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SHIPPING CASUALTIES

LOSS OF THE STEAMSHIP "VESTRIS"

Report of a Formal Investigation into the circumstances attending the loss of the British Steamship "Vestris" of Liverpool, in the Atlantic Ocean in or near Latitude 37° 35′ North and Longitude 71° 08′ West, on November 12th, 1928, whereby loss of life ensued.

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(No. 7872.)

"VESTRIS" (S.S.)

THE MERCHANT SHIPPING ACT, 1894.

REPORT OF THE COURT.

In the matter of a Formal Investigation held at the Institution of Civil Engineers, Westminster, between 22nd April and 5th July, 1929, during which period the Court sat for 40 days. The Court gave judgment in the Royal Courts of Justice on 31st July, 1929.

The Inquiry was held before Butler Cole Aspinall, Esquire, K.C., Wreck Commissioner, assisted by Vice-Admiral E. L. Booty, C.B., M.V.O., Captain H. P. Learmont, R.D., R.N.R. Captain F. J. Thompson, O.B.E., R.D., R.N.R., A.I.N.A., Engineer Lieutenant-Commander W. M Fletcher, R.D., R.N.R., M.I.N.A., Major S. H. Hambling, M.I.N.A., as Assessors, into the circumstances attending the loss of the British steamship "Vestris," of Liverpool, in the Atlantic Ocean in or near Latitude 37° 35' N., and Longitude 71° 08' W., on 12th November, 1928, whereby loss of life ensued.

The Court, having carefully enquired into the circumstances attending the above-mentioned shipping casualty, finds, for the reasons stated in the Annex hereto, that the following are the main contributory causes of the loss of the vessel and the loss of life:—

(1) overloading of the vessel beyond her load-line;

(2) tender condition of the ship;

(3) insufficient margin of stability and reserve of buoyancy;

(4) heavy weather, high wind and sea, causing the vessel to list to starboard;

(5) leaks from starboard ash ejector, "booby" hatch on shelter deck and the half-doors on upper deck;

(6) upper deck hatches in starboard shelter deck bunker and cross-alleyway not being battened down soon enough in some cases, and not being battened down at all in other cases;

(7) water finding its way into lower bunkers, saturating the coal, causing list and probably preventing pumps from working efficiently;

(8) the scuppers becoming, after a certain angle of list was reached, a means of incursion of water into the upper deck, which, in the "Vestris" (being a shelter-deck vessel), was also the weather deck.

These scuppers, not being stopped or plugged when the vessel listed, gave ready access of the sea to the upper deck and so reduced the margin of stability;

(9) wing suctions not fitted in all ballast tanks.

Dated this 31st day of July, 1929.

BUTLER COLE ASPINALL,
Wreck Commissioner.

We concur in the above Report.

E. L. BOOTY,
H. P. LEARMONT,
FRED J. THOMPSON,
WM. M. FLETCHER,
S. H. HAMBLING,
} *Assessors.*

Before answering the questions formulated by the Board of Trade the Court desires to express its sympathy with the relatives of passengers and the crew who lost their lives in this unfortunate disaster.

The questions formulated by the Board of Trade and the answers thereto are as follows:—

(1) Who were the Registered Owners and the Registered Manager of the s.s. "Vestris"?

(Answer) The Registered Owners were:—

The Liverpool, Brazil and River Plate Steam Navigation Company, Limited.

The Registered Manager was:—

Mr. Alfred Woods, who is General Manager of Messrs. Lamport and Holt, Limited.

(Q.) To what extent are Lamport and Holt, Limited, of Liverpool, interested in the vessel and the Company registered as owners of the ship?

(A.) All shares in the Liverpool, Brazil and River Plate Steam Navigation Company, Limited, are held by Messrs. Lamport and Holt, Limited, of Liverpool or their nominees.

(2) What was the cost of the s.s. "Vestris" to her owners in 1912?

(A.) £237,249 15s. 2d.

(Q.) What amount of money was spent on the vessel thereafter for additions and alterations?

(A.) £77,000 for insulation and refrigerating machinery in 1914.

(Q.) What amounts of money were spent by the owners on repairs and upkeep of the vessel during the period January, 1920, to October, 1928, inclusive?

(A.) £211,000.

(Q.) What was the value of, and what insurances were effected upon, and in connection with, the ship at the time of her loss?

(A.) The insured value was £150,000. The book value was £72,900. The insurances were:—

	£
Underwriters, for hull and machinery, all risks	80,000
Underwriters, for hull and machinery, total loss	15,000
Risk taken by owners	55,000
Total ...	£150,000

(3) Who managed the s.s. "Vestris" when she was trading from the United Kingdom?

(A.) Messrs Lamport and Holt, Limited, of Liverpool.

(4) When the s.s. "Vestris" was trading between New York and South American ports and did not come to this country were the duties of the management of the ship or any of them delegated by the owners to Sanderson and Son, Inc., at New York as agents for them?

(A.) Yes.

(Q.) If so what were the arrangements made between the parties and thereafter what duties of management of the ship were retained and exercised by Lamport and Holt, Limited, at Liverpool and to what extent were Sanderson and Son, Inc., responsible as agents for the management of the ship whilst trading from New York?

(A.) Messrs. Lamport and Holt retained the actual control in matters of policy and appointed the master and officers of this ship but the general trading operations and engaging of freights were entirely managed by Messrs. Sanderson and Son, Inc.

(5) When did the s.s. "Vestris" last arrive at Brooklyn and what amount of coal was left over in her bunkers at that time?

(A.) 31st October, 1928, at 3.30 p.m. 250 tons of coal.

(6) Where was her cargo discharged and when was the discharge of cargo completed?

(A.) Mainly at Brooklyn and a small part at Hoboken. 7th November, 1928.

(7) When did the vessel go into dry dock? For how long was she in dry dock and what was done to her there?

(A.) 5th November, 1928.

About 24 hours.

Rudder and bottom cleaned, flat of bottom scaled, shell plating examined and recoated, cables ranged and examined, chain locker found in order, general examination of shelter deck, ventilators and coamings. The repairs to butt-strap in way of afterpeak examined and found good and strong. Examined starboard tail shaft, propellers, fastenings of stern bushes and of the sea connections.

(Q.) When did the vessel leave the dry dock?

(A.) 6th November, 1928.

(8) On coming out of the dry dock did she come in contact with the s.s. "Santa Luisa" and if so did she sustain any material damage through or in consequence of such contact which might have affected her seaworthiness?

(A.) Yes, to the first part of the question.

No, to the second part of this question.

(9) What surveys of the hull, boilers and machinery, boats and life saving appliances of the s.s. "Vestris" were made by Lloyd's Surveyors and Inspectors of the United States Steamboat Inspection Service before the vessel last left Hoboken on the 10th November, 1928? When were such surveys and inspections made?

(A.) Lloyds 2nd Special Number 1 Survey, which was due for completion by September, 1929, and had already been commenced April, 1928, and partly carried out, was continued during the time the steamer was in port.

The Annual Inspection by the United States Steamboat Inspection Service for Passenger Certificates was also carried out and completed between 31st October and 10th November, 1928.

(Q.) Were the storm valves on the scuppers and the ash ejectors, both inboard and outboard ends, examined and found in good order? Were the various valves connected with the pumping system examined and were they found in good order? Did this examination cover the bilge injection valves? What kind of valves were they and in what condition?

(A.) The storm valves on the scuppers were not opened up and from a superficial examination appeared to be in order.

There is no evidence that satisfies the Court that the ash ejectors at the outboard and inboard ends were adequately examined.

The Court can find no evidence to enable them to say whether the various valves connected with the pumping system were examined.

The bilge injection valves were examined, overhauled and passed by Lloyd's Surveyor. These valves were of metal with metal seats.

(10) Was the s.s. "Vestris" classed 100 A.1 at Lloyds and did she hold an United States Passenger Certificate and Certificate of Inspection of Boats and Life-Saving Appliances?

(A.) Yes.

(11) After coming out of dry dock where did the vessel go to load cargo and bunker coal for her last voyage?

(A.) Pier 14, Hoboken, New Jersey.

(Q.) When did the loading of cargo and bunker coal commence and when was it completed?

(A.) Commenced 7th November, 1928.

The coal bunkering was finished at 4.30 a.m. on the 10th November and the cargo loading finished at 3.30 p.m., also on the 10th November.

(12) Who controlled and was responsible for the weight of cargo and bunker coal shipped, the plan of loading and the ballasting of the vessel on her last voyage?

(A.) Messrs. Sanderson and Son Inc. controlled and were responsible for the weight of cargo and bunker coal supplied and shipped.

The Superintendent and the Stevedores controlled and were responsible for the plan of loading of cargo and bunkers.

The water ballasting of the vessel, whilst alongside the pier, was controlled by the shore staff, in conjunction with the ship's Officers.

(13) What were the total amounts of cargo and bunker coal shipped? In what bunkers was the coal stowed and were they filled? What kind of coal was it, small or large? Was the coal and cargo properly distributed, stowed and secured from shifting?

(A.)

	Tons.
Cargo	2,942
Coal shipped	2,999

The coal was stowed in the permanent bunkers, shelter deck spaces and the coal shoots leading to the boat deck. These spaces were filled.

The coal was Eureka or "Yankee" slack and was small.

According to the evidence and a loading plan which purports to represent the stowage and distribution of the cargo and coal, the cargo and coal were properly stowed and distributed; but it is to be noticed that this plan shows the amount of coal to be 2,769 tons, whereas the Court is of opinion that there were 3,019 tons on board. Moreover, the Court considers the coal, about 80 tons, should not have been carried in the upper coal shoots. The cargo and coal was properly secured from shifting.

(Q.) What were the weights of the mails and baggage shipped and where were they placed?

(A.) Weight of mails and baggage approximately 50 tons, placed in mail room and in Nos. 2 and 4 holds.

(Q.) What was the full deadweight on board the vessel, including cargo and bunker coal, crew and passengers, water, stores, baggage, mails and dunnage, and what were her draughts of water forward and aft on leaving?

(A.) *Deadweight:*—

	Tons.
Cargo	2,942
Coal	3,019
Water (fresh and salt) ...	1,548
Kentledge	109
Passengers, baggage, stores, etc.	250
Refrigerating machinery, etc.	1,342
	9,210

The Court considers that 1,342 tons for refrigerating machinery, etc., is under-estimated and should be 1,520 tons: this would give a deadweight of 9,388 tons and would include the accretion of stores, etc., that occurs and increases with the age of the vessel.

The mean draught (salt water) for deadweight of 9,210 tons is 27 ft.; for deadweight 9,388 tons draught would be approximately 27 ft. 2½ ins.

The official draught at the wharf before leaving Hoboken was said to be:—

Forward ...	26 ft. 7 ins.	Mean 27 ft. 1½ ins.
Aft	27 ft. 8 ins.	
Allowing for density ...		4½ ins.
Salt water draught ...		26 ft. 9 ins.

The draught used for Pilotage Dues, taken by the 2nd Officer and signed by the Captain, was 27 ft. 11 ins. aft.

(14) What, if any, written or verbal instructions were given to the Master of the vessel before the vessel sailed? When and by whom were such instructions, if any, given?

(A.) The following letter dated 9th November, 1928, was sent by the Assistant Marine Superintendent to Captain Carey:—

"Captain Carey,
s.s. "Vestris."

"Dear Sir,

"The 'Vestris' is due to sail at 3.45 p.m. to-morrow, Saturday, 10th November.

"Please have your vessel in readiness to proceed to sea at that time.

Yours faithfully,
(Signed) H.,
Assistant Superintendent."

In addition to the above a letter of voyage instruction was given by Messrs. Sanderson and Son, Inc., to Captain Carey, dated 10th November, 1928, giving general instructions for the voyage.

(15 When the vessel left Hoboken on the 10th November, 1928, was she in good and seaworthy condition as regards hull and equipment? Was she in proper trim and had she the freeboard required under the Merchant Shipping Acts for a winter voyage?

