, and at 7 a.m. had increased to a gale from the S.W. to W.S.W. with a heavy beam sea. The course was then S.S.W. magnetic, and the vessel was being steered for the Outer Dowsing Light Vessel.

Between 7 and 8 a.m. it was found that the upper tarpaulin on No. 2 hatchway had been split and torn. The Master then turned the vessel round to the N.E. and her speed was reduced to slow. A new tarpaulin was fitted and the hatchway was re-battened, and a zigzag cross lashing with a 3 inch manilla rope was also used as an additional protection. Both watches assisted in the re-battening under the direction of the Second Officer. About an hour later the vessel proceeded on her proper course, and about 11 a.m. the engines were put at full speed. The Master directed the pumps to be put on, but no water was found in the holds. A further trial of the pumps was made at 3 p.m. but no water was found.

About noon the vessel passed the Outer Dowsing Light Vessel. The weather continued bad during the day. At 9 p.m., after passing Smith Knoll Light Vessel, the course of S.E. was steered for the Maas Lightship.

About 2 a.m. on the 31st the wind shifted in a heavy squall from S.W. to N.W. According to the weather report of Smith's Knoll Light Vessel, at 3 a.m., the wind was N.N.W., force from 10 to 11, the weather overcast and squally with a heavy sea.

About 3 points to which ho "Portgwa side which and stripp reduced to ment of th were mad "Portgwa called, and hatchway, covers bei breaking of their feet, hatchway. attempt w on the hat of the tarp of the men engaged in must have He and an deavouring a heavy s Second O ordered a could not

Shortly resumed he she was do

At 3.40 a to put on ballast pur full bore.

About 4. water trick stokehold 2 feet 6 in reported th the waterti allow the w The Master door was ea tion were p and the suc main bilge coming thro and the do put on the Chief Engin this waterti and the bal put on to t main bilge p working we

About 6 was very se operator to distress sig were served the Maas L and the ves N.W., as th weather co proceed fur

The crew until about doned owing vessel. We through the tinued to d

About 8 arrived and

About 8. lowered int released her painter. T

About 3 a.m. the course was altered about two points to the southward to clear a sailing vessel which hove to ahead. While on this course the "Portgwarra" shipped a heavy sea on the starboard side which split both tarpaulins on No. 2 hatchway and stripped them off by the cleats. The speed was reduced to half; and thereafter, until the abandonment of the vessel, various alterations in the speed were made. After clearing the sailing vessel, the "Portgwarra" resumed her course. All hands were called, and every effort was made to batten down the hatchway, but owing to some of the wooden hatch covers being washed away, and to the heavy seas breaking over the deck, which washed the crew off their feet, it was found impossible to secure the hatchway. Some spare planks were brought and an attempt was made to fit the planks and a tarpaulin on the hatchway, and also to secure the split portions of the tarpaulins, but they were however washed out of the men's hands. The Second Officer was actively engaged in these operations, and about 4 a.m. he must have been washed overboard and drowned. He and an A.B. named Henry Leeguard were endeavouring to put a plank on No. 2 hatchway when a heavy sea washed them off their feet, and the Second Officer was seen no more. The Master ordered a search to be made, but the Second Officer could not be found.

Shortly after the vessel cleared the sailing ship and resumed her course of S.E. the Master noticed that she was down by the head and had a list to port.

At 3.40 a.m. the Master ordered the Chief Engineer to put on the pumps on the forward bilges. The ballast pump was put on the bilges and it worked full bore.

About 4.30 a.m. the Chief Engineer noticed a little water trickling through the watertight door of the stokehold bulkhead, which indicated that at least 2 feet 6 inches of water was in No. 2 hold. He reported the matter to the Master and suggested that the watertight door should be slightly eased so as to allow the water to find its way into the stokehold bilge. The Master agreed with this suggestion. When the door was eased the ballast pump and the bilge injection were put on to the engine room and boiler bilges, and the suction to No. 2 hold were worked with the main bilge pumps. This effectively stopped water coming through the watertight door from No. 2 hold, and the door was then closed and the ballast pump put on No. 2 hold. About four minutes later the Chief Engineer again observed water coming through this watertight door. The door was thereupon eased and the ballast pump and bilge injection were again put on to the engine room and boiler space, and the main bilge pumps on the hold. The pumps continued working well until the vessel was abandoned.

