

WEDNESDAY MARCH 29 1939

LOSS BY FIRE OF ITALIAN PRINCE

DUE TO DEFAULT OF OWNERS, MASTER AND CHIEF ENGINEER

COURT OF INQUIRY'S FINDINGS

SHIP NOT IN GOOD AND SEAWORTHY CONDITION

FINDINGS of the Court of the Board of Trade inquiry into the loss of the steamer Italian Prince were delivered last evening at the Institution of Civil Engineers, Westminster, by Mr. K. S. Carpmael, the Wreck Commissioner.

The Court, he said, having carefully inquired into the circumstances attending the loss of the Italian Prince by fire last September, had come to the conclusion that the initial cause of the fire was an outbreak in the boiler-room, and ultimate cause of the loss was the extension of that fire to the deck and cargo because of inability to cope with it.

It was due to the default of the owners, the Prince Line, or their representatives, the master, Captain James Holloway, and the chief engineer, Mr. J. J. Smith, who all contributed to the loss of the ship.

The default of the chief engineer, however, was explained by the default of the owners or their representatives.

COURT'S ANSWERS

The answers to questions were, apart from the formal ones:—

5. Was the vessel supplied with all proper and adequate fire-fighting appliances (a) for machinery spaces; (b) for other parts of the vessel?

(a) The fire-fighting appliances for the machinery spaces were not in accordance with the recommendations of the Board of Trade, and were inadequate, as appears in the annex; (b) the fire-fighting appliances for the other parts of the ship were in accordance with the recommendations of the Board of Trade.

6. With what cargo was the vessel loaded for her last voyage? How was it distributed, and what was its total weight?

The ship was loaded with 4,478 tons of general cargo, including machinery, oil, cement, foodstuffs and Government explosives and stores. The cargo was distributed throughout the holds, tween deck and fore-castle. In addition, some cargo was stowed on deck abreast Nos. 1, 4 and 5 hatches. Detonators were carried in the deep tank, and other explosives in the after tween deck in the way of Nos. 4 and 5 hatches and on the shelter deck in way of No. 5 hatch. They were stowed in magazines to the requirements and satisfaction of the Admiralty and the War Department.

The ship left Higham Bight, River Thames, at 3 p.m. on September 3, 1938.

8. Were there any, and, if so, how many, passengers on board her?

There were 12 passengers on the ship, six women, four men and two children.

9. What was the total number of crew on board her?

The total number of crew was 34.

"NOT IN GOOD AND SEAWORTHY CONDITION"

10. Was the vessel in good and seaworthy condition when she left on her last voyage?

The ship was not in good and seaworthy condition when she left on her last voyage. The considerations underlying this answer are developed in the annex.

11. How many boilers were in use during the vessel's last voyage? With what fuel were they fired? For how long had this method of firing been used?

Two boilers were in use during the last voyage. These were fired with oil and had so been fired since May, 1937.

12. Was the fuel system in use during the vessel's last voyage satisfactory? If not, in what respects was it unsatisfactory?

The fuel system in use was satisfactory, but in details the installation was not satisfactory. These details form the subject of consideration in the annex.

13. Did fire break out during the last voyage? If so, at what time and where did it start? What efforts were made to extinguish it? Were such efforts successful? If not, why not?

Fire broke out in the boiler-room at about 8.30 p.m. ship's time on September 6. Attempts at extinction were made with foam extinguishers and water hoses. These efforts were unsuccessful. Reasons for lack of success are developed in the annex.

14. If fire did occur, what caused it?

It is probable that the fire originated in oil which had leaked from the pipe conveying fuel to the burners, this oil having run down the cleading of the starboard boiler and impregnated the asbestos mattress on the lower region of the boiler.

15. Was an S.O.S. message sent out? If so, when?

An S.O.S. message was sent out shortly after 9 p.m. ship's time.