(A.) The vessel was surveyed by Lloyd's Surveyors for the retention of her Class and generally the hull and equipment were in good and seaworthy condition.

Evidence was given, however, that the half-doors, on the upper deck, were not weather-tight, the sanitary pipe discharging overboard in the dynamo room gave out, and later a water-tight bulkhead between bunkers and engine room burst under pressure; also considerable trouble was experienced with the starboard ash ejector valve.

Some of the upper (or weather) deck hatchways in the shelter dack spaces were not battened down; the hatches and tarpaulins had been supplied but were not available when required.

She was in a proper trim.

She had not the freeboard required.

(16) What installations for receiving and transmitting messages by Wireless Telegraphy were on board the s.s. "Vestris"—how many operators were employed on working such installations? Were the installations in good and effective working order and was the number of operators sufficient to enable messages to be received and transmitted by day and night?

Were the installations and operators in accordance with the legal requirements that were applicable to the vessel on the voyage in question?

(A.) The wireless equipment comprised:—

Marconi 1½ K.W. Disc transmitter (spark).
Marconi 1½ K.W. C.W. transmitter.
Marconi 10 in. Coil emergency transmitter.
Marconi valve receiver (Marine No. 1).
Marconi direction finder (type 11b).

There were three wireless operators.

The installations were in good and effective working order and had been inspected just prior to last voyage by an American Government Inspector.

The number of operators was sufficient for continuous watch, and was in accordance with legal requirements.

(17) What was the system, if any, existing on board the s.s. "Vestris" with regard to allocating boat stations to each of the members of the crew and passengers and to holding boat drills? Was a complete boat list prepared, and did all persons on board know the respective boats to which they were allocated? Was a boat drill held before the vessel foundered?

(A.) The boat list for the crew was modified for each voyage, this being necessitated by changes in personnel. This list was prepared by the Chief Officer, copied by the Purser and copies hung in prominent positions.

The boat list for passengers was of a permanent character, notices being posted in the several cabins informing the occupant of each cabin of his or her respective boat.

According to General Instructions issued, by the Owners, to the Officers, boat drill whenever possible was to be held when at anchor, proceeding down river, or as soon after as might be possible at the commencement of the voyage and weekly throughout the voyage.

Owing to the events of this voyage no boat list for the crew had been prepared.

With the exception of the new members of the crew, all persons on board knew their respective boats.

No boat drill was held before vessel foundered.

(18) What was the total number of persons employed in any capacity on board the s.s. "Vestris," and what were their respective ratings?

(A.) 197.

Number of Persons employed and their Ratings.

Deck.

1 Master.	1 Lamps.
4 Officers.	4 Quartermasters.
3 Wireless Operators	2 Saloon Deckmen.
1 Purser.	18 A.B.'s.
1 Surgeon.	2 Seamen (Ord.).
2 Carpenters.	
1 Bosun.	—
2 Bosun Mates.	43
1 Baggage Master.	—

Engine Room.

1 Chief Engineer.	1 Storekeeper.
7 Engineers.	6 Greasers.
2 Refrigerating Engineers.	1 Dayman.
	29 Firemen.
1 Electrician.	10 Trimmers.
1 Donkeyman.	—
2 Refrigerator Greasers.	61
	—

Saloon.

1 Chief Steward.	75 Stewards, Waiters, etc.
1 2nd Steward.	
12 Cooks.	—
4 Bakers.	93
	—

Total.

Deck Department	43
Engine Department	61
Stewards' Department	93
	197

(19) What was the total number of her passengers, distinguishing sexes and classes and discriminating between adults and children?

(A.) 128.

—	Adults		Children		Total	
	Males	Females	Males	Females	Adults	Children
1st Class ..	41	16	4	1	57	5
2nd Class ...	10	7	—	—	17	—
3rd Class ...	27	13	3	4	40	7
Deportees ...	1	1	—	—	2	—
—	79	37	7	5	116	12

Total Passengers—128.

(20) Was the s.s. "Vestris" sufficiently and efficiently officered and manned?

(A.) Yes.

(21). What was the number of boats of any kind on board the s.s. "Vestris"? Were they all in good and seaworthy condition? Were the arrangements for the manning and launching the boats on board the s.s. "Vestris" in case of emergency proper and sufficient? What was the carrying capacity of the respective boats?

(A.) There were 14 life boats, including 1 motor life boat, of which 12 were under davits.

These boats were inspected and passed by the United States Steamboat Inspection Service just prior to this voyage.

The boats were all in good and seaworthy condition.

The arrangements for manning and launching these boats were proper and sufficient.

No. of boat.	——	*Capacity.*
1	... Motor boat under davits ...	36 persons.
2	... Life „ „ „ ...	53 „
3	... „ „ „ „ ...	60 „
4	... „ „ „ „ ...	61 „
5	... „ „ „ „ ...	63 „
6	... „ „ „ „ ...	63 „
7	... „ „ „ „ ...	63 „
8	... „ „ „ „ ...	63 „
9	... „ „ „ „ ...	60 „
10	... „ „ „ „ ...	61 „
11	... „ „ „ „ ...	50 „
12	... „ „ „ „ ...	61 „
13	... „ „ not under davits	53 „
14	... „ „ „ „ „	53 „
	Total ...	800 persons.

(Q.) Were the boats in accordance with the legal requirements that were applicable to the vessel on the voyage in question?

(A.) Yes.

(22) What was the number and description of lifejackets and lifebuoys carried by the s.s. "Vestris"? Were the lifejackets of an efficient type and in good condition? What arrangements, if any, were made to ensure that each of the passengers and crew was provided with a lifejacket and knew how to put it on properly? Were the lifejackets and lifebuoys in accordance with the legal requirements that were applicable to the vessel on the voyage in question?

(A.) There were 691 lifejackets for adults
and 70 lifejackets for children.

Total 761

There were 18 lifebuoys, of which 9 were luminous.

The lifejackets were of cork, waistcoat type, and were in good condition and had been inspected and passed as efficient by the United States Steamboat Inspection Service.

Each cabin had sufficient lifejackets for the passengers therein.

There was a sufficient number of lifejackets for the crew in their accommodation.

Printed notices were hung in the cabins giving instructions as to how to put on the lifejackets.

Generally, the Purser instructed the passengers how to put on lifejackets at the boat drills.

The lifejackets and lifebuoys were in accordance with the legal requirements.

(23) Were the gangway or half-doors and coaling ports in the ship's sides in good condition and working order? Were the surfaces quite fair and clean before they were rejointed? Were the half-doors and coaling ports properly closed, secured and caulked?

(A.) The coaling ports, according to the evidence, were in good condition and working order, excepting that some of the starboard ports could not be opened whilst vessel was in port. The surfaces of such ports as were opened were cleaned, rejointed, properly closed and secured.

The gangway or half-doors were apparently in fair condition and working order at departure, but, in view of the trouble experienced when at sea, the Court are of the opinion that these doors, and particularly the starboard door, were manifestly ineffective.

(24) Were the cargo hatchways and the coal-trimming hatches in the upper deck and in the tonnage spaces in the wings all covered with hatches and properly battened down and secured? If not ought this to have been done?

(A.) The cargo hatches in the upper deck were covered with hatches and properly battened down and secured.

Of the coal-trimming hatchways in the upper deck (shelter deck space coal bunkers), the two forward hatchways each side were battened down, the remaining three hatchways each side in these bunkers were not battened down, the two hatchways in the cross-alleyway were not battened down.

The hatchways in the coal bunkers should have been battened down and secured, before being buried under the coal. The hatches and tarpaulins should have been available for ready use for battening down the hatchways.

(25) What amount of fresh and salt water was in the vessel's tanks when she sailed? Was it the practice to carry so much fresh water, and, if so, why?

(A.) The amount of water in the tanks when vessel sailed was:—

	Tons.
Fresh water	1,240
Domestic supply, fresh and salt ...	18
Salt water (ballast)	290
	1,548

It was the practice to carry this amount of water. It was carried for general purposes and to act as ballast, and also because fresh water was cheaper in New York.

(26.) As laden what was the metacentric height of the s.s. "Vestris" when she last left Hoboken? Having regard to the type, design and loading of the vessel, was the metacentric height sufficient?

(A.) The metacentric height was said to be between 1.328 feet and 1.23 feet. The former figure was given by Mr. Steel, of the Board of Trade, and the latter by Mr. Little, for the Owners. These figures were obtained from calculations based on the alleged correctness of the loading plan referred to in the Answer to Question 13, and assumed a mean draught (salt water) 26 ft. 10¼ ins.

The Court have grave doubts of the metacentric height given above, and it may well be, for reasons hereinafter given, that the metacentric height was less than that so obtained.

The reasons for this opinion are that the vessel took a list of 3 degrees to 5 degrees at 2 a.m. on the Sunday, when the wind was only fresh and with no other apparent upsetting moments, giving evidence of a very tender condition. At this time there is no suggestion of any leaks or other mishaps. This angle of list was estimated by a competent officer who took readings from the clinometer. There was evidence of the officers and crew that the vessel was tender.

The weights given on the loading plan referred to in Answer to Question 13 are inaccurate and reliance could not be placed in the disposition of weights shown on this sketch, and the vessel was deeper loaded than stated. Also it is possible and very probable that free surface of water existed in some or all of the double bottom tanks.

The metacentric height obtained by calculation either by Mr. Steel or Mr. Little is considered as being sufficient if the ship's side is intact and all hatchways watertight.

(27) Was the s.s. "Vestris" when she left Hoboken upright and in a safe condition? Were any steps taken to pump out ballast water so as to bring the vessel up to her proper Winter marks before she

proceeded to sea? If not, was she in a fit condition to encounter the perils of the voyage she was about to undertake?

(A.) The "Vestris" was substantially upright when she left the pier at Hoboken, but some evidence was given that she had a slight list to port.

She was not in a safe condition on leaving Hoboken. No steps were taken to pump out ballast water before proceeding to sea.

This vessel was not in a fit condition to encounter the perils of her last voyage.

(28) What was the cause of the vessel listing to starboard before 7.30 p.m. on Sunday, the 11th November, 1928? What amount of list was sufficient to bring the scuppers, sanitary discharge pipes and bottom of the half-door on the starboard side under water? By what time had such list developed?

(A.) The following are the causes of the vessel listing to starboard before 7.30 p.m. Sunday, the 11th November:—

Tenderness of the vessel.
Wind.
Incursion of sea water.

The centre of orifices of scuppers and sanitary discharge pipes would be under water at about 2° list, the centre of ash ejector orifice under water at about 6°, and the sill of the half-door at about 10°. These angles refer to still water and make no allowance for waves or rolling.

The time at which the list of 10° occurred is very uncertain.

(29) How and when did water enter the vessel on Sunday, the 11th, and Monday, the 12th? Were proper measures taken to prevent or endeavour to prevent the entry of water?

(A.) *During the Sunday:*—

Water entered the vessel:—
through the ash ejector discharge,
through the half-doors and the booby hatch,

and, at the later stages of Sunday,

through the scuppers and lavatory pipes, and to a lesser degree, through side ports and ventilators.

During the Monday:—

Water entered through the half-doors, scuppers, lavatory pipes, soil pipes, and when the list became acute, through various openings on deck and in greater volume through scuppers and other storm valves.

Water started entering the vessel early on Sunday morning increasing in volume as the list increased, the actual times being uncertain.

Proper measures were taken to endeavour to prevent the entry of water.

(30) Were prompt and proper measures taken by the Chief Engineer to prevent entry of water into the engine room and stokehold and by means of the pumps to dispose of the water which was there?

(A.) Prompt and proper measures were taken by the Chief Engineer to prevent entry of water into the engine room and by pumps to dispose of the water which was there.

(Q.) What pumps were used and were they in proper working order?

(A.) Two main engine bilge pump rams.
One general service pump.
One ballast pump.
The ash ejector pump.

These pumps were in proper working order, with the exception of the general service pump, which was under repair for about three hours.

(Q.) Was the capacity of the pumps used adequate for the capacity of the suction pipes through which they had to take the water?

