

(No. 62.)

“CAIRO.”

The Merchant Shipping Acts, 1854 to 1876.

Report of Court.

IN the matter of the formal investigation held at the Admiralty Registry, Somerset House, on the 30th May and the 1st June 1877, and at Westminster on the 3rd and 4th December 1877, before H. C. ROTHERY, Esquire, Wreck Commissioner, assisted by Captain HARRIS and Captain NICOLAS, as Assessors, into the circumstances attending the supposed loss of the British sailing ship “CAIRO,” of Liverpool.

The Court, having carefully inquired into the circumstances of the above-mentioned shipping casualty, finds, for the reasons stated in the annexed judgment, that to whatever cause the loss of the said ship may have been due, as to which there is no direct evidence, it is of opinion that the arrangement by which the galley and condenser fires were brought so near to the gunpowder, the after part of the house in which they were contained being only about 2 feet from the fore combings of the main hatchway, and a portion of the house projecting over the compartment in which the gunpowder was stowed, was improper and unsafe.

The Court makes no order as to costs.

Dated this 4th day of December 1877.

(Signed) H. C. ROTHERY,  
Wreck Commissioner.

I concur in the above report.

(Signed) HY. HARRIS, Assessor.

NOTE.—Captain Nicolas, who was present on 30th May and 1st June, was not able to attend at the further hearing on the 3rd and 4th December, owing to his being absent on an inquiry at Wick. He was therefore not asked to sign the report.

Judgment.

*The Commissioner.* This case originally came before the Court on the 31st May and the 1st of June last, and after several witnesses had been examined, counsel for the Board of Trade applied for an adjournment, stating, that if time were allowed, they expected to be able to produce some further witnesses, who would throw additional light upon the case. I at once acceded to the application, and the case has accordingly stood over from that time until now. Yesterday and to-day further evidence has been produced of a very important character, and all parties having now declared that they have no more witnesses to produce, it becomes the duty of the Court to state the opinion to which it has come upon the evidence now before it. It may be well, however, in order to prevent any misapprehension, that I should state why, when on the former occasion two assessors sat with me, I have now but one. The reason is that Captain Nicolas, one of the assessors, is at the present moment engaged on an inquiry at Wick, and as it is very uncertain when he will return, and the expense of detaining the witnesses is very great, we thought it better to conclude the evidence without him. At the same time, I ought to say that we have no reason to suppose that were he here he would take a different view of the case from that which we have done.

The “Cairo,” which was originally a screw steam vessel, was built in the year 1857, at South Shields. For a great number of years she traded between this country and the Mediterranean, but in 1874, her present owners, or possibly I ought to say her late owners, purchased her with the view of converting her into a sailing ship. The engines and boilers having been removed, she was placed in the hands of Mr. Potter, of Liverpool, by whom the work of conversion was carried out. He has told us that all the cement was removed from the interior, and that the plates were tested by boring, and were found to have lost hardly anything of their thickness, those in the bottom and sheer strake being still from  $\frac{1}{8}$ ths to  $\frac{1}{4}$ ths, and the intermediate plates  $\frac{9}{16}$ ths in thickness. He told us also that of the six bulkheads, with which the vessel was originally fitted, the four middle ones were removed, leaving only the collision bulkhead forward, and the bulkhead in the way of the stuffing box aft. He told us also that the vessel was considerably strengthened in the way of the engines and boilers,

and in other places where the supports had been removed, and that no less than six additional keelsons were put into her, three on each side of the main keelson. He told us also that from 300 to 400 rivets which were slightly worn were renewed, that the screw aperture was plated over and securely caulked, and that when she left his hands she was a thoroughly good and efficient vessel. His evidence has been strongly supported by that of Mr. Wheeler, a Lloyd's surveyor, under whose inspection the conversion was carried out. He told us that she was more heavily framed and plated than vessels of her class usually are, that her masts and rigging were in first rate condition, that they were all new with the exception of the mizen mast, which was the old foremast converted. On the whole, we have every reason to believe that after this vessel had been converted she was a thoroughly good and efficient ship in every respect. The owners have told us that the sum which they originally paid for her was 9,000*l.*, and that the cost of conversion was 8,000*l.*, making 17,000*l.* in all, and as she appears to have been of about 1,490 tons gross and 1,443 tons net register, that would give a value of above 12*l.* a ton.