REASON FOR ABANDONMENT

16. Was the vessel abandoned? If so, when and for what reason?

The ship was abandoned between 9.15 and 9.20 p.m. ship's time. She was abandoned because the means of fighting the fire had been exhausted. The extinguishers had been used, and there was not adequate steam for the operation of the water pumps. This answer is qualified by considerations developed in the annex.

17. What were the conditions on board at the time of abandonment?

At the time of abandonment there was a fire in the upper region of the boiler-room on the starboard side, and there was an outbreak on the starboard side of the boat deck abreast the funnel.

18. Were any, and if so which, of the vessel's lifeboats safely launched?

The two lifeboats on the port side were safely launched.

19. Were all those on board the vessel saved? All on board were saved.

20. Was the vessel sighted by any vessels after abandonment? If so, what was the latest time at which she was seen and in what condition was she at that time?

The ship was sighted on several occasions after abandonment. On the last known occasion between 6 a.m. and 7 a.m. on September 7. The fire in the boiler-room seemed to have died out, but the accommodation abreast the

machinery casings was ablaze, and there was fire on or in No. 4 hatch.

21. What was the cause of the loss of the Italian Prince?

The initial cause of the loss was an outbreak of fire in the boiler-room, but the ultimate cause was an extension of the fire to the deck, and subsequently to the cargo because of inability to cope with the fire in the boiler-room.

22. Was the loss of the Italian Prince caused or contributed to by the wrongful act or default of her owners, Prince Line, Ltd.; her master, Captain James Holloway; and her chief engineer, Mr. Robert J. J. Smith; or any, and if so, which of them?

The default of the owners, the Prince Line, Ltd., or their representatives, and of the master, Captain James Holloway, and of the chief engineer, Mr. Robert J. J. Smith, all contributed to the loss of the ship, but, as is discussed in the annex, the default of the chief engineer is partly explained by the initial default of the owners or their representatives.

ORIGINATED BY FUEL LEAKAGE COURT AND VISIBILITY OF PIPES

The annex, after giving a detailed description of the ship and machinery, proceeds:—

Events moved very rapidly after the discovery of the fire. The Court is of opinion that this is only consistent with the fire having originated in a leakage of fuel from the oil supply pipe alongside the starboard boiler.

It is therefore necessary to consider the question of the oil fuel installation and the fire-fighting appliances in the machinery space with some particularity.

The Italian Prince was constructed from plans which had been approved by Lloyd's Register of Shipping on September 17, 1919, under the 1919-1920 rules, which contained inter alia the following:—

"Section 49 (13) oil fuel pipes should, where practicable, be placed above the stokehold and engine-room plates, and where they are always visible."

The wording of the rule was changed later, and in 1936-37 was as follows:—

"Section 20 (5) oil pipes and fittings: (a) The oil pressure pipes conveying heated oil are to be of solid drawn steel and placed in sight above the platform in well-lighted parts of the stokehold or engine-room."

It should, of course, be noted that the later wording was not compulsory with regard to the Italian Prince, as she had been built under the earlier rule.

The Court is of opinion that the words "always visible" in the earlier rule mean that the pipes should be so placed that they can be seen by those on watch in the engine-room or stokehold in the ordinary course of their duties without having to take extraordinary steps in order to sight the pipes.

As stated, the Court is of opinion that the initial cause of the fire was leakage from the supply pipe which was led along the outboard side of the starboard boiler. It therefore becomes important to consider (a) whether this pipe was always visible within the meaning of the rule; and (b) if not, whether this was due to impracticability.

HIDDEN BY FENDER PLATE

The Court is clearly of opinion that the pipe was not always visible within the meaning of the rule, although it would have been perfectly practicable to have rendered it always visible. It was quite invisible from the engine-room, and could only have been seen with difficulty from the stokehold, even in the absence of the fender plate at the wing.