(A.) Yes.

(31) From the time of leaving Hoboken until 0.20 p.m. on Sunday, the 11th November, 1928, from what tank or tanks had the boiler feed and domestic service water been taken? How much fresh water had been used? What effect, if any, would this have on the list?

(A.) From time of leaving Hoboken until 0.20 p.m. Sunday water for boiler feed and domestic service was taken from:—

No. 5 tank port, for a short time, and then from No. 5 tank starboard, the port tank being then pressed up from the starboard tank.

The amount of fresh water used during this time was about 60 tons.

Using this amount of water from the starboard tank would reduce the list to starboard.

(Q.) From what bunkers had the coal for firing the boilers been taken? How much coal had been consumed?

(A.) Coal was used up to about 10 a.m. on Sunday from both coal shoots in fore stokehold and the "dog box," and after this time from the port shoot and the "dog box."

Coal used was about 90 tons.

(32) At or about 0.20 p.m. on Sunday, the 11th November, 1928, did the vessel refuse to steer properly? If so, what was the reason? Was any effort made to get the vessel round head to sea and what was the reason for not lying head to sea?

(A.) The steering gear appears to have been in good working order. It is probably correct to say that the ship was steering wildly and/or badly, as would naturally have been the case with the increasing wind and sea on the quarter. She would have required a great deal of helm to keep her on her course, which the Captain probably feared to use because she was a "tender" ship.

No effort was made to bring the vessel head to sea: no reason can be given.

(Q.) Was the vessel hove to with stern and port quarter to the wind and sea and engines stopped or just turning over from time to time?

(A.) The Captain stated, in a radio message, that the "Vestris" was "hove to," but the vessel does not appear to have been "hove to" in the general acceptance of the term. She was allowed to lie in the trough of the sea with the engines stopped, except that the starboard engine was put "ahead" with the helm to starboard from time to time, apparently with the object of trying to bring the ship somewhat up to the wind.

(Q.) What was the extent of the vessel's list to starboard at this time and what was the state of the weather and sea?

(A.) The list at this time was probably at least 5° to 7°, the wind N.E., 7 to 8, with a high sea.

(33) At or about 2 p.m. on Sunday the 11th November, 1928, what was the extent of the list the vessel had to starboard? What amount of water was then in the engine room and stokehold? Did the Chief Engineer personally see, and make a report to, the Master as to the water in engine room and stokehold? If so, what was the report which he made and did the Master then order the starboard side of No. 5 tank to be pumped out? If such an order was given was it a prudent order? Did the Chief Engineer call the Master's attention to the fact that there were no wing suctions in No. 5 tank?

(A.) It is impossible, on the evidence, to state with any precision the angle of list at 2 p.m. on Sunday.

According to the evidence the starboard bilges were full at noon and the water was gradually reduced until about 2 p.m. Sunday, when the ballast pump was taken off bilges to pump out No. 5 starboard ballast tank and then the water in bilges increased.

The Chief Engineer at about 2 p.m. did see and reported to Captain Carey the condition of affairs in the engine room and stokehold and mentioned also that he had noticed the starboard

half-door leaking. At this interview the Captain gave instructions to the Chief Engineer to pump out No. 5 starboard tank.

Having regard to the knowledge possessed by the Master that some of the water had been used from this tank, this order is not regarded as imprudent.

The Chief Engineer did not draw the attention of the Master to the fact that there were no wing suctions in No. 5 tank.

(34) At what time were the pumps started to pump out the starboard side of this tank? What pumps were used and for what period of time? When were the pumps working on No. 5 tank stopped? Was the starboard side of No. 5 tank then dry? If not, what amount of water would probably be left in the tank and what was the effect of pumping out this tank on the list?

(A.) At about 2 p.m. Sunday the ballast pump was started to pump out the starboard side No. 5 tank.

The pump finished pumping this tank at about 5 p.m.

The starboard side of this tank was not dry owing to the list of the vessel and absence of wing suctions, about 35 tons of water being left in.

The tendency of pumping out No. 5 starboard tank would be to reduce the list slightly.

(35) During the time the starboard side of No. 5 tank was being pumped out, were the pumps which were left operating on the engine room bilges sufficiently powerful to deal with all the water that could be drawn through the suction pipes as actually fitted? Did they keep the water at about the same level when the ballast pump was transferred to No. 5 tank?

(A.) During the time the starboard side of No. 5 tank was being pumped the pumps left operating on the bilges were sufficiently powerful to deal with all the water that could be drawn through the suction pipes fitted.

These pumps did not keep the water at the same level.

(36) At or about 6 p.m. on Sunday, the 11th November, 1928, did the Chief Engineer send a message to the Master on the bridge, reporting the condition of things in the engine room and stokehold? If so, what was the message and did the Master then order the starboard side of the No. 4 tank to be pumped out?

(A.) The Chief Engineer did not send a message to the Master at or about 6 p.m. reporting the condition of things in the engine room and stokehold, but an order was received by him from the Master to pump out the starboard side No. 4 tank.

(Q.) If such an order was given, was this a prudent order? Did the Chief Engineer call the Master's attention to the fact that there were no wing suctions in No. 4 tank?

(A.) In view of what the Court knows now, the Court thinks that the pumping out of No. 4 starboard tank was imprudent, but having regard to the Captain's knowledge at the time, it was not an imprudent order for him to give.

The Chief Engineer did not draw the Master's attention to the fact that No. 4 tank had no wing suctions.

(Q.) At what time were the pumps started to pump out the starboard side of No. 4 tank? What pumps were used and for what period of time? When were the pumps working in No. 4 tank stopped? Was the starboard side of No. 4 tank then dry? If not, how much water would be left in the tank and what was the effect of pumping out this tank on the list?

(A.) The pumps were started on No. 4 starboard tank at about 6 p.m. Sunday and finished at about 8 p.m.

The ballast pump was used.

60 tons were left in this tank.

The effect of pumping out this tank is dependent on the list of the vessel; if vessel is listed less than about 12½° the effect would be to reduce the list, and if greater than 12½° the list would be increased.

(37) During the time the starboard side of No. 4 tank was being pumped out what amount of water was in the engine room and stokehold? What pumps, if any, were working upon it? Was the water in the engine room and stokehold disposed of or lowered and if not, why not?

(A.) There is no evidence to enable the Court to say what amount of water was in engine room and stokehold during the time the starboard side of No. 4 tank was being pumped out.

The pumps in use on the bilges were:—

The engine ram pumps when main engines were working, and the general service pump.

The water in the bilges was not lowered, a possible reason being that the pumps were not working to full efficiency.

(38) During the period between 0.20 and 7.30 p.m. on Sunday the 11th November, 1928, from what tank or tanks had the boiler feed and domestic service water been taken? How much fresh water had been used? Had this any effect on the list?

(A.) From No. 5 starboard tank and later from No. 4 starboard.

Approximately 15 tons of water would have been used.

The tendency would be to reduce the list slightly.

(Q.) From what bunkers had the coal for firing the boilers been taken? How much coal had been consumed?

(A.) From the port shoot in the after stokehold and from the "dog box."

Approximately 15 tons.

(39) At or about 7.30 p.m. on Sunday the 11th November, 1928, was the vessel struck by a heavy sea on the port bow? Did she lurch heavily to starboard and did any, and if so what description and weight of, cargo shift?

(A.) At about 7.30 p.m. on Sunday, 11th November, the vessel was struck by two heavy seas in quick succession on port bow.

She lurched heavily to starboard.

The only cargo that is known to have shifted was some crated cars which broke through from the trunk to No. 1 hatch, weight being about 12 tons; distance moved, 15 feet to starboard.

(Q.) A certain quantity of coal (Eureka or Yankee Slack) having been used since leaving New York, is it possible or likely that a definite movement of coal to starboard took place when the vessel lurched, settling to starboard and so increasing the list? Did such movement take place?

(A.) There is a possibility of some coal having shifted from the coal shoots, settling to starboard and so increasing the list.

(40) At or about 7.30 p.m. on Sunday the 11th November, 1928, did the vessel take a heavy list to starboard? If so, what was the cause of it? What was the extent of the list she took then?

(A.) At about 7.30 p.m. on Sunday, the 11th November, the vessel did take a heavy list to starboard.

The probable causes of the additional list were, shipping of heavy seas, shift of coal, and hardening up of cargo to starboard.

The additional list, due to the lurch, was about 2° or 3°.

(41) At or about 8 p.m. did the bilge injection pump fail to work properly? If so, what was the cause of it? Was it in fact repaired and did it work efficiently thereafter? Where was the strum placed and how was it arranged? Was it possible at this time to obtain access to the strum or the valve so as to clear the one and put the other in order?

(A.) At about 8 p.m. the bilge injection pump was tried but failed to work.

It failed to work because the centrifugal pump did not create sufficient vacuum to lift the injection valve.

It did not work at any time.

The strum, if one were fitted, would be in the bilges.

Neither the strum nor the valve, according to evidence, was accessible, being at this time under water.

(Q.) Were the conditions in the engine room such as to justify the Chief Engineer in considering them responsible for the list to any great extent?

(A.) Having regard to the fact that part of this question is limited to conditions in the engine room, the Court is unable to answer this part of the question.

(Q.) What messages or reports, if any, were sent by the Chief Engineer to the Master? Did the Master himself visit the engine room at any time, and, if so, when?

(A.) Shortly after midnight, Sunday, the Chief Engineer sent a message to the Captain stating that he was "holding the water, the bunkers were full of water and that the bulkheads were leaking."

At 4 a.m. the Captain visited the engine room and inquired "How things were going down there?" The Chief Engineer replied, "Things were looking pretty bad," and showed him the water coming into the engine room through the bulkhead and from the deckhead, and he told the Captain that he was closing down the starboard boiler.

The Captain then told the Chief Engineer to pump out No. 2 starboard tank and remarked, "That should bring her up."

(42) At or about 1 a.m. on Monday the 12th November, 1928, did the general service pump give out? If so, what was the cause of it? Was it effectively repaired and, if so, how long did such repair take?

(A.) Yes. This was due to the slackening of the bucket nut.

It was effectively repaired, the repairs taking about three hours.

(43) At 4 a.m. on Monday the 12th November, 1928, what was the condition

(*a*) of the ship as regards list to starboard and water on the upper deck, and

(*b*) of the engine room and stokehold and pressure of steam on the boilers?

(A.) The list of the vessel was not less than 20° at this time; there was water throughout the starboard side of the upper deck and also in the starboard side of the engine room and stokeholds.

The steam pressure on the boilers was about 200 lbs. per square inch.

(44) Were orders given by the Master at or about 4 a.m. on Monday, 12th November, 1928, to pump out the starboard side of No. 2 tank? Had this tank wing suctions? If such orders were given, at what time were the pumps started to work on this tank? At what time were they stopped? Was the starboard side of No. 2 tank then dry? What effect had the pumping of this tank on the list of the ship?

(A.) The Captain gave orders at 4 a.m. to pump out the starboard side of No. 2 tank.

This tank had wing suctions.

The ballast pump was started on this tank at about 4 a.m., finishing at about 7 or 8 a.m. This tank was then dry.

The effect of pumping out this tank with the vessel listing about 20° would be to increase the list.

(Q.) Was the pumping out of this tank at this time prudent?

(A.) The pumping out of this tank was not prudent, but neither the Captain nor the Officers possessed the knowledge to determine this fact.

(45) After 4 a.m. on Monday, the 12th November, 1928, what pumps were working on the engine room and stokehold bilges? Were they working effectively and was every possible effort made by the engineers and firemen to keep the water under and retain steam on the boilers? Were the strums becoming choked with coal dust? If so, was any endeavour made to clear them?

(A.) After 4 a.m. the following pumps were working on engine room and stokehold bilges:—

General service pump,

Ballast pump, when not used for pumping out tanks,

Main engine rams in so far as main engines were working,

Ash ejector pump.

It is very doubtful whether all these pumps were working with full efficiency at this time.

The engineers and firemen did make every possible effort to keep the water under and to retain steam in the boilers.