After the conversion the owners applied to have her classed. It seems that when originally built she had had a first class for nine years; in 1864 she was specially surveyed after, I presume, extensive repairs, and her class was continued for nine years. After her conversion Mr. Wheeler recommended that she should have a first class certificate. The committee of Lloyd's, however, were unwilling to give her a 100 A 1 class, but offered a 90 A 1 class, on the ground that the plates between the sheer strake and the bottom were only single rivetted. The owners, however, refused this class, and ultimately Lloyd's consented to give them a 95 A 1 class.

Her first voyage was to Melbourne and back. On her return she was placed in dry dock for the purpose of having her bottom, which, we are told, was very foul, painted. In the course of scraping it the bottom was carefully examined, and Mr. Congdon, Lloyd's surveyor in London, has told us that on that occasion he carefully examined her bottom, and found it to be in very good condition, two coats of paint and one of anti-corrosive were put on her, and she was then taken back to the East India Docks for the purpose of loading a cargo for Melbourne.

When she had got back to the East India Docks, and, I presume, whilst she was taking in her cargo, a house was constructed on the deck, as to which a great deal has been said in the course of these proceedings. Much evidence, of a somewhat unsatisfactory character in regard to this house was given to us by Mr. Johnson yesterday, but to-day we have had before us Mr. Moody, the gentleman who constructed it, and his evidence, which was given very clearly, has removed many of the difficulties which we before felt. It seems that this house was placed on the deck between the second and main hatches, being close up to the former and within 2 feet of the latter. Its length, we are told by Mr. Moody, was about 22 feet by 16 feet 4 inches or 16 feet 6 inches wide, having a clear width of 16 feet in the inside. It was divided into two parts, the forward compartment, which was about 14 feet long, being fitted up with berths for the steerage passengers, whilst the after compartment, which was 7 feet 9 inches to 8 feet from front to back, was fitted up as a galley for cooking the food, as well as to contain the apparatus for condensing the water for the crew and passengers. The house was constructed of wood, and had a bulkhead separating the fore and after compartments, which was lined on the galley side with iron. In order to secure the house from shifting, two planks had been lifted in the deck, and the fore and aft cant or combings of the house were let down on to the iron beams of the main deck and bolted to them. The thwart ship combings were laid upon the deck itself, and were bolted through the deck.

There was an iron beam flush with the forepart of the main hatchway, and the next beam was just 3 feet forward of it, the distance of the beam from centre to centre being 3 feet 1 inch or 3 feet 2 inches. Now the after thwartship combing of the house, Mr. Moody has told us, did not come directly over the first beam forward of the main hatch, so that they could not bolt it to the beam, but they found it necessary to put a piece of plank underneath through which the bolts passed. That piece of wood, he has told us, was on the after side of the beam, and between it and the main hatch, showing that the afterpart of the house came, as we were told, to within about 2 feet of the fore combings of the main hatchway. I may add that the door of the galley compartment, which opened aft, was

made in two pieces, as the distance between the end of the house and the combings of the main hatchway would not admit of their having a single door of 4 feet, which was the size required for the entrance.

After the house was constructed the floor of the galley compartment was covered with cement to a depth varying from 3 inches at the sides to about 1 inch in the centre, so as to get a level floor, and upon this were placed tiles  $2\frac{1}{4}$  to  $2\frac{1}{2}$  inches thick, to form a good solid floor. In this compartment, a little on the starboard side, was placed the cooking stove, the end being about a foot from the side of the house, and the back of it some few inches from the bulkhead, which separated the house into two parts; the fire was under the centre of the cooking stove, the bottom of the fire-box being about 18 inches or 2 feet from the floor, and the front of it about 3 feet 6 inches from the back of the house. On the port side of midships was placed the boiler, from which the condensed water was obtained, and the bottom of the fire-box also stood some 18 inches or 2 feet from the floor. Such generally appear to have been the construction and arrangements of this house, which has played so important a part in this inquiry.