About 6 a.m. the Master considered the situation was very serious and gave instructions to the wireless operator to send out the S.O.S. signal. About 7 a.m. distress signals were made by rockets, and lifebelts were served out to the crew. Between 5 and 6 a.m. the Maas Light was sighted. The engines were eased and the vessel brought round with her head to the N.W., as the Master, having regard to the prevailing weather conditions, did not consider it prudent to proceed further before daylight.

The crew were endeavouring to secure No. 2 hatch until about 7 a.m. when further attempts were abandoned owing to the heavy seas breaking over the vessel. Water had been pouring into No. 2 hold through the after section of the hatchway, and continued to do so.

About 8 a.m. the Dutch Pilot Cutter No. 10 arrived and stood by until the vessel was abandoned.

About 8.45 a.m. the port lifeboat was got out and lowered into the water with no hands in her. She released herself, and was kept alongside by a double painter. The Master ordered the Chief Engineer

to abandon the engine room. The pumps were then unable to cope with the water coming on board. The engines were stopped and the engineers and firemen went on deck. The engine room and stoke hold were then in a normal condition, and about 180 lbs. pressure of steam was on the boilers.

About 9 a.m. the Master decided to abandon the vessel; a huge sea having just previously knocked the forward derricks over the side and completely stove in No. 1 hatch. All the members of the crew had had lifebelts and were on the bridge deck. They were called on to jump overboard and swim to the lifeboat. It was discovered in the lifeboat that four of the crew were missing. A fireman states that T. Foster (a fireman) would not jump over the side of the vessel. Those in the lifeboat were taken on board the pilot cutter, and one of the missing men was afterwards picked up by the cutter. Search was made for the others but without success. About ten minutes after the vessel was abandoned she foundered by the head and with a list to port. The following members of the crew lost their lives:—

James Mann, Second Officer
Daniel Green, Steward
K. K. Alenen, Able Seaman
T. Foster, Fireman

The remaining members were safely landed by the pilot cutter.

At the conclusion of the evidence Mr. Pratt submitted, on behalf of the Board of Trade, that there was a case of default against the Master.

He also submitted the following questions upon which he desired the opinion of the Court:—

1. What was the cost of the vessel to her owners? What was her value when she last left Blyth? What insurances were effected upon and in connection with the ship?
2. When the vessel left Blyth on the 29th December last—
 - (a) Was she in good and seaworthy condition as regards hull and equipments?
 - (b) Was she properly provided with boats and life-saving appliances?
 - (c) What was the amount and description of cargo carried?
 - (d) Had the vessel the required freeboard for a winter voyage to Rotterdam?
 - (e) Were the hatchways and all other deck openings properly covered and secured?
3. What was the cause of the tarpaulins over No. 2 hatchway being carried away at or about 7 a.m. of the 30th December?

Was the hatchway again properly covered and secured without water getting into No. 2 hold?
4. What was the cause of the tarpaulins over No. 2 hatchway being torn away and the loss of one or more of the hatches on the morning of the 31st December? Was every possible effort made to recover and secure the hatchway and to prevent seas coming on board?
5. What were the circumstances in which James Mann, second officer, lost his life on the morning of the 31st December?
6. What was the cause of the vessel being unable to free her foredeck of water on the 31st December?
7. What was the cause of the vessel making so much water in No. 2 hold after 3.30 a.m. of the 31st December? Was every possible effort made to keep the water under and for the safety of the ship?
8. When, where, and in what circumstances was the vessel abandoned?

What was her condition at the time ?

Was she prematurely abandoned ?

9. What were the circumstances in which Daniel Green, Steward, K. K. Alenen, A. B., and T. Foster, fireman, lost their lives ?

10. What was the cause of the loss of the vessel ?

11. Was the vessel navigated with proper and seamanlike care ?

12. Was the abandonment and loss of the S.S. "Portgwarra" caused by the wrongful act or default of her Master, Captain Edward John Niblett ?

The Court then considered the questions and answered as follows :—

1. The cost of the "Portgwarra" to her owners was £140,000. About £3,395 was expended in repairs subsequently to her purchase.

