(No. 135.)

"GRINDON HALL" (S.S.).

Preliminary Inquiry.

The Merchant Shipping Act, 1894, Section 465.

Report to the Board of Trade upon the circumstances attending the loss (with all hands) of the British Steamship "Grindon Hall" of Cardiff, which left Sulina for Glasgow on 4th day of December, 1907, and has not since been heard of.

In the matter of a Preliminary Inquiry by THOMAS WILLIAM LEWIS, Esquire, Barrister-at-Law, and Stipendiary Magistrate for the City of Cardiff, and Captain WILLIAM BARNETT BIGLEY, being persons duly appointed by the Board of Trade under Section 465 of the Merchant Shipping Act, 1894, for the purpose of holding such preliminary inquiry, and to report to them upon the circumstances attending the aforesaid casualty.

Report.

Cardiff,
21st May, 1908.

SIR,

In accordance with our appointment by the Board of Trade, dated the 21st day of April, 1908, we held an inquiry into the above casualty at the Law Courts, Cardiff, on the 6th and 7th days of May, 1908, and beg to report as follows :—

Description of Vessel.

The "Grindon Hall," Official Number 119978, was a British steam screw ship of the turret type, built of steel at Sunderland, in the County of Durham, in 1905, by Messrs. William Doxford and Sons, Limited, and was registered at the Port of Cardiff. She was fore and aft schooner rigged, and of the following dimensions :—Length, 342·2 feet, breadth, 46·6 feet, and depth of hold from tonnage deck to ceiling at midships, 24·75 feet. Her engines, which were made and fitted by the builders, were triple expansion of 313 horse power (nominal) giving a speed of 9½ knots. She was of 2380·30 tons net register, was owned by the Grindon Hall Steamship Company, Limited, and under the management of Mr. Edward Nicholl, of Dock Chambers, Bute Road, Cardiff, the person to whom the management of the vessel was entrusted by and on behalf of the owners' advice, under seal of the Grindon Hall Steamship Company, Limited, received 21st September, 1905. She was a single deck turret steamer, and constructed with six water-tight bulkheads, extending from the keelson up to the turret deck, which were placed as follows :—One, forward abaft the chain locker and store room ; one nearly in line with the foremast dividing Nos. 1 and 2 holds ; one at the fore part of the engine room ; one nearly in line with the mainmast dividing Nos. 4 and 5 holds ; and one at the after peak. The build of the vessel was cellular bottom divided into water ballast tanks, viz. :—After tank, 43 tons capacity, after main tank, 141 tons, engine-room tank, 156 tons, fore main tank, 359 tons, and fore tank 130 tons, making a total in the double bottom of 829 tons. She also had what was called a deep tank in No. 3 hold, the capacity of which was 604 tons, and was so constructed, that it could be used for either water ballast or cargo. This tank extended right across the vessel with a centre division fore and aft, and two hatches on top—one each side of the vessel—which were each about 8 feet by 7 in size, and could be made water-tight when the compartment was used for water ballast. Her after peak tank held 23 tons, making in all, if required, a total water ballast capacity of 1456 tons.

The erections upon the steel turret deck were as follows :—An open forecastle forward with hatches leading down to the chain locker, store room, and fore peak ; and at the sides under the forecastle deck were steel houses. A poop aft for the crew, with a steel front and iron doors. Between Nos. 2 and 3 hatchways there was a steel house about 7 feet high comprising officers' quarters and mess-room, all fitted with iron doors on each side, opening on to the turret deck. Further aft and commencing from just abaft the funnel, there was another steel structure of the same height (7 feet), extending from the after part of No. 3 hatchway to the fore part of No. 4 hatch, comprising the galley, boiler and engine room space. On top and at the after part of this erection, were the engineers' quarters, 7 feet in height and of steel. The engine room was entered by iron doors at each side, at the after end of the engine-room casing ; the height of the door sills being 1 foot 4½ inches above the turret deck. Fidley gratings were in angle-iron frames, 5 inches high, on top of the engine-room casing, and fitted with canvas covers, secured by lacing to jack stay.