I must now proceed to describe the cargo with which this vessel was loaded. It consisted of about 2,600 tons, weight and measurement goods, of a very miscellaneous description. Amongst the most important were about 100 tons of pig iron, a number of iron pipes, and large quantities of hardware; she had also 247 boxes of lucifer matches, 53 bales of corks, a great number of boxes of candles, of barrels of beer, and of casks and cases of wines and spirits, and 23,500 floor boards, or as they have been called to-day, feather-edged boards or scantlings, exclusive of course of the powder, of which I shall presently speak. The hold into which this cargo was stowed, was, as I have already said, clear from the collision bulkhead forward to the bulkhead aft, and had a depth of 22 feet and a half from the tonnage deck to the ceiling at midships. She had two decks, the height of the 'tween decks being about 6 feet. In each deck there were four hatchways, a fore, a second, a main, and an after hatchway, those in the lower deck being of course immediately underneath those in the main deck. Now in stowing the cargo the iron and other heavy portions of it were placed in the bottom of the lower hold, and upon it amidships were placed the barrels of beer. In the forepart of the lower hold were stowed a number of cases of salt fish, and upon those were placed the 247 boxes of matches. In the lower hold, abaft the mainmast, were placed the casks and cases of wine and spirits, and there was also a small portion in the 'tween decks right aft. In the wings of the ship, both in the lower hold and in the 'tween decks, were laid the floor boards, flat one on the other, from before the foremast to abaft the mizenmast, and extending from the sides towards the centre of the ship and going right up to the main deck, exactly as they are described in the case of the "Great Queensland." Between these walls of floor boards in the 'tween decks were stowed the measurement goods, a compartment being left under the main hatch for the reception of the gunpowder.

So far indeed as regards the distribution of the several articles about the ship we have no observation to make. The most dangerous things which this vessel carried were the lucifer matches, the gunpowder, and the wines and spirits, and they appear to have been kept as far apart as possible. The lucifer matches were all forward of the foremast, having cases of salt fish under them and bags of salt abaft, the spirits and wines were all in the lower hold abaft the mainmast, or quite in the after part of the 'tween decks, the gunpowder was in the 'tween decks immediately under the main hatch.

I will now proceed to describe the mode in which the compartment specially reserved for the gunpowder was constructed. On this point we have had the evidence of Captain Petre, the ship's husband, and one of the owners of the vessel; of Mr. Palmer, the master stevedore; of the stevedores who were specially employed to construct it, and who put the powder into it; and of Mr. Johnson, another owner. On one point they are all agreed, namely, that the floor boards formed the sides of this compartment, and that the two ends were formed of square cases, and more particular of the boxes of candles. I think also that it may be assumed that the compartment was 22 feet by 18 feet; but as to whether the 22 feet ran fore and aft or across the ship, the witnesses do not exactly agree. Captain Petre, the ship's husband, stated very positively that the compartment was 22 feet fore and aft and 18 feet athwartships. Mr. Palmer, too, stated that these were about the dimensions of the compartment, but his evidence is not quite clear as to whether the 22 feet extended across the ship or fore and aft. On the other hand, Mr. Johnson came before us yesterday and told us in a very positive

manner that the 22 feet ran athwartships. Let me state, however, why I think Mr. Johnson must have been mistaken. He told us that the length of the main hatch was 16 feet by 10 or 12 feet. He said that in the forepart the boxes or cases came very nearly flush with the edge of the hatchway, but that it was a little further under the deck in the afterpart. On being asked whether the floor boards went quite up to the deck he said that he was sure they did, for that he could see the top of them from the opposite side of the hatchway. At another part of his examination he was asked whether he would swear that the cases and boxes forming the forepart of the compartment came up to the deck, and whether they were all as he had stated candle boxes, he told us that he could not say, for that he was not able to see the top, not having been down into the compartment. Now if, as he has stated, the main hatch was 16 feet long by 12 feet wide, and if the compartment was 18 feet fore and aft, by 22 feet athwartships, we should have had 10 feet of the compartment under the deck at the sides, or 5 feet on each side, and only 2 feet fore and aft, or 1 foot at each end. How then would it be possible for him to see the top of the planks at the sides, which were 5 feet under the deck, and not see the top of the cases at the fore end, which was only a foot or less under the deck? The fact, too, that the compartment was 22 feet fore and aft, and 18 feet broad, is strongly confirmed by the evidence of the two stevedores who formed the compartment, and who afterwards packed the gunpowder away in it. They told us that at the sides the floor boards came nearer to the hatch than the cases did at the two ends. They told us also that in making the fore end of the compartment they carried the cases up to the next beam forward from the hatch; and as we know from the evidence of Mr. Moody that that was 3 feet from the hatch, it follows that the compartment was carried 3 feet under the deck in the forepart. And as the length of the hatch was 16 feet, 3 feet under the deck forward, and the same space aft, would give us exactly 22 feet, the length spoken to by Mr. Petre. We think, therefore, that there can be no doubt whatever that the compartment forward did extend 3 feet under the deck, and as far as the first beam forward of the main hatch; and if so, a part of it must have been under that part of the newly constructed deck-house, which contained the cooking stove and condensing apparatus.

