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(No. 7082.)

“ASHANTI” (S.S.).

The Merchant Shipping Act, 1894.

In the matter of a Formal Investigation held at the Magistrate's Room, Liverpool, on the 28th and 29th days of May and the 4th and 5th days of June, 1907, before W. J. STEWART, Esq., assisted by Mr. JAMES SHAW, C.E., and Mr. E. C. CHASTON, Senior Engineer R.N.R., into the circumstances attending the casualty on board the British s.s. “ASHANTI,” of Liverpool, at Forcados, Africa, on 4th October, 1906, when the main stop-valve of the starboard boiler failed and 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 said casualty and consequent loss of life were due to the breaking of the bridge-piece of the main stop-valve of the starboard boiler, caused by the application of external violence for the purpose of tightening the valve.

Dated this 5th day of June, 1907.

W. J. STEWART,  
Judge.

We concur in the above Report.

JAMES SHAW,  
EDWARD C. CHASTON, } Assessors.

Annex to the Report.

The “Ashanti,” official number 106847, is a steel screw steamer of the spar deck type, built in April, 1897, by Messrs. Swan, Hunter, & Co., Ltd., of Wallsend-on-Tyne, and engined by the North Eastern Marine Engineering Co., Ltd., of the same place. She is schooner-rigged, classed 100 A1 at Lloyd's, and of the following dimensions:—Length, 330 feet; breadth, 45.25 feet; and moulded depth, 29 feet; her gross tonnage being 3388.7 tons, and her net registered tonnage 2185.75 tons. She was fitted with triple-expansion engines of 280 nominal horse-power, her cylinders being 24 inches, 40 inches, and 64 inches diameter, with a stroke of 42 inches, and had two steel boilers of a working pressure of 170 lbs. per square inch. She is owned by the Elder Dempster Shipping, Ltd., of Liverpool, Mr. William John Davey, of African House, 6, Water Street, Liverpool, being designated as the managing owner.

The vessel left Liverpool on the 17th July, 1906, for the West Coast of Africa, her engine-room staff consisting of four engineers, of which the chief and second held first class certificates of competency from the Board of Trade, numbered 20624 and 41480 respectively.

The fourth engineer was a young man named E. Bellion, 22 years old, who had made one voyage previously in the vessel. She duly arrived at Port Talbot, and thence proceeded to Sekondi, where she arrived on August 12th, 1906, after which date the vessel was engaged coasting. On August 29th and 30th while lying at anchor at Sekondi, the firemen were engaged in scaling and cleaning the port main boiler, while steam was being kept on the starboard one, and no leakage from the main stop valves existed at this time.

On September 7th, while the vessel was lying at anchor in Forcados River, a fracture was discovered in the flange of the port boiler main steam pipe. The pipe was disconnected and sent ashore for repairs (which were satisfactorily carried out), and returned and replaced on September 12th. During the interval of the pipe being ashore, steam had been raised on the starboard main boiler, with a view of the vessel proceeding under one boiler to the port of Warri on September 11th, but at noon on that day this order was cancelled and the ship remained at anchor; when the main steam pipe was reconnected. On this occasion also there was no trouble from any leakage of the main stop valves, and the Court is of opinion that up to this time, the main stop valves of both boilers were in a good and efficient condition.

On September 29th, the vessel being then at Forcados, and the third engineer being ill of fever and confined to bed, the second and fourth engineers on the chief engineer's instructions took down and overhauled the intermediate main stop valve situated in the engine room, the valve being in a leaking condition and somewhat preventing the quick and efficient handling of the engines. The cover was taken off, the valve removed and ground in, and then replaced, the cover was rejointed and the gland repacked, there being no steam on either of the main boilers on this occasion.

On October 2nd, the vessel left Forcados for Warri and returned on October 4th. During this time it was found that the intermediate stop valve was still leaking, and on arrival at 1.15 p.m. on that day the chief engineer gave orders to the second engineer to again overhaul it on the following day, when steam would be off the main boilers.

During the afternoon, the fourth engineer being on watch, was told by the second engineer to overhaul the water-service cock on the condenser as it was said to be choked, but no orders were given to him about the intermediate stop valve. The third engineer told the Court that about ten minutes before the accident occurred, the fourth engineer came to his room to enquire after his health, and stated in conversation that he was overhauling this valve. The third engineer asked him if the chief or second engineer knew that he was doing this, and he replied “No.” The third engineer then informed him that there would be a row if they knew he was doing this job with steam on the main boilers. He replied “I shall have it all right in about five minutes,” and then left him for the engine room.