The strums were becoming partly choked.

Every effort was made to keep the strums clear.

(Q.) Was the water in the engine room and stokehold bilges being kept under and, if not, why not?

(A.) The water in the engine room and stokehold bilges was not being kept under completely on account of the general adverse conditions.

(46) Were the holds of the vessel periodically sounded? If so, was any appreciable amount of water found in the hold bilges at any time?

(A.) From Sunday morning onwards the holds were periodically sounded.

No appreciable amount of water was found in the hold bilges at any time.

(47) At 8.35 a.m. on Monday, 12th November, 1928, what was the condition

(*a*) of the ship as regards list to starboard,

(*b*) of the water on the upper decks and in the bunkers, and

(*c*) of the engine room and stokeholds?

(A.) There is no evidence to enable the Court to ascertain the list at 8.35 a.m. on Monday, the 12th November, but according to the radio sent out by the Captain at 10.56 a.m., "During night developed 32° list starboard."

There was water right fore and aft on the starboard side of the upper deck.

The lower after-cross bunker would appear to be saturated with water.

In the stokehold the water was just below the starboard wing furnace on the starboard boiler and in the engine room at a corresponding level.

(Q.) Was it found necessary to close down the starboard boiler, and, if so, at what time and for what reason? Did the remaining boilers maintain sufficient steam for the pumps in use?

(A.) The starboard boiler was closed down soon after 4 a.m. Monday because the water in the bilges had washed up the stokehold floor plates at this boiler.

The remaining boilers maintained sufficient steam for the pumps in use for a period.

(48) On the morning of the 12th November, 1928, were the appliances for lowering the boats on board the s.s. "Vestris" in good working order?

Were orders

(1) for boat stations,

(2) to abandon ship

given at any time? If so, when and by whom were such orders given? Did the passengers and crew go to pre-arranged places on such orders for the boat stations being given, if they were given? If not, why not, and to what extent, if any, was this the cause of the loss of life which ensued?

(A.) The appliances for lowering the boats were in good working order.

No definite order was given for boat stations, but orders were given to prepare the port boats,

and the Captain personally superintended the preparation and lowering of the port boats, and later instructed the Chief Officer to prepare and lower the starboard boats.

There is no satisfactory evidence to prove that a definite order was given to abandon ship, but an order was sent by the Captain to the Chief Officer to get the starboard boats away.

The passengers and crew did not go to their pre-arranged places because no orders for boat stations were given. The reasons why the orders were not given are not clear, but in all probability, owing to the list and other prevailing conditions, other orders were given and the passengers and crew diverted to other places.

To what extent, if any, this was the cause of loss of life, it is impossible to say.

(49) Were the boats, or any of them, promptly got out, passengers placed in them, lowered, and put into the water and got away under proper superintendence? What boats were, in fact, lowered and got away?

Were the boats which were got away properly manned and equipped and did each boat carry her proper complement of passengers and crew?

Ought more boats to have been got away and, if so what was the reason for the failure to get them away?

(A.) Port boats, Nos. 4, 6, 8 and 10, and starboard boats, Nos. 1, 3, 5, 7 and 9, from the boat deck were got out.

The port boats were lowered to within 10-15 feet of the water. The women and children were handed into boats Nos. 4, 6, and 8. Nos. 8 and 10 were the only port boats that were lowered into the water. No. 8 was damaged during lowering and repaired, got clear of the ship, but was swamped very soon after being put into the water. No. 10 got away. No. 4 was never released from the falls and went down with the ship. No. 6, the falls were cut, but she was stove in and capsized when the vessel sank. No. 2 remained on the chocks and went down with the ship.

Starboard boats Nos. 1, 3, 5, and 7 were lowered and got away safely. No. 9 was upended in being lowered, and swamped.

Of the boats on the poop, No. 12 was not got away; No. 11 was lowered; No. 13 floated off; No. 14 rolled over into the water losing her gear in doing so.

The boats were picked up as follows:—

Nos. 1, 3, 5, 10, and 14, by the s.s. "American Shipper."

Nos. 7 and 11, by the s.s. "Myriam."
No. 13, by the s.s. "Berlin."

The boats were not properly manned: they were properly equipped, with the exception of No. 14, which lost its equipment on rolling over into the water; each boat did not carry its proper complement of passengers and crew.

Nos. 4 and 6 boats should have been got away; the probable reason for this failure is that disaster overtook the ship before it was expected.

(50) Was there any confusion in regard to the manning and lowering of the boats? Did such confusion, if any, affect:—

(*a*) Officers;
(*b*) The Crew;
(*c*) The Passengers,

and how?

(A.) There was some disorganisation owing to the crew and passengers going to boats other than those allotted to them by the boat list; in particular the women and children were placed in three of the port boats in a mistaken application of the traditional order of "Women and children first."

(Q.) Was there any lack of order and discipline amongst (*a*) the crew, or (*b*) any particular section of the crew—if so, to what was such lack of order or discipline attributable? To what, if any, extent did it contribute to the loss of the ship or to the loss of life which occurred?

(A.) There was no lack of order and discipline amongst the crew or any particular section of the crew.

(51) What wireless messages for assistance were sent out by the s.s. "Vestris" before she foundered? By whose orders and at what time were they sent out? Did they or any of them give the correct position of the s.s. "Vestris" at the time? Were such messages or any of them received and answered by any other vessels or stations?

(A.) At 8.37 a.m. on Monday, the alarm signal C.Q. was sent out.

At 9.56 a.m. the S.O.S. signal was sent out.

These signals were sent out by order of Captain Carey.

The approximate position given on the S.O.S. was Lat. 37° 35′ N. and Long. 71° 08′ W. This position was substantially correct.

These messages were received and answered by 58 ships and some shore stations.

(Q.) Was the distress message preceded by the Alarm Signal as described in the Notice to Wireless Operators No. 10 of 1927? Were the messages sent out at such times as would ensure their being received by ships carrying one wireless operator? Should the messages have been sent out earlier?

(A.) The distress signal was preceded by the Alarm Signal, as described in the Notice to Wireless Operators.

The messages were sent out at such times as would ensure their being received by ships carrying one wireless operator.

It is considered that the messages should have been sent out not later than 4 a.m. Monday.

(52) What wireless communications, if any, passed between the Owners of the s.s. "Vestris" or Messrs. Sanderson & Son Inc., their agents at New York, and the Master of the s.s. "Vestris" on Sunday, the 11th, or Monday, the 12th November, 1928? Did they convey any instructions to the Master?

(A.) On Monday the 12th, the following W/T communications passed between Messrs. Sanderson and Son and the Master:—

10.40 a.m. From "Lamport" to "Vestris"—"Wire us immediately your trouble."

11.0 a.m. From "Carey" to "Lamport"—"Hove to from noon yesterday during night developed 32 degrees list starboard decks under water lying on beam ends impossible proceed anywhere sea moderately rough."

11.27 a.m. From "Lamport" to "Vestris"—"U.S. Destroyer 'Davis' proceeding to your assistance."

They did not convey any instructions to the Master.

(53) Where, and at what time, did the s.s. "Vestris" capsize and founder?

(A.) The s.s. "Vestris" capsized and foundered shortly after 2 p.m. Monday, 12th November, 1928, at approximately Lat. 37° 35′ N. and Long. 71° 08′ W.

(54) How many persons on board the s.s. "Vestris" at the time of the casualty were ultimately rescued and by what means?

What was the number of passengers distinguishing between men and women and adults and children of the First, Second and Third Class respectively, who were saved?

(A.) A total of 213 persons were rescued by the s.s. "American Shipper," s.s. "Myriam," United States Warship "Wyoming," and the

s.s. "Berlin," the number and particulars of the passengers being as follows:—

——	Adults.		Total.
	Male.	Female.	
1st Class ...	28	4	32
2nd Class ...	9	1	10
3rd Class ...	15	3	18
	52	8	60 Grand Total.

No children were saved.

(Q.) What was the number of the crew, discriminating their ratings and sex, who were saved?

(A.) The number, rating, and sex of the crew saved were as follows:—

Officers	3	
Engineers	6	
W/T Operators	2	
Carpenters	2	
Bosun	1	
Baggage Master	1	
Purser	1	
Surgeon	1	
Cooks and stewards	63	
Stewardesses	2	(Female)
Sailors	27	
Firemen and Trimmers ...	44	
Total	153	

(55) What was the cause of the loss of the s.s. "Vestris" and the loss of life which thereby ensued?

(A.) The answer to this question will be found in the Findings of the Court contained in the Report.

(56) What vessels had the opportunity of rendering assistance to the s.s. "Vestris," and if there were such vessels, how was it that assistance did not reach the s.s. "Vestris" before she sank?

(A.) The Court are of the opinion that there is not sufficient evidence and information to enable them to answer this question.

(57) Were proper and adequate measures taken by (*a*) the Registered Owners, (*b*) Lamport and Holt, Limited, and Mr. Alfred Woods, Registered Manager, and (*c*) Mr. David Cook, Vice-President of Sanderson and Sons, Incorporated, Mr. Harry Wheeler, Marine Superintendent, and Captain Stanley Heasley, Assistant Marine Superintendent of Sanderson and Sons, Inc., of New York, to ensure

(i) That the Owners' Rules and Regulations applicable to the Masters, Officers and Engineers of the s.s. "Vestris" were complied with;

(ii) That the vessel when trading from New York was well kept up and in good and seaworthy condition as regards hull, machinery and equipment;

(iii) That the vessel should not be laden beyond her Load-Line marks and that as laden she should have sufficient stability?

(A.)—(i) Proper and adequate measures were taken to ensure that the Owners' Rules and Regulations applicable to the Masters, Officers and Engineers of the "Vestris" were complied with.

(ii) Proper and adequate measures were taken generally to ensure that the vessel when trading from New York was well kept up and in good and seaworthy condition as regards hull, machinery, and equipment; it is to be noted that the ash ejector valve and the half-door on starboard side failed soon after the vessel left New York.

(iii) The Registered Owners and Messrs. Lamport and Holt did not fail to take proper and adequate measures.

The Court attributes some blame to Mr. Alfred Woods, the Registered Manager, for failing, after it being brought to his notice that the "Vestris" had, in May, 1926, left the wharf in New York, overladen beyond the requirements of the Merchant Shipping Act, to make urgent representations to Messrs. Sanderson & Sons that such overloading should not occur again.

Mr. David Cook, Vice-President of Sanderson & Sons, Incorporated, did not take proper and adequate measures to ensure that the vessel should not be laden beyond her loadline marks; and, in a lesser degree, Mr. Wheeler, and to a still lesser degree, Captain Heasley, are to blame.

Mr. Wheeler was responsible for the stability of the vessel, and although he stated that he had considered the question, the Court are of the opinion that he did not take proper and adequate measures to ensure that she had sufficient stability. Captain Heasley was not to blame in this matter.

(58) Was the loss of the s.s. "Vestris" and/or the loss of life caused or contributed to by

(*a*) the wrongful act or default of the Chief Officer and Chief Engineer, or either of them;

(*b*) the wrongful act or default of Lamport and Holt, Limited, of Liverpool, and Mr. Alfred Woods, Registered Manager, and/or their Agents and their servants at New York, or any of them?

(A.) The Court is of the opinion that the Chief Officer was remiss in the manner in which he dealt with the upper deck hatchway on the starboard side of the cross-alleyway and also the bunker hatch in the after starboard corner of the starboard shelter deck bunker, but does not think that his conduct amounts to a wrongful act or default.

The Court is of the opinion that the Chief Engineer was not guilty of either a wrongful act or default, that Messrs. Lamport and Holt, Limited, of Liverpool, were not guilty of wrongful act or default, that Mr. Alfred Woods, Registered Manager (who is also General Manager of Messrs. Lamport and Holt), was not guilty of wrongful act or default except in so far as his omission to make representations to Messrs. Sanderson and Sons, as mentioned in Answer to Question 57 (iii), may have been connected with the overloading of the "Vestris" on her last voyage.