With this fender plate in position, carried to a height of about 10ft. above the stokehold floor, sighting of the pipe which entered the stokehold immediately above the line of the top of the fender plate was entirely prevented. In ordinary working conditions there were no gratings over the top of the boiler giving access to the somewhat confined space under the 'tween deck bunker, and even if gratings had been arranged it is doubtful whether the view of the supply pipe would have been adequate, since an oil fuel return pipe was led immediately above it.

Nor could the supply pipe readily be seen from the tank top, since it was led at a height of fully 13ft. above the inner bottom, and was probably partly concealed by the round of the boiler.

As stated, it would have been perfectly practicable to have rendered the pipe always visible. For example, an opening could have been provided in the screen bulkhead which would have enabled the engineer on watch to have had the pipe under his constant inspection. Such opening could have readily been closed by means of a plate during periods when the vessel was burning coal.

An alternative method would have been to have placed the pipe below the turn of the boiler instead of above it, and had the fender plate been removed (as could easily and inexpensively have been done while burning oil) this would have rendered the pipe permanently visible from the stokehold platform.

It was only, however, when the vessel was burning oil that the question of the position and sighting of the pipe became of importance.

THE CHANGE-OVER TO OIL

The first occasion on which the oil-fuel plant was used was in 1932, for a single short voyage of three weeks to a month. Five years later, in 1937, a decision was taken to bring the oil-burning installation again into service, and the necessary alterations were made in May, 1937, while the ship was undergoing her second No. 1 survey classification.

There was no indication in the evidence that the change-over was merely a temporary measure. In the light of the knowledge which had accumulated in the 16 years which had elapsed since the oil-burning plant was installed, it would have been reasonable to expect that the owners, or those responsible on their behalf, when taking this decision, should have realised the defects referred to above and made some attempt to remedy them.

The curtailment or removal of the fender plate, or the cutting of a hole in the screen bulkhead, would have been a material remedy. In fact, the change from coal-burning in 1937 was effected without any consideration of details of the oil-fuel installation, although the ship was then undergoing a classification survey which would have provided ample opportunity for consideration of these details. In particular the Court is satisfied that the pipe in question was never examined.

As an indication of the lack of care with which this matter was dealt on behalf of the owners, it may be mentioned that Mr. Rhynas, the superintendent engineer who supervised the May, 1937, repairs and survey, was at that time entirely ignorant of the existence of the important Board of Trade Notice M 140 to shipowners, shipbuilders and masters with regard to the prevention and extinction of fire in cargo ships.

There was apparently no provision in the owners' organisation for keeping such an important notice in mind and no provision for ensuring that copies were in the possession of and known to the master and chief engineer of a vessel such as the Italian Prince, which was being newly converted to burn fuel. In fact, the Court is satisfied that neither the master nor the chief engineer knew of the existence of the notice.

REPLACEMENT OF BURNERS

Subsequently, in March, 1938, the original burners were replaced by other burners requiring a very considerably increased pressure in the pipe supplying oil. In this case again, although the installation as a whole was examined and tested under working conditions, there was no examination of the pipe, although it may be that such slight superficial sighting as was possible was made from the top of the boiler.

The failure to consider the details of the oil fuel installation was aggravated by lack of proper consideration of the fire-fighting appliances. After her conversion to burn oil fuel the Italian Prince was sailing for six months without any of the foam extinguishers recommended in the Notice M 140, and it was not until January, 1938, when the Board of Trade called attention to the fact, that the fire-fighting appliances were not as recommended, that anything was done to lessen the danger from fire.

Upon his attention being called to the matter the owners' chief engineer superintendent, Mr. Kent, at first said that during an overhaul, immediately forthcoming, the appliances would be brought into accordance with the recommendations. Subsequently, however, this attitude was changed. The number of foam extinguishers was increased, but Mr. Kent refused to comply fully with the recommendations on the ground of further expense.

On the last voyage the complement of foam extinguishers provided was only two-thirds of the total quantity recommended by the Board of Trade, namely, 12 gallons instead of 18 gallons.