When she last left Blyth her value was estimated to be about £35,000.

The following insurances were effected upon and in connection with the vessel :—

Hull and Machinery	...	£49,000
Freight	10,000
TOTAL	£59,000

2. When she left Blyth on the 29th December last :—

- (a) She was in good and seaworthy condition as regards hull, and, except as hereinafter mentioned, was also in good condition as regards equipments ;
- (b) She was properly provided with boats and life-saving appliances ;
- (c) She had a cargo of 3,030 tons of coal and about 100 tons of bunkers ;
- (d) She had the required freeboard for a winter voyage to Rotterdam ;
- (e) The ventilators and hatchways, with the exception of No. 2 hatchway, were properly covered and secured.

No. 2 hatchway, which was 36 feet 4 inches in length and 28 feet in breadth (and with No. 1 hatchway occupied an area equal to 52 per cent. of the total area of the fore-deck) was covered with wooden hatch covers, over which two tarpaulins were spread and secured on the sides and ends of the hatch coamings with iron battens in cleats and wooden wedges.

This hatchway, as an additional protection, was secured with zig-zag rope lashings. According to the usual requirements, the hatchway was sufficiently covered and secured ; but having regard to its area, its situation in the lowest part of the deck, and to its being more subjected to the violent force of heavy seas than any other part of the vessel, the covering of this hatchway was ineffective for the purpose for which it was intended, viz :—to prevent water flowing into the hold.

3. One of the tarpaulins over No. 2 hatchway was split and torn about 8 a.m. of the 30th December. According to the Master, the weather was then very bad, with the wind S.W. to W.S.W. There was a heavy beam sea, and the vessel shipped a large quantity of heavy water. The tarpaulin was in good condition but incapable of withstanding the great strain to which it was subjected by the heavy seas breaking over it.

The hatchway was again covered, secured, and temporarily water was prevented from getting into No. 2 hold.

In the circumstances, the Master did all that was possible to properly cover the hatchway by substituting a new tarpaulin for that destroyed and doubly lashing the tarpaulins with ropes.

4 & 5. About 2 a.m. of the 31st December the vessel was proceeding at full speed on a S.E. course. The wind then changed from S.W. to N.W. and very heavy squalls with rain and hail were experienced. According to the weather report of Smith's Knoll Light Vessel, at 3 a.m. the wind was N.N.W., force 10 to 11 and the weather and sea were of exceptional violence. About 3 a.m. the course was altered two points to clear a sailing ship which was hove to ahead, and after clearing, the "Portgwarra" was brought back on the S.E. course. While heading South with the sea abeam she shipped very heavy seas which broke heavily on No. 2 hatchway and split both tarpaulins in the centre, and stripped them off by the cleats. Every possible effort was made then and after the vessel was brought back on her course to re-cover and secure the hatchway and to prevent seas coming on board. All hands were called out and efforts were made to secure the split portions of the tarpaulins, but without success. In the meantime heavy seas were continually breaking over the vessel and the men laboured under great difficulties and in great danger. While three of the crew were carrying a tarpaulin from forward to No. 2 hatch it was washed out of their hands. There were no means provided for securing the hatch covers after the tarpaulins were swept away. A number of hatch covers in the port side of the after section of the hatchway were then washed overboard. A quantity of timber was cut up and placed in the hatchway as a substitute for some of the hatch covers, but this proved to be inadequate for preventing water going into No. 2 hold. The Second Officer (James Mann) assisted in these operations, and about 4 a.m., while endeavouring to put a plank on No. 2 hatchway a heavy sea washed him and the A.B. helping him off their feet, and Mann was seen no more. Search was made for him but he could not be found. He was undoubtedly washed overboard and drowned.

6. On the 31st December the vessel was able to free her fore deck of water until the hatch covers of No. 2 hatchway were washed off. But afterwards the water poured into No. 2 hold through this hatchway and so caused her to be more deeply submerged by the head. Thus her buoyancy was reduced and thereby rendered her unable to free the fore deck of water.

7. The making of so much water in No. 2 hold after 3.30 a.m. of the 31st December was due to a portion of the hatch covers of the hatchway to the hold being washed overboard by the heavy seas after the tarpaulins had been rendered useless.