Thus constructed, and with all her cargo, except the gunpowder, on board, the vessel was towed down in the afternoon of the 16th of November 1876 to the Powder Buoys, two miles below Gravesend, where she brought up for the night, and on the following morning at 8 o'clock, and before Captain Petre and Mr. Johnson had come on board, they began to take in the powder. I should state that Mr. Palmer, the master stevedore, did not go down to stow the gunpowder, but left it to be done by three of his men, two of whom have been produced before us. From their evidence, and it is in reality the only satisfactory evidence on this part of the case, we learn how the compartment was prepared for the reception of the powder. They told us that they first laid on the lower deck a number of planks, which had been reserved for the purpose, so as to raise it to the level of the combings of the hatch. The hatch we have no doubt had been put on before, and then other planks were laid over the whole so as to make a level floor. They told us also that there were two iron stanchions, one at each end of the hatch under the combings and in the centre line of the ship. These they covered with canvas, but they told us that they did not cover up the iron beams overhead. On the floor of the compartment they laid a large sailcloth, which Mr. Johnson has told us to-day was an old sail that had been taken out and given to them for the purpose. Whether an old sail was a proper thing to give for the purpose may perhaps be a question, seeing that an old sail is not unlikely to have had holes in it, and in that case the powder might get adrift amongst the cargo. Part of this work was done as they were coming down the river, part after they had come to anchor.

They began, as I have already said, to take in the powder at 8 a.m. of the 17th. The quantity taken in was, we are told, 1,675 quarter barrels and 195 quarter cases, shipped by Messrs. Hall and Sons, and 560 quarter cases shipped by Messrs. Harvey and Curtis; and as both the quarter barrels and quarter cases contain 25 lbs. each, as I understand it, there would be from 27 to 30 tons of gunpowder altogether put on board. The powder in the quarter barrels was, we were told, loose powder; and although Mr. Westfield, Messrs. Hall's manager, was at first under the impression that the powder, before being placed in the barrels, had been put into bags, or as it is called bagged, he afterwards found reason to alter that opinion, and thought that probably it had not. As regards the powder in the cases, as well Messrs. Hall's as Messrs. Harvey and Curtis's, we are told that it was all either in flasks or in tin

canisters; and I am bound in justice to these gentlemen to say that, whatever may have happened in other cases, there is not a particle of evidence to show that any leakage took place on this occasion either from the barrels or from the cases, nor do I understand that counsel for the Board of Trade contend that there was; on the contrary, the powder appears to have been well and securely packed.

Something indeed was said as to the barrels, in which the powder was contained, not having stood the Government test, when it was afterward applied to them; but Mr. Westfield told us that the barrels in which this powder was packed were made of stronger staves than usual, and that the staves had been strengthened owing to the requirements of the Explosives Act. He told us also that during the whole of their experience they had never yet had a demand made upon them for short delivery, which they certainly would have had if any of their barrels had leaked. With regard, therefore, to those barrels, although they did not as it happens pass the Government test, which it appears is a very severe one, we have no reason to suppose that they were not as good and indeed better than those ordinarily used.

So also in regard to the fastenings both of the cases and of the barrels. It seems that the barrels were bound with wooden, not with copper, hoops, and the way in which the hoops were fastened was by lapping them over; if a tack was required a copper or a brass tack was used. With respect to the cases, they were fastened with what were called "brass dumps," and we were told by Mr. Westfield that since that time they have used oak pegs with marine glue, which has been found to be more serviceable than the dumps. I think, therefore, that there is nothing in the powder itself, which was ordinary black gunpowder, nor in the casks or in the cases, to which exception could possibly be taken.