The vessel had 5 cargo hatches on the turret deck, the coamings of each being 24 inches at the fore and after ends, and 27 inches in the centre. Their position and dimensions were as follows :—No. 1, just abaft the forecastle, 22 feet 6 inches fore and aft, and 17 feet wide, across which ran 5 iron hatch webs 5 feet 7½ inches apart, on which the wooden hatches (2½ inches pine) lay fore and aft ; No. 2 hatchway between the bridge and foremast, 27 feet by 17 feet 6 inches, across which were fitted 3 iron hatch webs, 6 feet 9 inches apart, for the fore and aft wooden hatches to rest upon ; No. 3 hatchway right over the deep tank between the after part of the captain and officers' quarters and the funnel, length, 17 feet, by 5 feet 7½ inches in width, divided by one hatch web across ; No. 4 hatchway, 24 feet 9 inches, by 17 feet with 3 hatch webs across, 6 feet 2¼ inches apart ; No. 5 hatchway, 22 feet 6 inches by 17 feet, having three hatch webs, 5 feet 7½ inches apart. Each of these hatchways had three tarpaulins secured by iron hatch bars, wedged through cleets, by iron wedges.

The vessel had four ventilators off the turret deck, with coamings 2 feet 6 inches in height and 15 inches diameter. With the cowls shipped the height of the ventilators would have been about 6 feet above the deck. All these and other ventilators were fitted with wooden plugs and canvas covers, for use when the cowls were unshipped. There were two ventilators on the poop, the coamings of which were 1 foot 6 inches high, and another ventilator on the forecastle, the coaming being 2 feet above the deck.

On the harbour deck (which was about 7 feet below the level of the turret deck, and which projected on a half round 8 feet outside the line of the turret deck) were three bunker coaling hatches, on each side of the vessel. They were circular, 3 to 4 inches above the iron harbour deck, about 2 feet in diameter and each with a flange to which an iron covering was secured by screws, bolts, and nuts.

During the last fifteen years Messrs. Doxford have built about 200 vessels of the above described type, and Mr. William Doxford, a member of the firm, states that the construction of turret feeders in vessels of this type renders the cargo less liable to shift and that they are therefore better adapted to the carrying of grain cargoes. He also states that of the turret vessels his firm has built two only have been lost, and that the loss of neither was attributed to the nature of the cargo, its stowage, or the stability of the vessel.

The managing owner of the "Grindon Hall" has under his management six vessels of the same type as the "Grindon Hall," and at the present time has two of the same type being built by Messrs. Doxford.

Circumstances preceding the arrival of the "Grindon Hall" at Sulina.

The vessel was, as above stated, built in 1905, and in September, 1905, was delivered to her owners,

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Messrs. Nicholl, at Cardiff. She has since made nine round voyages, on eight of which she has carried grain homeward. In addition to her cargo of grain, she has on each of the last three voyages had 560 tons of bunker coal (*i.e.*, 64 tons in excess of the bunker capacity) on leaving her port of departure.

According to the affidavits and evidence of three former officers of the vessel, she was a good sea boat and suitable for carrying grain cargoes.

She was last in dry dock on the 9th August, 1907, with a view to effecting any repairs which might be necessary, but it was found necessary only to paint and clean her bottom; which was done at a cost of about £90. She was also then examined by a Board of Trade surveyor, who considered that her condition was quite satisfactory.

On the 16th October last she left Cardiff with a cargo of about 5071 tons of coal and 1032 tons of bunker coal, bound for Kustenjeh. Her bunker coal was stowed in the bunker space, in the deep tank, and in No. 3 hold. She was under the command of Mr. Richard Burt, who held a certificate of competency as master, and who, with the one exception of the previous voyage, had been in command of her continuously since she was launched. She had a crew of 26 hands all told. Before she left Cardiff the managing owner inspected her and was quite satisfied with her condition. She carried two lifeboats and two jolly boats in iron chocks and davits, their keels being level with the top of the engine-room casing which was 14 feet above the harbour deck. The lifeboats, which were abreast of the engine-room skylight, were fitted with airtight tanks. The jolly boats were abreast of the funnel. The vessel was supplied with six lifebuoys, four being on the poop aft and two on the bridge. She had 29 lifejackets stowed in a box on the upper bridge, and was fully equipped with rockets and signals.