Every possible effort was made to keep the water under and also for the safety of the vessel

8. About 9 a.m. on the 31st December, when the vessel was—according to the Master's estimate—about 8 to 9 miles W. of Maas Light Ship, he decided to abandon her. There was then a heavy gale with a high cross sea. The vessel was down by the head, with a heavy list to port, the bulwarks were under water, the hatch covers of No. 2 hold had been washed away, the hatchway of No. 1 hold had been stove in, and the pumps were unable to cope with the water. All the members of the crew had previously put on lifebelts, and were on the bridge deck when the port lifeboat was launched. It was lowered into the water and made fast with a strong painter, at a distance of about 15 feet from the vessel, as it was impossible to bring the boat alongside. All hands having previously been provided with lifebelts were called on to jump overboard and swim to the lifeboat.

When the Master got to the lifeboat he found that four of the crew were missing. They could not be seen in the water. A fireman states that T. Foster

(a fireman)
Those in
cutter, v
to distr
was fou
picked
for the
those m
(Steward
man).

The v
founder
her.

10. It
the loss
No. 2 h

The m
flowing

They
(1) defe

The v
—viz.,
best ad
means p
designed
of water
on the f
way. I

IMP

(a fireman) would not jump over the side of the vessel. Those in the lifeboat were taken on board the pilot cutter, which had come to their assistance in response to distress signals. One of the four missing men was found clinging to wreckage, and was afterwards picked up by the pilot cutter. Search was made for the others but without success. The names of those men who lost their lives were, Daniel Green (Steward), K. K. Alenen (A.B.), and T. Foster (Fireman).

The vessel was not prematurely abandoned—she foundered about ten minutes after the Master left her.

10. It is indisputable that the proximate cause of the loss of the vessel was the water that flowed through No. 2 hatchway into No. 2 hold.

The means provided and adopted to prevent water flowing into No. 2 hatchway were therefore ineffective.

They were ineffective because they were either (1) defective or (2) not used to the best advantage.

The weight of evidence is that the means available—viz., tarpaulins and hatches—were used to the best advantage. But the power of resistance of the means provided was less than the force they were designed to resist, but failed to resist—viz., the force of water breaking in a heavy gale and heavy sea on the foredeck and on the large area of No. 2 hatchway. Hence the means provided to protect No. 2

hatchway were defective in that they did not effectually meet the peril of the sea actually encountered. Such defective power of resistance was the cause of the loss of the vessel.

11 & 12. The vessel was navigated with proper and seamanlike care and her abandonment and loss were not caused by the wrongful act or default of her Master, Captain Edward John Niblett.

The Court expresses its deep sympathy with the relatives and friends of those members of the crew who lost their lives.

As above stated, the area of Nos. 1 and 2 hatchways amounted to 52 per cent. of the total area of the foredeck of the "Portgwarra." Where the area of the hatchways on a vessel in proportion to the total area of the deck is abnormally large the existing methods of protecting the hatchway are, in the opinion of the Court, inadequate. And the Court recommends that additional methods and means be adopted and provided and additional precautions taken to maintain the hatch coverings securely in position.

THOMAS LEWIS, *Judge*.

We concur,

R. PUREFOY, *Assessor*.

C. J. BENTON, *Assessor*.

JAS. GARRIOCK, *Assessor*.

D. M. WALLACE, *Assessor*.

(Issued by the Board of Trade in London
on Thursday, the 25th day of May, 1922.)

LONDON :
PUBLISHED BY HIS MAJESTY'S STATIONERY OFFICE.

To be purchased through any Bookseller or directly from
H.M. STATIONERY OFFICE at the following addresses :
IMPERIAL HOUSE, KINGSWAY, LONDON, W.C. 2, and 28, ABINGDON STREET, LONDON, S.W. 1 ;
37, PETER STREET, MANCHESTER ; 1, ST ANDREW'S CRESCENT, CARDIFF ;
23, FORTH STREET, EDINBURGH ;
or from EASON & SON, LTD., 40 & 41, LOWER SACKVILLE STREET, DUBLIN.

1922.

Price 9d. Net.

Printed under the authority of HIS MAJESTY'S STATIONERY OFFICE
By Henderson & Spalding Ltd., Moberwell, London, S.E. 15.