As I have already stated, the stevedores began to load the powder before Captain Petre and Mr. Johnson came on board, and they have told us that as they packed the barrels into the compartment, they brought up the sailcloth, a single thickness of it, both up the sides and at the ends. Captain Petre told us that after he got on board he handed down to the men who were loading the gunpowder some boards for them to place between the powder and the cases at the ends. Both the stevedores, however, distinctly stated that no boards were used for that purpose. So the matter stood until yesterday, when Mr. Johnson came forward, and he said that the boards had been put down, not in the way described by Captain Petre, on their edges, but that before any of the powder was put in boards were placed up right against the cases of goods at the ends of the compartments, so as to separate them from the gunpowder, and that they were then covered over with mats. Now I have no wish to charge Mr. Johnson with having endeavoured wilfully to deceive the Court, but I must say that the evidence given by him was in the highest degree unsatisfactory. His memory was very bad, not upon that point only, but upon others; so that it is impossible for us to place any reliance upon his testimony. And the conclusion to which we have come is, that no boards were placed between the powder and the cargo, and that the evidence given by Captain Petre as to his handing down the boards to the men must have been given under some misapprehension, and that he was perhaps thinking of some other time when he may have handed down boards to the men, possibly to construct the floor. At all events, we are more disposed to believe the statement of the two stevedores, who told us that there were no boards, and only a single thickness of canvas between the powder barrels from the cargo.

When all the gunpowder had been put in, it seems that the sailcloth slightly overlapped the gunpowder, in some parts more, in some parts less, thereupon some planks were put in, not by the stevedores apparently, but by the crew, and then some cork fenders were taken out of an old lifeboat and placed upon them for the purpose of keeping the whole of the gunpowder tight and secure. The hatch was then securely battened down, and the vessel proceeded on her voyage.

At the time of her departure the vessel had 17 male and two female passengers. She had a crew of 26 hands all told, Captain James Irvine, being the master. She had plenty of boats. Her compasses appear to have been in good order, and she had two Adair's double action pumps, and another, I think, leading down into the forepeak. She seems to have been in every way well fitted to make the voyage for which she was destined. She proceeded down the river in charge of a pilot, who, we are told, left her on the 22nd of November. From that time nothing more is seen or heard of her until the 21st of December following, when she is met a little to the south of the Equator, and in longitude about 29° or 30° west, by a vessel called

the "Miltiades," homeward bound from Melbourne. The "Miltiades" passed the "Cairo" within 200 yards, and the two men who have been produced from her have deposed most positively to having seen her name painted upon her bows, and I think also upon the stern. At any rate, there is no doubt whatever as to her identity.

She is next seen by a vessel called the "Portland," but that was not until several days afterwards. It seems that the "Portland" left London on the 17th of November, bound on a voyage to Sydney. She passed the "Miltiades" either on the 21st or 22nd, and at daylight of the 28th found herself in company with the "Cairo." The "Cairo" was at that time to the northward and eastward of her. They continued in company for two or three days, the "Cairo" all the time edging off more and more towards the eastward; and when she was last seen we are told that she was away to the eastward, distant about 10 miles. The "Portland" continued her voyage, and on the 5th of January at noon she was in latitude 36° 58' south and longitude 14° 40' west, very nearly due west of the Islands of Tristan da ~~Cumba~~, which lie in 37° 6' south and 12° 2' west. On the 7th the "Portland" was in 40° 17' south, and 10° 22' west, about 38 miles to the westward of Gough Islands. The captain told us that they must have passed about 25 miles from and to the southward of Gough Islands. She continued her course to Sydney, arriving there on the 21st of February following. It is right that I should state that it appears from the log-book of the "Portland" that it was fine weather up to the 3rd of January, but that from that time for several days afterwards the weather was thick and hazy, and occasionally very foggy. In this case also there can be no doubt whatever as to the identity of the vessel seen by the "Portland" with the "Cairo," because the "Cairo" was in company with her for two or three days, and the captain of the "Portland" has told us that before leaving London, he had frequently seen the "Cairo" in the East India Docks, and that he recognised her when he saw her again.