She arrived at Kustenjeh on the 4th November last without experiencing any mishap, and there discharged her cargo. On her arrival at Kustenjeh she had 596 tons of bunker coal, and on her departure 566 tons.

On the 14th November the owners instructed the master, by telegraph, to proceed to Sulina to load for the homeward voyage. On the same date they also wrote him a letter addressed to Sulina intimating that they had declared that they would discharge at Glasgow first as they were afraid of risking insufficient water at Campbeltown. On receipt of the telegram, the master wrote on the 15th (before he received the owners' letter of the 14th) for instructions as to which of the two ports he should first proceed to, as he was not sure that there was sufficient water for the vessel alongside the jetty at Campbeltown. On the 19th the owners wrote further to him intimating that they had nominated Glasgow as the first port of discharge, as they feared that it would be too risky to order the vessel to Campbeltown before discharging some of the cargo at Glasgow (the Glasgow portion).

The vessel left Kustenjeh on the 23rd November after discharging her cargo, and proceeded to Sulina where she arrived on the same day. According to the statement furnished by the master to the owners she then had 554 tons of bunker coal.

Loading of the vessel and stowage of her cargo at Sulina, as disclosed by Affidavits, Correspondence, and Evidence of Witnesses.

The "Grindon Hall" was required to be loaded in accordance with the special plan of loading and construction approved by the Board of Trade on the 25th November, 1905 (in pursuance of section 453 of of the Merchant Shipping Act, 1894), and with the special instructions accompanying that plan, both of which are hereto annexed* and marked "A" and "B" respectively. The managing owner states that the master had been supplied with a copy of both the plan and the instructions.

According to the charter party it was agreed that the vessel should take 5,800 tons of grain, and the owners undertook "to load maximum 4,200 tons of barley for Campbeltown and balance any grain for Glasgow."

On the 25th November, the master wrote to the owners as follows:—"Out of the 1,500 tons of maize I have decided to place it as follows: No. 1 hold, 600 tons, No. 2, 400 tons, and No. 3, 500 tons, so we ought to get a quick turn around to Glasgow. We shall be well by the stern leaving there, but I have to take the heaviest cargo forward to get the ship on an even keel leaving here and to take a full cargo."

She was loaded, according to the evidence of the stevedore, with about 4,181 tons of barley, and 1,349 tons of maize, which were distributed in the different holds, as follows:—No. 1 hold, 841 tons of barley with 469 tons of maize on top; No. 2 hold, 1,182 tons of barley with 486 tons of maize on top; No. 3 hold 69 tons 14 cwt. of barley on the port side of the deep tank, and 503 tons of barley in the space above the tank top; No. 4 hold, 712 tons of barley with 394 tons of maize on top; No. 5 hold, 873 tons 17 cwt. of barley.

The different consignments of barley and maize were separated by means of mats or canvas.

Nos. 1 and 2 holds were filled and there were about 70 and 90 tons respectively of barley in the feeders of each hold.

No. 3 hold was not completely filled and there were about 30 tons of barley in the feeder. The feeder of No. 4 hold was not full, there being space for about 100 tons. The feeder of No. 5 hold was empty and there was a space of about five feet capable of holding more than 100 tons. According to the Board of Trade instructions, this feeder should have contained two per cent. of the quantity carried in the hold.

No means were taken to secure the barley in the port side of the deep tank by planks or bagging, although there was a large empty space. The capacity of the deep tank was 604 tons. The covers of the hatches of the deep tank were put on before the barley was put in No. 3 hold.