It is considered by the Court that Mr. David Cook, Mr. Harry Wheeler and Captain Heasley were guilty of wrongful act and default which contributed to the loss of the "Vestris."

The Court orders that Mr. David Cook do pay to the Solicitor to the Board of Trade the sum of five hundred pounds (£500) on account of the expenses of this investigation.

Recommendations.

1. That the same protection as to the safety of life which is afforded to emigrant ships by means of Board of Trade supervision and inspection should be extended to all foreign-going passenger ships.

2. That the Board of Trade should invoke the assistance of Consular or other independent responsible authorities to observe and record draughts of British vessels sailing from foreign ports and report to the Board of Trade.

3. That the special emergency bilge suction pipe to the ballast donkey pump should be duplicated, and arranged to pump from both the port and starboard sides of the engine room as desired.

4. That data of stability should be supplied to ship's officers and such data should include the effect of pumping out ballast tanks, particularly when no wing suctions are fitted.

5. That wing suctions should be fitted to all ballast tanks that have longitudinal divisions.

6. That special attention be paid to the watertightness of hatchways fitted in corners, e.g., hinged covers should be fitted.

7. That the flaps of the coal trunks or shoots fitted at the ship's side to the coal ports should be made watertight.

8. That the Boat List for Passengers and Crew should be prepared and Boat Stations exercised *before* sailing.

Dated this 31st July, 1929.

BUTLER COLE ASPINALL,
Wreck Commissioner.

We concur:

E. L. BOOTY,
H. P. LEARMONT,
FRED J. THOMPSON,
WM. M. FLETCHER,
S. H. HAMBLING,
} *Assessors.*

ANNEX TO THE REPORT.

This Inquiry was held at the Institution of Civil Engineers, Westminster, between 22nd April and 5th July, 1929.

Sir Thomas Inskip, K.C., M.P. (late Attorney-General), Mr. W. N. Raeburn, K.C., and Mr. L. F. C. Darby, appeared for the Board of Trade (instructed by Sir Thomas J. Barnes, C.B.E., Solicitor, Board of Trade); Mr. C. G. Langton, K.C., Mr. Lewis Noad and Mr. K. S. Carpmael, appeared on behalf of the Liverpool Brazil and River Plate Steam Navigation Company, Limited, Messrs. Lamport and Holt, Mr. Woods, General Manager of Lamport and Holt, Ltd., Mr. Cook, Vice-President of Sanderson & Son, Inc., of New York, Mr. Wheeler and Mr. Heasley (instructed by Messrs. Alsopp Stevens and Collins Robinson, of Liverpool, and Messrs. Thomas Cooper & Company, London); Mr. E. A. Digby, K.C., Mr. R. F. Hayward, and Mr. F. E. Raw, appeared on behalf of the Chief, Second and Third Officers and relatives of the late Master and First Officer of the "Vestris" (instructed by Messrs. G. F. Hudson Matthews & Company, London, who were acting on behalf of the Navigators and General Insurance Company, Limited); Mr. D. Stephens, K.C., appeared on behalf of underwriters of cargo and representatives of some of the passengers; Dr. B. W. Ginsberg, LL.D., held a watching brief for the Imperial Merchant Service Guild (instructed by Messrs. Rehder and Higgs, London); Mr. Thomas Scanlan appeared on behalf of the National Union of Seamen and Dependents (instructed by Mr. A. Smith, London); Mr. Gilbert Stone appeared on behalf of Mr. A. Adams, Chief Engineer, and other certificated marine engineers of the "Vestris" (instructed by Messrs. G. Bradshaw and Waterson, London, on behalf of the Marine Engineers' Association, Limited); Mr. Frank Stillwell appeared on behalf of the Transport and General Workers' Union, London, and six surviving members of the crew; Mr. D. Campbell Lee, M.A., LL.B., appeared on behalf of Messrs. Hogan & Son, Stevedores, New York (instructed by Messrs. Middleton Lewis and Clarke, London); Mr. Holmes (Messrs. Taylor & Company, Solicitors, Liverpool) held a watching brief on behalf of Mr. A. Anderson, previous Chief Officer, and F. O. Clarke, former Master (instructed by the Mercantile Marine Service Association).

The "Vestris" was a British passenger steamship of 10,494 tons gross and 6,622 tons net register. She was built in 1912 at Belfast, Ireland, by Messrs. Workman Clark & Co. She was owned by the Liverpool Brazil and River Plate Steam Navigation Company, Limited. At the time of her loss she was managed by Messrs. Sanderson & Son, Inc., of New York, who were acting as Agents for Messrs. Lamport and Holt. The latter held all the shares in the Liverpool Brazil and River Plate Steam Navigation Company, Ltd. Mr. Alfred Woods, who is the General Manager of Messrs. Lamport and Holt, was the Registered Manager of the "Vestris."

The "Vestris" was classed 100 A. 1 at Lloyds and held a United States Passenger Certificate and Certificate of Inspection of Boats and Lifesaving Appliances. She carried 14 lifeboats, 10 of them were amidships, four were on the poop aft.

At the time of her loss the "Vestris" was on a round voyage from New York to Barbadoes and South American ports. She was carrying a normal South American cargo, mainly consisting of fruit and motor parts. It is to be noted that she was a shelter-deck steamship and that her upper deck was her weather deck.

The following provisions of the Merchant Shipping Act, 1894, are material:—

> "436.—(1) The Board of Trade may, in any case or class of cases in which they think it expedient to do so, direct any person appointed by them for the purpose, to record, in such manner and with such particulars as they direct, the draft of water on any sea-going ship as shown on the scale of feet on her stem and stern post, and the extent of her clear side in feet and inches upon her leaving any dock, wharf, port or harbour for the purpose of proceeding to sea, and the person so appointed shall thereupon keep that record, and shall forward a copy thereof to the Board of Trade."
>
> "(3) The Master of every British sea-going ship shall upon her leaving any dock, wharf, port or harbour, for the purpose of proceeding to sea, record her draft of water and the extent of her clear side in the Official Log Book (if any) and shall produce the record to any Chief Officer of Customs whenever required by him, and if he fails without reasonable cause to produce the record, shall, for each offence, be liable to a fine not exceeding Twenty Pounds."
>
> "439. If a ship is so loaded as to submerge in salt water the centre of the disc indicating the Loadline, the ship shall be deemed to be an unsafe ship within the meaning of the provisions hereafter contained in this Part of this Act, and such submersion shall be a reasonable and probable cause for the detention of the ship."
>
> "442.—(*a*) If any Owner or Master of a British ship fails without reasonable cause to cause his ship to be marked as by this Part of this Act required, or to keep her so marked, or allows the ship to be so loaded as to submerge in salt water the centre of the disc indicating the loadline he shall for each offence be liable to a fine not exceeding One hundred pounds."

There are no load-line regulations in the United States of America.

In view of the fact that the "Vestris" was a shelter-deck steamship, reference is made to the following Board of Trade Instructions to Surveyors:—

> "Weather deck hatches and stairways should in all cases be provided with substantial covers, tarpaulins, and means for battening down or other suitable means of making them watertight when at sea. Surveyors should note that in vessels of the shelter-deck type the deck next below the shelter-deck is the weather deck."

The "Vestris" sailed from New York at about 3.45 p.m. on 10th November, 1928, and foundered about 2.30 p.m. on 12th November. The main task for the Court is to ascertain if it be possible, the cause or causes of her loss.

Sixty-six witnesses gave oral testimony: 23 affidavits were read. Unfortunately the Master and the First Officer were drowned. They could have given valuable testimony. Mr. Adams, the Chief Engineer, when he gave evidence was still a sick man and suffering from the effects of the disaster.

Speaking generally, the evidence is unsatisfactory, contradictory, inconsistent, and piecemeal. Much of it is unreliable, some of it is untruthful.

DESCRIPTION OF THE VESSEL.

Type:

British steel twin-screw. Passenger and cargo.
Shelter deck steamship.
Two masts schooner rigged.
Two decks and shelter deck.
Forecastle, bridge deck and poop, with promenade and boat decks above bridge deck.
Isherwood system of longitudinal framing.

Registered Dimensions:

Length 495.5 feet. Breadth 60.84 feet. Depth to upper deck 28.7 feet.
Gross tonnage 10,494.36.
Net tonnage 6,622.66.
Shelter deck space exempted from tonnage.

Freeboard and Draught:

Centre of disc 5 feet 1½ inches below statutory deck line (upper deck).
Deduction for winter 6½ inches.
Allowance for fresh water 6½ inches.
Allowance for Indian summer 6½ inches.
Statutory deck line 1½ inches above top of iron deck at side.
Mean draught 26 feet 9¾ inches to centre of disc.

Dead Weight:

Calculated by builders (1912) 9,080 tons at mean draught 26 feet 9¾ inches.

Load Displacement:

Approximately 17,000 tons at mean draught.

Builders:

Messrs. Workman Clark & Co., Ltd., Belfast, September, 1912, to the order of the Liverpool, Brazil and River Plate Steam Navigation Company, Ltd.

Class: ✠ 100 A1 Lloyds. (Shelter deck with freeboard).

Freeing Ports and Scuppers:

There was one freeing port (2 feet by 1 foot 6 inches) each side in tonnage well. These ports, according to evidence, had been permanently closed.

The two scuppers, one port and one starboard, in tonnage well terminated in storm valves. These scuppers were presumably also permanently closed, or at least they were not effective as they were covered by lockers or store-rooms.

Upper deck bunkers were drained by open type scuppers, with orifice at about upper deck edge. These scuppers, according to evidence, were covered by plates, and were therefore inoperative as scuppers.

The two scuppers, one each side, to after cross alleyway on upper deck were carried to ship's side below upper deck, terminating in storm valves.

Soil Pipe Discharges:

The sanitary soil pipes terminated in storm valves at the ship's side, with centre of orifice about 3 feet 6 inches below upper deck edge.

Machinery and Boilers.

Main Engines:

Two sets of engines each with 4 cylinders quadruple expansion; cylinders 23 inches, 32½ inches, 46½ inches and 66½ inches × 48 inch stroke.
N.H.P. 1,096.
I.H.P. 6,500.
Speed 14½ knots.

Boilers:

Three double-ended main boilers, forced draught.
Diameter 16 feet 3 inches. Length 20 feet 6 inches.

Main Boilers:

Working pressure 215 lbs. to the square inch.
Each main boiler had four furnaces at each end.
These boilers were fitted abreast athwartship.

Auxiliary Boiler:

One auxiliary single-ended boiler, natural draught.
Working pressure 215 lbs. to the square inch.
This boiler was fitted in a recess at fore end of boiler room.
Propelling machinery and boilers were constructed and installed by Messrs. Workman, Clark & Co., Ltd., Belfast, September, 1912.

Refrigerating Machinery:

Original refrigerating machinery was a provision refrigerator, Type No. 10, supplied by J. & E. Hall, fitted in engine room.
Additional refrigerating machinery was supplied by Messrs. J. & E. Hall, Limited, 1914.
It was fitted between the propeller shafts and immediately abaft the thrust recess.
The estimated weights of additional machinery and insulation, etc., as given by Messrs. J. & E. Hall's representative, were:—

	Tons.
Pumps and pipes	450
Meat chains...	25
Insulation (silicate)	700
Total	1,175

It was estimated that the total weight added by the complete installation was:—
Approx.: 1,520 tons.

Dynamos:

No. 2, 34 K.W., and No. 1, 12 K.W. Standard type, 110 volts.
Each coupled direct to its own steam engine.
Fitted on platform at main deck level at after end, starboard side of engine room.
About 600 lights, single-wire system.
Connection to wireless installation.

Ash Ejectors:

Two in number, See's Ash Ejectors.
One starboard side in fore stokehold, and the other port side in after stokehold, with discharge through clack valve in ship's side; centre of discharge about 3 feet 6 inches above Summer L.W.L. and 1 foot 6 inches below upper deck edge.
The bowls for these ejectors are on stokehold flats, the top being closed, when necessary, with a hinged flap capable of being made water-tight.
The pump for these ejectors is on the floor in engine room, on the starboard side forward, and is described hereafter.