From that time nothing more has been seen or heard of the "Cairo," but two witnesses have been produced, the carpenter and sailmaker of a vessel called the "Strathdon," who told us that in the early part of January 1877 they fell in with a great quantity of wreck consisting chiefly of floor boards fastened firm together, as we are told those of the "Cairo" were, of corks, of bales apparently of corks, of a box which seemed to be like passenger's luggage, and of some empty cases. The two witnesses who were produced before us were under the impression that they had passed through this wreck on the 5th of January, but it is abundantly clear, both from the evidence which they gave, and from an entry in the log-book of the "Strathdon," that they were under some misapprehension on this point, and that it must have been on the 16th of January that they fell in with this wreck. It seems that the carpenter was accustomed to write in his pocket book the latitude and longitude of the vessel at noon of each day, and on being asked where the vessel was on the 5th of January he placed her in 29° south latitude and 23° west. At the same time, both he and the sailmaker stated that when they fell in with this wreck they had passed Tristan da ~~Cumba~~. Tristan da ~~Cumba~~, however, is in 37° south latitude. On being asked what latitude the "Strathdon" was in on the 16th of January, the carpenter turned to his note book and stated that she was in 39° south latitude and 14' east longitude on that day. Now that agrees exactly with the entry which has been given in from the log-book of the "Strathdon," which states that on the 16th of January 1877, when in latitude 39° and longitude 0', "they saw at daylight quantities of wreckage floating about, there were several cases, a box corded, some bales, a quantity of boards, scantling, and a large number of corks." I think, therefore, there can be no doubt whatever that it was on the 16th of January that they fell in with this wreckage, and that they met with it in about latitude 39° south, and in the meridian of Greenwich.

Now both counsel seem prepared to admit that this wreckage may have belonged and possibly did belong to the "Cairo," for that vessel is now long overdue, and there is every probability that she has been lost. And Mr. Scott, on behalf of the Board of Trade, wishes us to infer from the facts that the vessel probably exploded. Mr. Muir, on the other hand, asks us to say that in all probability she ran on Gough Island or Tristan da ~~Cumba~~, and was so lost. Let us proceed to inquire which of these two suggestions is the more probable.

It seems that the current which runs down the East Coast of South America meets the current which comes round Cape Horn from the westward, and these combined currents then set away, but with diminished force, in the direction of Tristan da ~~Cumba~~ and Gough Islands. East-

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ward of these islands the current runs due east, until it meets the warm current which comes round the Cape of Good Hope from the eastward, and joining with it runs to the northward up the West Coast of Africa. I am told by my assessor, Captain Harris, that these currents are very variable in their intensity, depending very much upon the force of the wind. At the same time, they are never very strong in the immediate neighbourhood of Gough Island or Tristan da ~~Cumba~~, running not more, I am told, than about a knot an hour. Now this wreckage was found in latitude 39°, whereas Tristan da ~~Cumba~~ is in latitude 37°, and Gough Island is in latitude about 40° 17'. The wreckage, therefore, was not on the parallel of latitude either of Tristan da ~~Cumba~~ or of Gough Island, but about halfway between them; and as the current sets in that neighbourhood nearly due east, it is difficult to understand how it could have come from a vessel wrecked either on the one island or the other, it would rather seem to have come from a vessel lost on the parallel of latitude midway between the two, where in fact there are no rocks. Now we have it that when the "Cairo" was last seen she was to the eastward of the "Portland," sailing on the same course, and that she was edging off more to the eastward. Again, we are told that the "Portland" passed to the southward of Gough Island, but very near to it. If, therefore, the "Cairo" continued to edge off, as she was doing when last seen, to the eastward, she would have passed to the northward of Gough Island, and consequently between Gough Island and Tristan da ~~Cumba~~. If then she did blow up after passing these islands she might very possibly be about the place where this wreck was found; its position, however, is quite inconsistent with the fact of the vessel having run either on Tristan da ~~Cumba~~ or Gough Island.

Again, it would seem that these two vessels must have been sailing about the same speed. They had left London at almost the same time, and after sighting one another on the 28th of December they had kept company for two if not three days. It is, therefore, not very likely that after that time the "Cairo" would have much outsailed the "Portland." Now the "Portland" was in the latitude of Tristan da ~~Cumba~~, but 2° to the westward of it, at noon of the 5th of January; and in the latitude of Gough Island, but 38 miles to the westward of it, at noon of the 7th of January. If then the "Cairo" struck upon Tristan da ~~Cumba~~, it is very unlikely that she would have done so before the 6th of January; if on Gough Island, before the 7th of January. Now the wreckage is found on the meridian of Greenwich, some 12° to the eastward of Tristan da ~~Cumba~~, and about 10° to the eastward of Gough Island, in other words 576 miles to the eastward of Tristan da ~~Cumba~~, and 470 miles to the eastward of Gough Island. Now I would ask, is it likely? I would say, is it possible? that the wreck of the "Cairo" would, if she had been wrecked on either of these islands, have drifted in the short space of time between the 6th or 7th and the 16th of January some 576 or even 470 miles by the mere force of the current. We think that it is not, and if this wreck was really a portion of the "Cairo," we think it much more probable that she must have passed Tristan da ~~Cumba~~ and Gough Island some time before she was lost.