Although Nos. 4 and 5 holds and feeders were not entirely filled with bulk grain, the master took no precautions before sailing to put at least one fourth of the grain carried in such holds and feeders in bags supported on suitable platforms laid upon the grain in bulk, as required by the Board of Trade special instructions. He, however, obtained 3,500 bags from Captain Dyason, the master of the "Welbeck Hall," (a ship, belonging to the same owners, which was then at Sulina). Whilst the ship was loading the master informed Captain Dyason he would have space in the end holds, and he required the bags to secure the ends by filling the bags with grain. This was not done before he sailed. The master also told the stevedore that he was going to bag some of the cargo after leaving port. The master also told Captain Beck, of the "Eaton Hall," (which belonged to the same owners and was then lying at Sulina), that in order to avoid bagging he was going to half fill the deep tank with cargo instead of filling it right up. In the notice delivered by the master to the Consular Officer at Sulina on the day he sailed (in accordance with section 454 of the Merchant Shipping Act, 1894), he stated that he had 200 tons of cargo in bags in the hold.

In the same notice he also stated that the vessel had been loaded in accordance with the Board of Trade letter, dated 25th November, 1905.

According, however, to the affidavits of the stevedore and the testimony of Captains Beck and Dyason, the master's statements, both as to bagging and as to loading in accordance with the Board of Trade instructions, appear to have been inaccurate

Bunkers and stowage of coal.

According to a statement sent by the master to the owners, the vessel had on her arrival at Sulina 554 tons of bunker coal; and on sailing, 540 tons. Mr. William Doxford, a member of the firm of her builders, states that the vessel's bunker capacity, including the coal shoot, was 496 tons, which accords with the plan of the vessel; but the Marine Superintendent of the owners considers that the bunkers were capable of holding 515 tons and states that he has put that quantity in them.

We are of opinion that the builders' estimate of 496 tons is correct and that the discrepancy between this estimate and the Superintendent's experience is due to the latter claiming as bunker space that uncertain space around the top of the coal shute on the boat deck, or engine-room casing, where, the evidence establishes, excess bunker coal was not infrequently

* Not printed.

deposited. Taking 496 tons as the capacity of the bunkers, the vessel on leaving Sulina had an excess of 44 tons of bunkers.

Mr. Doxford in his calculations for the stability of the vessel at the time of sailing (as will hereinafter appear) assumes as a factor in his calculation that an excess of bunkers amounting to 44 tons was carried on the starboard side of the bottom of No. 3 hold. If Mr. Doxford is wrong and the Marine Superintendent right as to the capacity of the bunkers then 19 tons (515–496) of the coal assumed by Mr. Doxford to be at the bottom of the vessel was not there in fact, but only 25 tons, and the 19 tons must be added to the height and weight of coal in the bunkers and *pro tanto* the stability of the vessel diminished.

In support of Mr. Doxford's assumption that the bunker coal in excess of the bunker capacity, whether 44 tons or 25 tons, was carried at the bottom of No. 3 hold there is some evidence, but of a contradictory character.

The superintendent stevedore at Sulina, in his first deposition, states that there was coal on the starboard side at the bottom of the deep tank; but, in his second deposition, he states that there was no coal carried on the starboard side of the deep tank, and also that when the vessel sailed she had no coal on deck.

There is, however, strong presumptive evidence that the bunker coal which the vessel undoubtedly carried in excess of her bunker capacity, viz., 44 tons, according to Mr. Doxford's estimate of bunker capacity, or 25 tons, according to the Marine Superintendent's estimate, was carried on the engine room casing, or boat deck, and above the coal bunker hatch.

One of the former engineers, who was on the vessel for 19 months, states in his deposition that with grain cargoes, the 'tween deck bunker was filled with cargo, and any remaining coal was carried on deck.

The above-mentioned stevedore states that when she arrived she had about 100 tons on deck on the port and starboard sides.