Pumps:

1 general service, capacity 90 tons per hour, connected to bilge service main by 3½-inch suction and to ballast tank main by 4½-inch suction.
1 ballast pump, capacity 200 tons per hour, connected to bilge service main by 3½-inch suction and to ballast tank main by 8-inch suction. Also direct connection to port engine room bilges, with 3½-inch suction.
The capacity of this pump is limited to the bore of the suction pipe.
1 cattle pump, with 2-inch suction to ballast tank main with delivery to cattle tanks.
1 fresh water pump for domestic purposes.
1 auxiliary boiler feed pump connected to feed water tanks and delivering to auxiliary boiler.
1 ash ejector pump (11-inch × 7½-inch × 15-inch), with sea suction and 3½-inch delivery to ash ejector and to wash deck service.
2 main circulating pumps, each with capacity of 500 tons per hour with 15-inch main injection and 10-inch suction direct to engine room bilge.
The port pump had 8-inch suction to ballast tank main.
1 sanitary pump (7-inch × 7-inch × 8-inch) with 4½-inch sea suction and 5-inch delivery to general service distribution chest and sanitary service.
The whole of the foregoing pumps were independently driven.

2 bilge pumps worked by main engines, each with 3½-inch suction to bilge main.

Capacity 40 tons per hour at maximum, output varying with speed of main engines.

2 feed pumps and

2 sanitary pumps, each driven from main engines. Also,

3 hand pumps, 2 of which were Downtons on upper deck, with suctions to bilge main, and 1 with suction to chain lockers.

Pump Suctions and Sounding Pipes.

Double bottom and peak tank pumping arrangements.

Compartment.	Suctions.	Air Escapes.	Sounding Pipes.
Fore peak tank.	One 3″ at centre line.	One 3½″ to top-gll't. foc'sle.	1½″ at upper deck in foc'sle.
No. 1 tank	One 4″ at centre line.	One 3″ port at fore end to T.G. foc'sle, one 2″ port, one 2″ star'd., both after end to shelter deck.	2″ shelter deck.
No. 2 tank port.	One 5″ at centre line, one 3″ at wing.	Two 2″ (one at each end of tank) to shelter deck.	2″ bridge deck.
No. 2 tank star'd.	One 5″ at centre line, one 3″ at wing.	Two 2″ do.	2″ bridge deck.
No. 3 tank port.	One 5″ at centre line. one 3″ at wing, one 2″ fresh-water line.	Two 3″ (one at each end of tank) to bridge deck.	1½″ donkey boiler recess of boiler room.
No. 3 tank star'd.	One 5″ at centre line, one 3″ at wing, one 2″ fresh-water at centre line.	Two 3″ do.	1½″ donkey boiler recess of boiler room.
No. 4 tank port.	One 5″ at centre line, one 2″ fresh-water near centre line.	Two 5″ (one at each end of tank) one to bridge deck and one to upper deck.	1½″ in boiler room.
No. 4 tank star'd.	One 5″ at centre line, one 2″ fresh-water near centre line.	Two 5″ do., one to bridge deck and one to upper deck.	1½″ in boiler room.
No. 5 (feed) tank port.	One 5″ at centre line, one 2″ fresh-water near centre line.	Two 3″ (one at each end of tank) one to upper deck and one to bridge deck.	1½″ in boiler room.
No. 5 (feed) tank star'd.	One 5″ at centre line, one 2″ fresh-water near centre line.	Two 3″ (one at each end of tank), one to upper deck and one to bridge deck.	1½″ in boiler room.
Freshwater tank port.	One 2″ fresh-water about 6′ from centre line.	One 3″ to bridge deck.	1½″ in engine room.
Freshwater tank star'd.	One 2″ fresh-water about 6′ from centre line.	One 3″ to bridge deck.	1½″ in engine room.
No. 6 tank port.	One 4½″ near centre line.	Two 2″ (one at each end of tank) to bridge deck.	1½″ in tunnel.
No. 6 tank star'd.	One 4½″ near centre line.	Two 2″ (one at each end of tank) to bridge deck.	1½″ in tunnel.
No. 7 tank	One 4″ near centre line.	Three 2″, one port and one star'd forward to bridge deck and one port aft to shelter deck.	1½″ in tunnel.
After peak tank.	One 3″ near centre line.	One 3½″ to shelter deck.	1½″ upper deck.

Holds, &c., Bilge Pumping Arrangements.

Compartment.	Suctions.	Sounding Pipe.
No. 1 hold	Port, one 3½″ at after end; star'd, one 3½″ at after end.	2″, one port and one star'd after end to upper deck.
No. 2 hold	Port, one 3½″ at after end; star'd, one 3½″ at after end.	2″, one port and one star'd after end to upper deck.
No. 3 hold and for'd cross bunker.	Port, one 3½″ at after end; star'd one 3½″ at after end.	2″, one port and one star'd for'd end to upper deck.
Boiler room and after cross bunker.	Port, one 3½″ at for'd end; star'd, one 3½″ at for'd end.	—
Engine room.	Port, one 3½″ at after end; star'd, one 3½″ at after end; also special arrangements described separately.	—
No. 4 hold	Port, one 3½″ at after end; star'd, one 3½″ at after end.	2″, one port and one star'd at after end to upper deck.
No. 5 hold	Port, one 3½″ at for'd end; star'd, one 3½″ at for'd end.	2″, one port and one star'd at for'd end to upper deck.
Tunnel well.	One 3″	—

Double Bottom and Peak Tank.

Number.	Extent.	Divided.	Capacity in tons.	Remarks.
	Frame.		Tons.	
1 ...	121 to 105	Not subdivided.	60	Usually S.W.
2 ...	105 to 88	Subdivided at M.L.	290	S.W.
3 ...	88 to 75	„ „	300	F.W.
4 ...	75 to 66	„ „	220	F.W.
5 ...	66 to 51	„ „	270	F.W.
Fresh-water tank.	51 to 46	„ „	90	F.W.
6 ...	46 to 37	„ „	175	F.W.
7 ...	37 to 17	Not subdivided.	120	F.W.
Fore-peak.	Stem to frame 121.	„ „	65	F.W.
After-peak.	Frame 17 to stern.	„ „	55	F.W.
		Total ...	1,645	

Water-Tight Bulkheads.

Number.	—	Position.	Water-tight doors.
1	Frame Station No. 121.	Between forepeak and No. 1 hold.	None.
2	Frame Station No. 106.	Between No. 1 hold and No. 2 hold.	None.
3	Frame Station No. 89.	Between No. 2 hold and No. 3 hold.	None.
4	Frame Station No. 73.	Fore end of boiler room. Recessed to frame 76 at M.L. for aux. boiler.	2 in main part and 2 in recess.
5	Frame Station 62 at M.L.	Fore end of engine room. Recessed to frame 61 and with wings extending aft to 56 at port side and to 58 at starboard side.	1 port side of recess.
6	Frame Station 50.	Aft end of engine room. Recessed to about frame 46 to form thrust recess.	1 on each side to tunnels.
7	Frame Station 33.	Between No. 4 hold and No. 5 hold.	—
8	Frame Station 10 stepped to 7.	Between No. 5 hold and afterpeak.	—

Cargo Hold Capacity.

Insulated Spaces.

	From Inside Rail and Sparring. (Bale space) Cubic feet.	Tons.
No. 1 Upper 'tween decks	6,800	170
No. 1 „ „ hatch	4,000	100
No. 1 Lower 'tween decks	5,700	142½
No. 1 „ „ hatch	4,000	100
No. 1 Hold „ „	16,500	412½
No. 2 Upper 'tween decks	22,700	567½
No. 2 „ „ hatch	3,700	92½
No. 2 Lower 'tween decks	22,700	567½
No. 2 „ „ hatch	3,900	97½
No. 2 Hold „ „	45,500	1,137½
No. 3 Upper 'tween decks	11,500	287½
No. 3 „ „ hatch	2,000	50
No. 3 Hold „ „	39,900	997½
No. 4 Upper 'tween decks	22,600	565
No. 4 „ „ hatch	4,200	105
No. 4 Lower 'tween decks	35,500	887½
No. 4 Holds „ „	15,000	375
No. 5 Upper 'tween decks	14,000	350
No. 5 „ „ hatch	2,800	70
No. 5 Hold „ „	22,600	565
Total ...	305,600	7,640

Uninsulated Spaces.

Compartment.	*Bale* Cubic feet.	Tons.
Shelter 'tween decks forward	25,400	635
„ „ „ amidships	33,000	825
Trunk hatch No. 5	9,000	225
„ „ No. 6	4,700	117½
Total ...	72,100	1,802½

Store Rooms.

Compartment.	Bottom of beams. Cubic feet.	Tons.
Fore peak (lower)	650	16¼
„ „ (upper)	1,460	36½
„ „ (shelter)	280	7
Spirit and sample	3,200	80
Store aft	1,870	46¾
Meat room (insulated)	2,610	65¼
Vegetable room (insulated)	1,360	34
Milk room (insulated)	430	10¾
Fish room (insulated)	470	11¾
Handing room (insulated)	950	23¾
Pantry store	8,500	212½
Bonded „	1,640	41
Baggage room	3,040	76
Mail „	960	24
Specie „	110	2¾
Potato store	900	22½
Vegetable store	450	11¼
Casing side store	590	14¾
Forward pantry store	370	9¼
Total ...	29,840	746

Bunkers.

Capacities of Coal Bunkers.

Compartment.	Tons.
Below Main Deck—	
Alongside engines P	52½
„ „ S	52½
After cross	420
Forward cross	905
Total below main deck	1,430
In upper 'tween decks alongside engines P	25
„ „ „ „ „ S	8
After cross	182
Alongside boilers P	40
„ „ S	40
Forward cross	385
Trunk aft	40
„ forward	40
Coal pockets and shoots	25*
Total permanent	2,215
No. 3 hold	886*
No. 3 upper 'tween decks	256*
No. 3 upper 'tween hatch	45*
Shelter 'tween decks P	382
„ „ „ S	280
Total reserve	1,849
„ permanent	2,215
„ bunkers	4,064

Measured from bottom of beams and ½ depth of frames at 45 cubic feet per ton.

*These spaces (1,212 tons) were not used for coal on the last voyage. Total is therefore reduced to 2,852 tons at 45 cubic feet per ton, which is equal to 3,055 tons at 42 cubic feet per ton.

Hatchways on Weather Decks.

No.	Position.	Size.	Coaming.	Description.
1	Shelter deck	21′4″ × 17′9″	30″	To No. 1 hold.
2F	„ „	15′0″ × 17′9″	30″	To No. 2 hold.
2A	„ „	25′9″ × 17′9″	30″	To No. 2 hold.
3	Bridge „	10′0″ × 12′0″	30″	To No. 3 hold. Trunked to shelter deck.
4	„ „	27′0″ × 17′9″	30″	To No. 4 hold. Trunked to shelter deck.
5	„ „	18′0″ × 14′0″	30″	To No. 5 hold. Trunked to shelter deck.

No.	Position.	Size.	Coaming.	Description.
	Tonnage opening for'd shelter deck.	4′0″ × 16′0″	12″	
	Coal shoot boat deck.	3′0″ × 16′0″	12″	Fore side of fiddley. Trunked from boat deck to upper deck, and leading to forward cross bunker
	Coal shoot boat deck.	4′0″ tapering to 3′0″ × 16′0″	12″	Fore side of engine room casing. Trunked from boat deck to upper deck and leading to after cross bunker.

Wood hatches of Baltic pine 3″ thicknesses, with usual tarpaulins on weather deck.

The tonnage opening, forward on shelter deck, was (according to evidence) covered with wood hatches which were caulked into place and pitched.

On the fore well deck there was one companion way (or booby hatch) each side, fitted at the fore end of bridge, to enable firemen to get from forecastle to stoke-hold. These were fitted with hoods and double-hinged doors on the outboard sides.