The unsatisfactory attitude in the matter of foam extinguishers was accompanied by a concealment of information regarding the provision of steam-smothering pipes. The Court is of the opinion that this form of protection against the risks of fire was actually installed in the form of a pierced steam pipe led across the boiler fronts under the stokehold floor and another pierced pipe under the engine-room floor in the region of the oil pumping and heating unit.

B.O.T. AND APPLIANCES

The Board of Trade were, however, ignorant of the provision of the smothering lines, and in January, 1938, and also subsequently, raised the question of the deficiency of the fire-fighting appliances. In this respect, Mr. Kent, on behalf of the owners, did not at any time disclose that provision for the admission of smothering steam had been made when the ship was built. Either he had forgotten or was quite indifferent.

The Court concludes that in this matter, also, the owners' representatives gave scant consideration to the question of adequate fire-fighting equipment. The unsatisfactory attitude of the owners' representatives in the matter of the steam-smothering pipes has left on the Court the impression that the surveyors of the Board of Trade were treated as interfering rather than as co-operating in the maintenance of safety of life and property at sea.

With regard to the attempts to deal with the fire, the time between the discovery of the fire and the abandonment of the vessel was a comparatively short one. The Court is of opinion that the failure to overcome the fire was due partly to failure to sight the source of the fire and partly to lack of co-ordinated effort.

The Court is, however, of opinion that the failure to sight the source of the fire was largely due to the position of the pipe which is presumed to have failed and to the presence of the fender plate.

In order to illustrate the failure to sight the source of the fire and the lack of co-ordinated effort, a resume of events is then given, after which the annex proceeds:—

"ABANDONMENT PREMATURE"

It is not proper to censure the master for premature abandonment as that all the extinguishers had been discharged and the water supply had practically failed. In fact, however, the abandonment was premature as between nine and 10 hours after the abandonment the ship was still afloat.

The fire in the boiler-room seemed to have died out, but the accommodation amidships was completely ablaze and the fire had spread to No. 4 hatch. This last development provides an explanation of the complete, and in the end probably sudden, disappearance, since some explosives were stowed in this region.

There is no direct evidence on the origin and seat of the fire, but the Court is of the opinion that the initial cause was either leakage from a joint in the supply pipe led along the outboard side of the starboard boiler or from the pipe being "necked" at the flange.

It is possible that the jointing material was of a kind which is not now considered suitable for use in pipes carrying heated oil under pressure. There was evidence before the Court that jointing material of the kind suggested was found in a sister ship of the Italian Prince, although in another sister ship the correct packing was found.

It is probable also that the leakage had dripped down and saturated a portion of an asbestos mattress on the lower portion of the boiler. A likely theory put forward on behalf of the Board of Trade was that owing to the heat of the boiler shell the saturated mattress ultimately became glowing red and so ignited the oil vapour.

LACK OF CO-ORDINATION

It is possible that the leakage had been in existence for a considerable time and that before combustion occurred a considerable quantity of vapour had been given off. These considerations are consistent with the fact that the fire in the boiler room seems ultimately to have died out. It would die out because of lack of fuel since the supply valve from the settling tank in use had been shut by the chief engineer at a late stage in the proceedings.

The lack of co-ordination persisted throughout. There was no concerted attempt to determine the seat of the fire, although the presence of flames on the outboard side of the starboard boiler towards the after end should have suggested that there had been leakage above the flames from the oil fuel piping.

This should, in turn, have suggested the desirability of attacking the fire from the top of the boiler, but although sporadic visits were paid to that region there was no real attempt at fighting the fire from there until the culmination, and it was then too late. The bulk of the foam had been squandered in ineffectual attempts to extinguish the flames on the tank top.

It must, however, be emphasised that there was an initial handicap on any efforts made at extinction. The handicap resulted from the inaccessibility of the pipe and the presence of the high fender plate. If there had been no high fender plate the seat of the fire might have been seen; it is even possible that glowing lagging could have been seen before there was any actual fire, but if there had been convenient access towards the oil fuel pipes efforts from above would have been facilitated.