What the cause of her destruction may have been it is of course impossible for us to say. No portion of the wreckage has been preserved. It is true that there is no evidence to show that any portion of it was subjected to the action of heat or to the force of an explosion; on the contrary, the mere fact that some of the boards were still fastened together by rope yarn, when seen by the "Strathdon," is no proof that she was not blown up. No doubt in case of her being blown up, the floor boards in the immediate neighbourhood of the magazine would be broken into 10,000 pieces, but those which were in the extremities of the vessel might have floated away from her, with their fastenings still uninjured. Whether she

was destroyed by the explosion of the powder on board, or by collision with some other vessel, or in what other way, there is nothing to show. The only thing that appears to us pretty certain is, that she was not wrecked upon either the Tristan da ~~Cumba~~ or Gough Islands.

Some reference has been made to the judgment delivered by this Court in the case of the "Great Queensland," and it was said by Mr. Muir that, even assuming that no boards were placed between the gunpowder and the cargo, the construction of the compartment in this case was exactly like that in the "Great Queensland," and that in that case we did not disapprove of the form of construction. Mr. Muir has also said that, as in the case of the "Great Queensland," there has been no violation of the Act, for that all that the Act requires is "that due precaution shall be taken by means of a bulkhead or otherwise, by careful stowing, to secure the explosives carried from being brought into contact with, or endangered by, any other article or substance conveyed in such ship or boat, which is liable to cause fire or explosion."

Substantially, the compartment on board the "Cairo" was similar to that of the "Great Queensland;" there has also been no violation of the statute, nor is there in this case any of that patent safety gunpowder which seems to have contributed so largely to the destruction of the "Great Queensland." On the other hand, in the case of the "Great Queensland," the galley was not over the powder magazine. We think that in this respect there is a marked distinction between the two cases. We do not say that the loss of this vessel was due to the fact that she had a portion of her galley placed over the gunpowder compartment, but we concur in what Mr. Thomas Congdon, the marine surveyor and surveyor to Lloyd's, said, that he certainly should not consider it a safe or proper arrangement to have a house containing a condenser and a galley fire within 2½ feet of the fore combings of the main hatchway, and that he certainly would not recommend powder to be placed so near, even though underneath the galley and the condenser the deck was cemented and made as secure as human beings could make it. He added, "Heat will be transmitted." But if that was Mr. Congdon's opinion, when he understood that the house was 2½ feet from the fore combings of the main hatchway, what would he have said if he had known, as we do now, that a portion of that house was in fact over the compartment in which the gunpowder was stowed?

Mr. Westfield has told us that this case is one of very considerable importance to them; that owing to the inquiries that have taken place in this case and in that of the "Great Queensland," the freight of gunpowder has risen from 1s. 6d. to 2s. a quarter barrel, and that shipowners instead of being eager, as they used to be, to take powder, are now most unwilling to accept it on any terms, and that they will only take it in small quantities. If, however, the result of these inquiries should be to induce shipowners to construct regular magazines for the conveyance of powder, such as those suggested in the circular of February 1877, issued by the Board of Trade, "formed of double boards with an intermediate lining of felt," or even "of single boards with sailcloth or felt, so as to effectually prevent any of the powder getting adrift during the voyage and filtering into the general cargo," it could hardly be said that it would not tend to afford a much greater protection both to life and to property.

Of course after the decision to which we have come as to the impropriety of having this galley over the compartment in which the gunpowder was stowed, we shall give no costs in this case; nor do I apprehend that the Board of Trade ask for them.

Mr. Scott. Certainly not sir; we leave it entirely in your hands.

(Signed) H. C. ROTHERY,  
Wreck Commissioner.