The assistant-superintendent of the elevator, which was loading the vessel, states that he saw about 25 tons of coal on deck at the time of loading, but that he could not remember whether it was on deck when she sailed. The coal, he saw, was amidships below the lifeboats.

Captain Dyason,—who left Sulina in the "Welbeck Hall" three days before the "Grindon Hall" sailed,—in his evidence before us states that there were between 50 to 100 tons of bunker coal on the deck of the "Grindon Hall" at Sulina. When, however, we inspected his vessel (during our Inquiry) at Penarth Dock, Captain Dyason stated that he wished to alter this estimate to about 25 tons. He, on the latter occasion, also stated that this bunker coal on the "Grindon Hall" was on the top of the engine room casing (the boat deck) and abaft the funnel.

According to the plan of loading supplied by the owners' agent at Sulina, the deep tank was shown as containing 70 tons of barley on the port side, but there is no reference to the starboard side. Furthermore, it is highly probable that the master of the "Grindon Hall" would have provided for additional bunkers on the homeward voyage, for we find he had complained to the owners about the quality of bunker coal and the difficulty to get steam on the outward voyage.

Now it is established beyond doubt that the vessel on leaving Sulina carried 540 tons of bunker coal, which represents an excess beyond her bunker capacity of either 25 tons (according to the Marine Superintendent) or 44 tons (according to Mr. Doxford). If the excess were carried at the bottom of No. 3 hold it would be available for bunkering only at great inconvenience and labour, but if carried (where seen by Captain Dyason), on the top of the engine-room casing around the top of the shoot the coal, as room was made by consumption below, could be conveniently shovelled into the shoot and so down through the bunker hatchway. Hence we are of opinion that there are strong probabilities pointing to the conclusion that the weight of evidence appears to support, viz., that the excess bunker coal (weighing, probably 44 tons, but certainly either 44 or 25 tons) was carried on the top of the engine-room casing.

Stability of the Vessel.

Mr. Doxford has submitted to us calculations as to the stability of the vessel, and plan of loading hereunto annexed* marked "C." He considers that her stability with a homogeneous cargo of 5,654 tons and 496 tons of bunker coal, and on a winter draft of 22 feet 4⅛ inches, was 18½ inches; and that this class of vessel should have not less than 12 inches from the centre of gravity to the metacentre. He states that taking equal volumes of maize and barley, maize is 15 per cent. the heavier. He further considers that the loading of the maize on top of the barley, as deposed to in the affidavits, diminished the margin of safety of the vessel on this voyage to the extent of 4 inches; thus leaving her with only a margin of 2½ inches of safety. But these calculations were based upon the assumption that the vessel had only 496 tons of bunker coal in her bunker space (the quantity she was designed to carry), and that an excess of bunker coal, i.e., 44 tons, was stowed on the starboard side of the deep tank, and thus making an important difference in her stability.

We are of opinion that there is a preponderance of evidence in support of the conclusion that the excess bunker coal was not carried in the deep tank, but on the top of the engine-room casing at a height of about 7 feet above the turret deck, and about 14 feet above the harbour or main deck. If this conclusion be correct then the margin of safety of the vessel, already reduced 4 inches by the method of stowing the cargo, was still further reduced to the extent of which the transference of 44 tons from the bottom of the vessel to a height of 7 feet above the turret deck would be the measure. This would, in our opinion, have so far reduced the 2½ inches remaining margin of safety as to have dangerously approximated to the vanishing point. And we are further of opinion that having regard to the nature of the cargo, the large space in the deep tank at the bottom of the vessel, capable of holding about 500 tons, and the omission to bag the unfilled spaces in Nos. 4 and 5 holds (that would have permitted a dangerous shifting of cargo), the vessel as laden was of insufficient stability.

Departure from Sulina.