Moreover, if there had been available the additional six gallons of foam required to bring the quantity up to compliance with the recommendations of the Board of Trade, it is possible that the fire could have been extinguished, and the chances of success would have been further increased if any attempt had been made to use the four refills carried on board.

It is, however, proper to mention that however undirected their efforts, the chief officer, second engineer, and fourth engineer did work continuously and energetically.

STEAM SMOTHERING NOT USED

The next point to be considered is that of the steam-smothering apparatus, which was never in fact brought into use. The question whether this should have been done, and, if so, when, is a difficult one. The Court is of opinion that it was proper to attempt to extinguish the fire in the first place by means of the foam extinguishers, but it would have been wise to have closed all the ventilation possible at the beginning so as to have prepared the way for turning on the steam in the event

of the foam extinguishers being unsuccessful. It would have been perfectly practicable as an alternative method of fighting the fire to have turned on the steam-smothering at an early stage.

In fact, however, the Court is of opinion that the question of using the steam-smothering was never considered and the ventilation was never closed.

Although, owing to the drop in steam pressure to about 70 lbs. at the time the engine-room and stokehold were abandoned, the efficacy of the steam would have been very much reduced, nevertheless it would have been wise had the ventilation previously been closed to have turned on the steam even at a late stage.

It was suggested that the control valve on the boat-deck was rendered inaccessible because of the heat from the funnel, near to which the valve was located. But there was great heat from the funnel only after the climax, and the Court is of the opinion that even then the valve could have been reached if a determined effort had been made.

LACK OF FOAM EXTINGUISHERS

Having arrived at the conclusion that the source of the fire was due to the failure of a pipe for conveying heated oil under pressure, which pipe was in fact masked from view and largely inaccessible it is, in the opinion of the Court, impossible to come to any conclusion other than that the Italian Prince was not in a good and seaworthy condition on sailing.

The Court, in coming to this conclusion, has also in mind that the Italian Prince was very considerably lacking in the foam extinguishers as recommended by the Board of Trade.

The question thereupon arises as to who was responsible for this state of affairs. It was urged on behalf of the owners that the vessel had been built according to plans approved by Lloyd's Register, which showed the actual position of the pipe in question, that the vessel was regularly surveyed thereafter by Lloyd's surveyors and that at the time the change to oil-burning was made in May, 1937, the vessel was in fact undergoing her second No. 1 survey.

These are powerful considerations in favour of the owners, but for the reasons indicated the Court is of opinion that there was failure on the part of the owners' representatives to which the condition of the vessel on sailing must be attributed.

As regards the future, the Court considers that the record of this disaster provides emphasis for the requirement that all pipes containing heated oil under pressure must be completely visible and easily accessible.

NEED FOR FIRE DRILL

It considers also that attention should be drawn to the need for fire drill in machinery spaces as well as on deck, and organisation of fire services should include provision for the refilling of used extinguishers.

The Court also desires to draw attention to the fact that where a fire occurs in the machinery space of an oil-burning vessel, this must in many cases necessitate the closing of the oil fuel supply to the boilers. As a necessary consequence the steam supply must gradually and progressively fail, with the result that the water pumps are put out of action.

There may or may not be a remedy for this state of affairs, and whether there is one is not a matter for this Court. The fact remains that in this case the failure of the water supply must have been one of the most important factors in the decision of the captain to abandon his vessel. Had pumping power been available the Court is of opinion that the upper deck fire could readily have been extinguished.

There was no actual evidence as to when or how the Italian Prince sank, but it appeared that on September 8 the Dutch tug Thames searched the vicinity where the Italian Prince had been on fire, but only found large patches of oil and some drifting cargo. It is, therefore, presumed that the fire eventually reached the explosives and that the vessel blew up and sank.