From this point there is no direct evidence as to what took place till the explosion occurred, but the Court is of opinion that the fourth engineer, finding there was some leakage of steam from the main stop valves on the boilers which prevented him from regrinding the intermediate stop valve, went himself, or sent some one with a hammer or spanner, or something similar, for the purpose of hammering the handle of the starboard main stop valve and further tightening it to prevent the leakage. A few minutes afterwards a loud report was heard throughout the ship, and the engine room was seen to be filled with steam. At this time the fourth engineer, donkeyman, and two firemen were below in the engine room. A rush of those on board was made to the engine room, but owing to the scalding steam no one could enter it. A few minutes afterwards two of the firemen came up from the stokehold, and one through the bunker hatch, all three being in a severely scalded condition, and unable to give any explanation of what had occurred. As soon as the steam in the engine room had somewhat cleared, the chief and second engineers went below and found the body of the fourth engineer lying near the bulkhead on the starting platform with a lead hammer lying close by his side. Medical assistance was at once obtained, but the three men were so severely injured that death ensued about 9 p.m. that day.

On a further examination made by the chief and second engineers, it was found that the bridge piece of the starboard main stop valve was broken in two places, as shown in the sketch attached hereto.\*

\* Not printed.

Mr. Harkness, the manager of the "Nigerian" Dry Dock Company, and Mr. Edward Wheatley Stephenson, chief engineer of the s.s. "Mendi," were immediately called in to survey the scene of the accident, and arrived on board between 4.30 p.m. and 4.40 p.m., and went straight below, the steam having by this time cleared away and the body of the fourth engineer having been brought up on deck. They found the intermediate stop valve cover, the valve and nuts on the vice bench on the lower platform, which was situated about 3 feet from the stop valve: proceeding to the top of the boilers, they found the bridge piece of the starboard main stop valve broken in two places. They very carefully examined this, and found there was an absolutely clean fracture, without any trace or signs of a previous fracture, and were of opinion that considerable force must have been used to cause it—such as a blow from some heavy weight, as the design was good. The handle attached to the spindle showed traces as if a hammer or some similar instrument had been used.

Mr. Robert Stephenson, Engineer Surveyor to the Board of Trade, stated in his evidence that he had carefully examined the broken bridge piece and the handle on the ship's return to Liverpool, and was of opinion that the fracture could not have resulted from steam pressure. He found the handle badly marked and bent as if considerable force had been frequently used.

Mr. Charles Gibson, manager of works to the Mersey Engine Works, stated that he fitted new bridge pieces to the stop valves on the ship's return and also examined the handles; one showed signs of having been hammered with a spanner or something heavy, and was somewhat bent. He thought it was the starboard stop valve handle.

This concluded the evidence, and the following questions were submitted by Mr. Paxton on behalf of the Board of Trade:—

(1) Was the bridge piece of the main stop valve of the starboard boiler on board the s.s. "Ashanti" which failed on the 4th October, 1906, at Forcados of a proper design and sufficiently strong for the purpose for which it was used?

(2) Was there any flaw or crack existing in the said bridge piece before the 4th October last? If so, was the fact known to or discovered by the engineers of the ship and were measures taken to renew the bridge?

(3) What were the circumstances in which the intermediate stop valve was taken down on the afternoon of the 4th October last whilst steam was on the boilers? By whom was this done? What orders were given by the chief and second engineers with regard to it?

(4) What was the cause of the main stop valve of the starboard boiler on board the s.s. "Ashanti" giving out on the afternoon of the 4th October last at Forcados, and the loss of life?

Mr. Bateson appeared for the owners but did not address the Court. The Court gave judgment as above and returned the following answers to the questions of the Board of Trade:—

(1) The bridge piece was of a proper design and sufficiently strong.

(2) No flaw or crack was known to exist in the said bridge piece before the 4th October last.

(3) Previous to the arrival of the s.s. "Ashanti" at Forcados, the intermediate stop valve was found to be leaking, which interfered with the quick and efficient working of the engines. This defect could only be remedied by the valve being taken down and re-ground. To enable this to be properly done, the chief engineer instructed the second engineer to do it on the following day when there would be no steam on the main boilers. This order was given by the second engineer to the fourth engineer, who, from some unknown reason, did not carry out his instructions, but proceeded during the afternoon of the 4th October, without the knowledge of the chief or second engineer, to take the valve down while there remained a pressure of 160 lbs. on the main boilers.

(4) The cause of the main stop valve of the starboard boiler of the s.s. "Ashanti" giving out on the afternoon of the 4th October last at Forcados and of the loss of life was due to the breaking of the bridge piece which controlled the valve. The fracture was undoubtedly due to external violence, probably a blow from a hammer incautiously used for the purpose of tightening the valve. There is no direct evidence to show who was the person who did this, but there are strong reasons for believing that it was the act of the fourth engineer.

W. J. STEWART,  
Judge.

We concur in the above Report.

JAMES SHAW, C.E.,  
EDWARD C. CHASTON, } Assessors.  
Sen. Eng. R.N.R., }

Liverpool,  
6th June, 1907.

(Issued in London by the Board of Trade on the 9th day of July, 1907.)

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