The vessel left Sulina about 7 p.m. on the 4th December last, bound for Glasgow and Campbeltown. Her value at that time was at least £35,000, and her cost to her owners had been about £35,000. The following insurances had been effected and they were apportioned as follows:—

	£
On hull	20,000
On machinery	10,000
On disbursements	8,000
On standing freight policies ...	2,000
On premiums	1,800

According to the notice delivered by the master as aforesaid, she had 5,420 tons of grain in bulk in the hold and turret, and 200 tons in bags in the hold; but, as above stated, according to the affidavit of the stevedore, she had 5,530 tons.

According to the same notice, the draught of the vessel was 22 feet 9 inches forward and 22 feet 9 inches aft; but, according to the affidavit of the pilot, it was 23 feet forward and aft, and according to the affidavit of the stevedore it was 23 feet ½ inch forward and 23 feet aft. The water being fresh at Sulina it was estimated that she would rise about 6 inches in salt water. The pilot stated that he was satisfied with her trim and that her behaviour was normal. When she left the wind was blowing lightly E.N.E., but the weather was not then bad.

The only information concerning the state of the weather after she left that we have obtained is that contained in the log book of the chief officer of the "Eaton Hall," which left Sulina at 9 a.m. on 4th December last, for Antwerp. The following entries appear therein:—

8 p.m. (4th December). Wind S. Wind increasing and sea rising.

11 p.m. Wind S.E. Strong fresh wind with rough sea and clear.

* Not printed.

2 a.m. (5th). Wind S.S.E. Enters with strong fresh breeze misty with small rain.
4 a.m. Wind S.W. Strong breeze, head sea, ship taking heavy sprays on board forward.
8 a.m. Wind S.W. Similar weather but rather more wind and sea.
12 a.m. Wind S.W. Strong wind, head sea, weather thick with rain, land mostly obscured with heavy rain.
4 p.m. Wind S.S.W. Moderate to strong S.S.W. with thick drizzling rain.

Since the pilot left the "Grindon Hall" on the evening of the 4th December last she had not been spoken to, seen, or heard of, nor has any portion of her equipment (except a belt, buoy, and piece of boat, as hereinafter described), been seen or heard of. From the localities in which the belt, buoy, and boat were found, and the absence of evidence that the vessel had reached the Bosphorous (a 28 hours' voyage from Sulina), she undoubtedly foundered in the Black Sea, and probably within a few hours of sailing from Sulina. All hands having been lost there is no direct evidence of the cause of the foundering and the sole remnants of the vessel and her equipments (the articles above-mentioned) are of but little value as instruments of evidence.

Finding Lifeboat &c.

On the 8th January last the master of the Austrian s.s. "Kelet" picked up the after part of a lifeboat, bearing the marks s.s. "Grindon Hall," Cardiff, between Cape Galata and Emineh, in the Black Sea, in latitude 42, 54, N., and longitude 28, 2, E. Attached to the stern hook was a block, part of a fall, the block being covered with mud. He states that this part of the lifeboat presented the appearance of a boat cleanly cut in two.

On the 15th he handed the portion of the lifeboat to Captain Bisset, the master of the "Ludwig Groedel," and told the latter that when he picked up the wreckage there was a piece of the davit and part of the falls in the boat, but that he did not trouble to bring it. When Captain Bisset saw it, the ends of planking were ragged and protruding in various lengths, the keel was projecting about 4 feet, and one gunwale was about 2 feet longer than the other. For convenience of handling he caused the ragged ends to be sawn off level. It did not appear to him to have been cut down by collision, but it seemed like sea damage. On the 18th February he landed it at Barry where it was identified as the portion of one of the lifeboats of the "Grindon Hall."

On the 17th January, a lifeboat man found a lifebuoy (on the beach of the Black Sea at a place called Alan Tépé River) which was marked with the name s.s. "Grindon Hall,"of Cardiff. He also on the same date found a lifebelt on the beach at Koundonz Déré, about a mile to the west of Alan Tépé Station He stated that the lifebelt had apparently been in recent use as the armstrings had been carried.