There were the usual companion ways leading to and from passengers' accommodation.

Engineers and stewards had separate entrances from after end of bridge to their quarters.

Upper Deck Hatchways in addition to Main Hatchways.

No.	Size.	Sill.	Position.	Description.
	′ ″ ′ ″	″		
1	3 0 by 3 0	9	Starb'd	Fore end of upper deck bunker for trimming coal into No. 3 upper 'tween deck reserve bunker.
2	3 0 „ 3 0	9	„	Fore end of upper deck bunker for trimming coal into No. 3 upper 'tween deck reserve bunker.
3	8 0 „ 3 0	9	„	In upper deck bunker for trimming coal into forward cross bunker 'tween deck.
4	6 0 „ 3 0	9	„	(Oval-ended) in upper deck bunker for trimming coal into hanging bunker.
5	3 0 „ 3 0	9	„	Extreme after end against ship's side for trimming coal into shoot leading to after stoke-hold.
6	3 0 „ 3 0	9	„	In cross-alleyway for trimming coal into after cross bunker between deck.
1	3 0 „ 3 0	9	Port	As No. 1 starb'd.
2	3 0 „ 3 0	9	„	In recess, at fore end of upper deck bunker for trimming coal into No. 3 upper 'tween deck reserve bunker.
3	8 0 „ 3 0	9	„	As No. 3 starb'd.
4	6 0 „ 3 0	9	„	Oval-ended, as No. 4 starb'd,
5	3 0 „ 3 0	9	„	After end of upper deck bunker, similar to No. 5 starb'd.
6	3 0 „ 3 0	9	„	Similar to No. 6 starb'd.

Six coaling ports 2′6″ deep by 3′0″ were fitted in shell on each side close up to shelter deck, with a portable plate on back of shoot, so as to be able to coal the shelter 'tween decks as well as the main 'tween decks.

Ventilators.

Cowl ventilators were fitted to each hold.

Smaller ventilators were fitted to passenger and crew accommodation, with mechanical ventilation to engineers' and stewards' accommodation on upper deck.

The boiler room was ventilated by cowl ventilators and fiddley top gratings.

The engine room was ventilated by cowl ventilators and skylight on casing top.

The lower, cross and hanging bunkers were ventilated through the cowl shoots and 12″ × 4″ trunks led upward from the crown of the coal shoots.

The forward reserve bunker was ventilated by 12″ × 4″ trunks at the ship's side led upward through the main and upper decks.

The upper 'tween deck bunker was also ventilated by similar trunks.

Boats and Davits.

Boats: Type, class A. No. 1 was a motor boat.

No.	Size. (ft.)	Accommodation.	Position.
1	26·8 × 7·8 × 3·4	36 persons	Boat deck port.
2	28·0 × 8·0 × 3·5	53 „	„ „ starb'd.
3	30·1 × 9·0 × 3·7	60 „	„ „ port.
4	30·0 × 9·0 × 3·8	61 „	„ „ starb'd.
5	30·0 × 9·1 × 3·8	63 „	„ „ port.
6	30·0 × 9·1 × 3·9	63 „	„ „ starb'd.
7	30·0 × 9·0 × 3·9	63 „	„ „ port.
8	30·0 × 9·0 × 3·9	63 „	„ „ starb'd.
9	30·0 × 8·9 × 3·7	60 „	„ „ port.
10	30·0 × 9·0 × 3·8	61 „	„ „ starb'd.
11	28·1 × 8·6 × 3·5	50 „	On poop port.
12	29·8 × 9·1 × 3·8	61 „	„ „ starb'd.
13	Not given	53 „	„ „ port.
14	Not given	53 „	„ „ starb'd.
	Total	800	

All boats were under davits except Nos. 13 and 14.

Davits were Martin's Patent type, supplied by Messrs. Armstrong, Whitworth & Co., Ltd.

They were fitted with rope falls.

Boat Equipment: The boat equipment on leaving the British Isles was complete and in accordance with the British Board of Trade regulations. Since trading from American ports the boats and equipment had been regularly inspected, and presumably conformed to the regulations in operation in U.S.A.

Boats were fitted with Mills type disengaging gear.

Life-saving Equipment:

691 lifebelts for adults } Of two types.
70 „ „ children }
68 of which had been renewed for last voyage.
18 lifebuoys, 9 of which were illuminated.

Wireless Installation.

Of Marconi type, including direction finder, fitted in house on boat deck at after end.
There were 3 Wireless Operators.

Weights carried in last voyage.

Cargo:

Total 2,942 tons consisting of 237 tons deadweight cargo, and the balance of measurement cargo. The total averaging approximately 81 cubic feet per ton.

Coal Bunkers:

Coal taken on board at New York ... 2,999 tons.
Already on board
left from previous voyage 20 ,,
Total ... ... 3,019 ,,

Water:

	Fresh water.	*Salt water.*
Fore peak ...	65 tons	—
No. 1 tank ...	—	—
No. 2 ,, ...	—	290 tons
No. 3 ,, ...	300 tons	—
No. 4 ,, ...	220 ,,	—
No. 5 ,, ...	270 ,, (135 starb'd : 50 port)	
F.W. ,, ...	90 ,,	—
No. 6 ,, ...	175 ,,	—
No. 7 ,, ...	120 ,,	—
After peak ...	55 ,,	—
	1,295 ,, fresh water	
	290 ,, salt water	
Total ...	1,585 ,,	
On leaving assumed as	1,500 ,,	

No. 5 tank full on leaving.

Other Weights:

Stores and baggage	250 tons
Additional installation	1,520 ,,
Kentledge...	110 ,,

Summary of Weights:

Cargo	2,942 tons
Coal	3,019 ,,
Water	1,548 ,,
Stores, etc.	250 ,,
Kentledge	109 ,,
Additional Refrigerating Installation	1,520 ,,
Total	9,388 ,,

D.W. according to D.W. scale at mean draught approx. 26'9¾" = 9,080 tons.
D.W. according to D.W. scale at mean draught approx. 27'2½" = 9,388 tons.

LOADING.

The persons concerned in the loading of the "Vestris" were Mr. Cook, the Vice-President of Sanderson & Son Inc., Mr. Wheeler, the Superintendent of Messrs. Sanderson & Son, Captain Heasley, the Assistant Superintendent of Messrs. Lamport & Holt, Mr. Webb, the Treasurer of the Stevedores, Messrs. Hogan & Sons, and Mr. Regan, the Wharfinger in the employment of Messrs. Sanderson & Son.

The question of loading the "Vestris" was discussed at conferences held at Mr. Cook's office in Broadway and Mr. Wheeler's office at the wharf. In this case no preliminary loading plan was made as it was said that the cargo was a normal one. There usually was a ship's meeting held in Mr. Wheeler's office the day before the ship sailed. This meeting was attended by the Captain and Chief Officer, but as the Captain did not arrive at New York until 9th November, no such meeting was held. No arrangement was made or instructions given to place deadweight cargo in the bottom of the ship. Messrs. Hogans were Stevedores of experience and good repute, but their disposition of the cargo was controlled to some extent by these three facts, (1) that their instructions were to fill the ship with coal and cargo, (2) that the cargo had to be placed so as to be accessible at the various ports of call, and (3) that the cargo had to be laden on the ship up to the last minute owing to its late arrival.

According to the Board of Trade requirements the "Vestris" was permitted to load to a draft of 26 feet 3¼ inches on a winter voyage. The Court having carefully considered what was the full deadweight on board the vessel (see Answer 13 of the Questions) comes to the conclusion that the mean draft (salt water) for deadweight of the "Vestris" when she sailed was approximately 27 feet 2½ inches.

The Court is of opinion that when the "Vestris" sailed she had 3,019 tons of coal on board. An attempt, not an ingenuous one, was made by Messrs. Sanderson & Son to establish that this figure was 250 tons in excess of what she in fact sailed with. This attempt was supported by reasons which the Court thinks are inaccurate and unconvincing.

When the "Vestris" sailed both peaks and all tanks except No. 1 were filled with fresh and/or salt water.

The coal was stowed in the permanent bunkers, shelter deck spaces, and the coal shoots leading from the boat deck.

The fact that 290 tons of salt water was laden in No. 2 tank would seem to indicate that those responsible for the "Vestris" were not satisfied as to the vessel's stability. The Chief Officer in his evidence stated that in his opinion the salt water was retained for reasons of stability and trim.

There were five definite cases of Messrs. Lamport & Holt's ships putting to sea laden beyond their marks; in fact, probably there were more. It was said that it was the practice of ship masters to pump out water from the tanks on the way down the river. The Court does not believe this to have been the case.

Mr. Wheeler told the Court that he and Captain Heasley had protested to Mr. Cook in regard to vessels leaving the wharf laden beyond their marks. Mr. Wheeler was asked this question:—

> (Q.) In answer to your objections what attitude did Mr. Cook take?
> (A.) Mr. Cook was impressed by the fact that it was very difficult to get the cargo along when we wanted it, in other words, it was the exigencies of the business. The shippers were often very dilatory and the cargo would frequently be loaded within the last 24 hours. Had we known early precisely what we were going to get and when we were going to get it, it would have been different. But had we pumped out water or left out coal long before the end of the week or before the loading was finished, we might frequently have gone away with much less coal than the vessel could safely have carried or much less water than she really needed, or something like that.

The following extract from the evidence of Mr. Cook shows his attitude towards this topic:—

> *The Commissioner*: Mr. Cook, when you were answering some questions put by Captain Thompson I gathered you to allude to the fact that your action in regard to the loading of this ship was dictated by reason of competition?—Yes.
>
> (Q.) I wish you would develop that a little and tell us what you had in your mind when you made that answer?—(A.) I was trying to explain that shippers demand that we take their cargo right up to the last moment. Very often their credits are running out at the bank and that sort of thing, and great pressure is put on to me at the office to take their cargo if it is delivered during the morning of sailing. If I do not do it other Lines will, and other Lines have not got the regulations to adhere to that we have. That is what I meant.

We were informed that the "Vestris" on a July voyage of 1926 left New York laden beyond her

marks. This is the subject matter of the following correspondence between the Board of Trade, Messrs. Lamport & Holt and Messrs. Sanderson & Son Inc.:—

Mercantile Marine Department,
Board of Trade,
20, Great Smith Street,
Westminster, S.W.1.
10th November, 1926.

Gentlemen,

I am directed by the Board of Trade to state that it appears from the entries in the official log book of the s.s. "Vestris" for the voyage ended on the 29th July last, that the freeboard of the vessel on leaving New York on the 29th May was 3 feet 11¼ inches. The centre of the disc is stated to be placed at 5 feet 1½ inches below the upper deck line.

The Board would be glad if you would obtain from the Master an explanation of this apparent over-loading and forward it to this Department together with any observations you may wish to make in the matter.

I am, Gentlemen,
Your obedient Servant,
(Sgd.) G. E. Baker.

Messrs. Lamport & Holt, Ltd.,
Royal Liver Building,
Liverpool.

13th November, 1926.

Messrs. Sanderson and Son, Inc.,
New York.

Dear Sirs,

We enclose copy of letter we have received from the Assistant Secretary of the Mercantile Marine Department of the Board of Trade, together with copy of our reply and we shall be glad if you will let us know how the "Vestris" came to be over-loaded, as according to the figures on the abstract it would appear that she was indeed down more than a foot over her marks.

Yours truly,
For Lamport and Holt, Limited,
(Sgd.) S. Heywood Melly,
Assistant Manager.

13th November, 1926.

The Assistant Secretary,
Mercantile Marine Department,
Board of Trade,
20, Great Smith Street,
Westminster,
London, S.W. 1.

Ref. M.14374/26.

Dear Sir,

We are in receipt of your letter of the 10th November with regard to the alleged over-loading of our s.s. "Vestris" as shown in the log book of this steamer on her voyage ending 29th July last.

We can only think that there must be some mistake in the figures given in the log, but as the steamer is trading between North and South America, we are communicating with our Agents at New York, asking them to go thoroughly into the matter together with the Captain on his next arrival at their port.