On the 2nd May we visited Barry Dock and inspected the salved portion of lifeboat. Its shape, and outline, condition of the sides, absence of fracture or twist in the stern, the condition of the keel, and the longitudinal splintering of the keel, appeared to us to indicate that the boat had not been parted or cut in two by a side force, but that it had parted either through one end or the ends being driven upwards, or through some weight or force bearing upon the centre, or through some force upon one end when the other was suspended in the davit.

Now with regard to the lifebelt and lifebuoy, we have had no opportunity of inspecting them but accepting the accuracy of their description in the affidavit, neither their condition, appearance, or the locality in which they were found, afford any guidance; nor do they bear any marks from which the probable cause of the loss of the vessel can by any process of reasoning be even partially inferred.

With regard to the life boat also, it is but of the smallest value as an instrument of evidence as to the cause of the loss of the vessel; for, although it is a piece of immediate real evidence, it is impossible to pronounce with any confidence an opinion (based on its present appearance and condition in conjunction with its reported appearance and condition when picked up) as to whether the damage it sustained was caused when, (1) in its appointed place slung in the davits of the "Grindon Hall," or (2) in process of being lowered, or (3) when standing by, or (4) after casting off. We incline to the opinion expressed by Captain Bisset of the "Ludwig Groedel," that the damage was probably a sea damage. If the damage had been caused by a vessel unknown colliding with the "Grindon Hall," from the position of the lifeboat in the davits high above the turret deck, and the relative positions of the lifeboat and the side of the harbour deck, we infer the colliding vessel must have cut so deeply into the "Grindon Hall," or the two vessels struck each other with such force, that the unknown vessel would also have foundered or sustained very severe damage. There is no evidence that another vessel foundered or was in collision in the Black Sea in December last. Nevertheless, although the damage to the life boat may not be the result of collision, collision either with another vessel or sunken wreck is a possible, but only a conjectural, cause of the loss of the "Grindon Hall." The only shred of evidence to support the theory of collision with another vessel is the broken life boat; the condition of which, as already stated, is in our opinion more consistent with the theory of sea damage as a probable cause.

There is no evidence or report that any person or vessel trading in the Black Sea has seen or heard of, or that any vessel has collided with, wreck with which the "Grindon Hall" might have collided, and the suggested possibility of the loss being due to collision with sunken wreck is pure conjecture.

For the reasons above mentioned we are of opinion that the "Grindon Hall," as laden, had insufficient stability; therefore no useful purpose can be served in suggesting, or further considering remote possible causes of the loss of the vessel of which there is no evidence, there being evidence of a proximate cause sufficient, even in the ordinary conditions of December weather of the 24 hours following the sailing of the vessel, to have produced, that which indisputably happened, viz.:—the loss of the vessel.

We are of opinion that the "Grindon Hall" foundered in consequence of her instability as laden.

Summary of conclusions.

On the foregoing statement of facts, findings of fact, and for the foregoing reasons, we are of opinion:—

(1) That when the vessel left Sulina on the 4th December last, she was not loaded in accordance with the plan of loading approved by the Board of Trade on the 25th November, 1905, or in accordance with the provisions of Schedule 18 of the Merchant Shipping Act, 1894, or in accordance with the regulations made by the Board of Trade under the provisions of Section 453 of the said Act.

(2) That at the time the vessel sailed—

(*a*) she was in good and seaworthy condition as regards hull and equipments,
(*b*) she carried about 44 tons of bunker coal on deck, and
(*c*) she had the required freeboard and was in good trim for a voyage to Glasgow.

(3) That the cause of the vessel not having been heard of since the pilot left her on the evening of the 4th December last is, that she foundered in consequence of her instability as laden.

(4) (*a*) That the vessel cost £35,000 to her owners, and that this was at least her value when she left the United Kingdom.

(*b*) That she was insured for £20,000 for hull, £10,000 for machinery, £8,000 for disbursements, £2,000 on standing freight policies, and £1,800 on her premiums.

We have the honour to be, Sir,
Your obedient servants,
T. W. LEWIS.
WM. BARNETT BIGLEY.

The Assistant Secretary,
Marine Department,
Board of Trade.