Yours truly,
For Lamport and Holt, Limited,
(Sgd.) S. Heywood Melly,
Assistant Manager.

Per "Olympic."

Lamport and Holt, Limited.
26, Broadway,
New York.
2nd December, 1926.

Messrs. Lamport and Holt, Limited,
Liverpool.

Dear Sirs,

"*Vestris.*"

We were duly favoured with your letter of 13th November on the question of this steamer's draft on sailing.

This vessel left Pier 14 Hoboken on May 29th with a mean draft of 28 feet, the extra weight consisting of 1,610 tons of water. Steamer proceeded to an anchorage off Liberty where water to the necessary quantity was pumped out to bring her draft to 26 feet 9¾ inches before proceeding to sea. Captain Clark, then in command of "Vestris" is now in New York with the "Vandyck" and confirms this. Unfortunately the actual draft of the ship on leaving the pier had been entered in the log by an officer who was not aware, when he made the entry, that the vessel was to be lightened and the Captain preferred to allow the figure to stand as he was adverse to making any erasure in the official log. For reasons of stability and to meet the conditions under which we receive cargo the water was left in the vessel until her loading was actually completed and the excess was removed before the vessel left the Harbour.

Yours faithfully,
Sanderson and Son, Inc.
D.C.,
Managing Director.

15th December, 1926.

The Assistant Secretary,
Mercantile Marine Department,
Board of Trade,
20, Great Smith Street,
Westminster,
London, S.W. 1.

Ref. M.14374/26.

Dear Sir,

"*Vestris.*"

With reference to your letter of the 10th November and our reply of the 13th idem, with regard to this steamer's draft, we enclose herewith copy of a letter which we have received from New York, explaining the reason for the steamer's apparent draft as shewn by the log, when leaving New York in May last, and we hope that this explanation of Captain Clark's will be considered satisfactory by your Committee.

Yours truly,
For Lamport and Holt, Limited,
(Sgd.) S. Heywood Melly,
Assistant Manager.

Mercantile Marine Department,
Board of Trade,
20, Great Smith Street,
Westminster, S.W.1.
4th January, 1927.

M.14374/26.

Sir,

With reference to your letter of the 15th December respecting the freeboard entries in the official log book of the s.s. "Vestris," I am directed by the Board of Trade to state that they accept the explanation offered by the Master.

With regard to the Master's statement that the entries had been made by one of the ship's officers, I am to point out that Section 436 (3)

of the Merchant Shipping Act, 1894, requires the entries to be made by the Master and the Board would be glad if you would be good enough to instruct the Master of the ship in this sense.

I am, Sir,
Your obedient Servant,
(Sgd.) G. E. BAKER.

The Manager,
Messrs. Lamport and Holt, Ltd.,
Royal Liver Building,
Liverpool.

5th January, 1927.

SHM/K.
The Assistant Secretary,
Mercantile Marine Department,
Board of Trade,
20, Great Smith Street,
Westminster,
London, S.W. 1.

Dear Sir,

Re M.14374/26.

We are in receipt of your letter of yesterday's date with regard to the entries in the official log book of our s.s. "Vestris" not having been made personally by the Master and we are writing to-day to Captain Clark, instructing him to strictly abide by the Regulations as laid down by the Board of Trade with regard to this matter.

Yours truly,

For LAMPORT AND HOLT, LTD.,
(Sgd.) S. HEYWOOD MELLY,
Assistant Manager.

The Court does not believe that it was the practice for these ships to pump out water on their way down the river, as stated in Messrs. Sanderson's letter. Mr. Woods, the Registered Manager, said he did no more than pass on Messrs. Sanderson & Son's letter to the Board of Trade. The Court thinks he should have done more. The matter was of great importance and he was the Registered Manager. He should have made urgent representations that any pumping out necessary to be done should be done before the vessel left the wharf. It is further to be noticed that Messrs. Sanderson & Son shortly after each voyage was commenced sent a form to Messrs Lamport & Holt containing (*inter alia*) a statement of the draft of the vessel on leaving. Mr. Woods should have informed himself by means of these forms of what was happening at New York in regard to the "Vestris" and the other ships of his Company.

THE VOYAGE.

The wind and weather experienced by the "Vestris" during her voyage is in substance as follows. According to the meteorological reports of the Air Ministry:—

> "The sequence of wind and weather covered by a depression in the vicinity of "Vestris" from 8 a.m. (75th meridian time) on 11th November to 2.30 p.m. (E.S.T.) on 12th November may be approximately deduced as follows: Wind north-easterly, fresh breeze to a gale, with high sea, and squally with rain. Wind backing to N.N.W. with squalls, possibly of hurricane force, and very high sea, when the trough of the depression passed at about 7 p.m. (75th meridian time) on 11th November; wind and sea moderating towards the time of foundering at 2.30 p.m. (E.S.T.) on 12th November."

In considering the incidents of the voyage it is well to have in mind the following facts. The "Vestris" was a shelter-deck ship, her upper deck was her weather deck. The ship was overladen and tender. In the starboard shelter deck bunker on the weather deck there were five coaling hatches; two of these were permanently closed, two were not closed and were inaccessible during the voyage by reason of coal being stowed over them, and one was in the after corner of the bunker on the starboard side. There was a tonnage opening in this bunker from the cross-alleyway. There wese two hatches in the cross-alleyway, which cross-alleyway was immediately abaft the shelter deck bunkers. A fireman's alleyway led forward from the cross-alleyway. The bulkheads separating this bunker from the cross-alleyway and the fireman's alleyway were not watertight. There were two scuppers, one on each side of the cross-alleyway; two in the tonnage well, one on the port and one on the starboard side. These last mentioned scuppers were seemingly permanently closed or at least they were not effective, as they were covered by lockers or store-rooms. On the fore well-deck there was a companion-way, or booby hatch, on each side of ship to enable firemen to get from the fo'c'sle to the stokehold.

When the "Vestris" left, the weather was fine and clear. The Court thinks that the ship was upright, although there was some evidence that she had a slight list to port.

About 2 a.m. on Sunday morning the Second Officer called the Captain and reported that the weather was freshening. The wind was from the N.E., causing the ship to list to starboard. According to him, the ship at this time had a list of between 3° and 5°. This was a reading from the clinometer. As the wind pressure was quite insufficient to cause a list of 3° to 5° under normal circumstances, and as it is not suggested that at this time there were any other upsetting forces, the inference is that the ship lacked stability. Sometime during the early morning on Sunday, certainly not later than 8 a.m., trimmers who were working in the starboard shelter deck bunker complained that their feet were getting wet in consequence of water in this bunker. The Sixth Engineer ordered planks to be put down, and there were no more complaints. There was water in the cross-alleyway between 5 and 6 a.m.

Between 6.30 a.m. and 7 a.m. water began to enter the ship through the starboard ash ejector discharge. This water found its way to the starboard bilges and continued to do so in large quantities. It is thought that the flapper valve was out of order and so allowed sea water to enter. By noon, repairs to the ash ejector were completed and no more water came into the ship from this source. At a later stage the ash ejector pump was used for pumping the bilges.

The centre of the orifice of the ash ejector discharge would be under water at about 6°, but this angle refers to still water and makes no allowance for waves or rolling. This orifice was a short distance below the weather deck, and hence owing to the increasing listing and rolling of the ship it may be assumed that the edge of the weather deck would soon be frequently immersed.

The Fourth Engineer said in his evidence that the starboard bilges were half-full of water at about 8 a.m.

At about 9 a.m. Mr. Adams, the Chief Engineer, saw water in the cross-alleyway and noticed that the hatch in the cross-alleyway was not covered and that water was getting into it. Mr. Adams then went to the engine-room and was informed of the trouble with the ash ejector. According to his evidence, at this time the starboard bilges were full of water. He also saw water coming out of the coal shoot door at the after end of the stokehold on the starboard side and gave orders that it should be shut.

At about the same time water was seen coming from a sanitary discharge pipe. It was a small matter and soon repaired.

Mr. Adams spoke to the Chief Officer complaining that water was coming down the hatch in the cross-alleyway. Meanwhile the pumps in the engine-room were being used to clear the starboard bilges. It was stated that the water was entering the ship

through the port half-door. This door was recaulked and it then gave no more trouble.

At about 12.20 p.m. as the ship was steering wildly owing to the increasing sea and wind on the quarter, the Captain allowed her to lie in the trough of the sea with the engines stopped, except that the starboard engine was put ahead with the helm to starboard from time to time, apparently with the object of trying to bring the ship somewhat up to the wind.

Later—it was said by the Chief Officer about 2 p.m., but the Court thinks it was much earlier—water was seen coming on to the weather deck through the starboard halfdoor in large quantities. Efforts were made to recaulk this door and make it watertight, but they proved to be quite ineffective.

The ship's list continued to increase and the weather and sea were getting worse.

The Chief Officer stated that he took measures to batten down the hatch in the cross-alleyway and the hatch in the corner of the starboard shelter deck bunker. He said that the hatches and tarpaulin coverings were not to be found and that he and the carpenter had to cut wooden hatches and find tarpaulins. According to the evidence, the hatch in the cross-alleyway was not covered until between 4 and 5 p.m., and the corner hatch in the bunker not until 8 p.m. The Courts is at a loss to understand how it was that these hatches were not sooner covered and battened down.

The Court also is of opinion that the hatchways in the coal bunkers, which were buried under the coal, should have been battened down and secured before the ship sailed.

Sometime on Sunday, it is impossible to say when, water in considerable quantities came down through the booby hatch and found its way into the firemen's alleyway. Early on Monday morning the door of the booby hatch was carried away and the water continued to come through. Water also entered the ship through scuppers, lavatory pipes, side ports and ventilators.

Meanwhile the Chief Engineer and his staff were doing their best to pump out the water which had found its way into the ship, but owing to the fact that the water in the bilges was saturated with coal and coal dust, the pumps were probably unable to work efficiently.

At some time—it is impossible to be precise—the water in the cross-alleyway was splashing and later running over the sill of the tonnage opening of the starboard shelter-deck bunker. This water was saturating the coal, some of it was held in suspension by the coal, thereby altering the disposition of weights in the vessel, and a large quantity was finding its way into the lower bunkers and the stokehold, and thence into the starboard bilges.

At about 2 p.m. on Sunday the Chief Engineer saw and reported to the Captain the condition of affairs in the engine room and stokehold and also mentioned that he had noticed the starboard halfdoor was leaking. At this interview the Captain gave instructions to the Chief Engineer to pump out No. 5 starboard tank. This tank was pumped out by about 5 p.m.

At about 6 p.m. the Captain sent an order to the Chief Engineer to pump out the starboard side of No. 4 tank. This tank was pumped out by about 8 p.m. Neither of these tanks had wing suctions and they were not pumped dry.

At about 7.30 p.m. the vessel was struck by two heavy seas in quick succession on her port bow. She lurched heavily to starboard. Some cases of motor cars broke through into the seamen's quarters from the trunk to No. 1 hatch. Their weight was about 12 tons. There is a possibility of some coal having shifted from the coal shoots settling to starboard and so increasing the list.

At about 8 p.m. the bilge injection pump was tried and failed to work. It failed to work because the centrifugal pump did not create sufficient vacuum to lift the injection valve.

Shortly after midnight the Chief Engineer sent a message to the Captain stating that he was "holding the water, the bunkers were full of water, and the bulkheads were leaking."

At 4 a.m. on Monday the Captain visited the engine room and inquired "how things were going down there." The Chief Engineer replied, "Things were looking pretty bad" and showed him the water coming into the engine room through the bulkhead and from the deckhead, and he told the Captain that he was closing down the starboard boiler. The Captain then ordered the Chief Engineer to pump out No. 2 starboard tank, and remarked: "That should bring her up." This tank had wing suctions and was pumped dry between 7 and 8 a.m.

After 4 a.m. the following pumps were working on the engine room and stokehold bilges:—General service pump, ballast pump, when not used for pumping out tanks, main engine rams, in so far as main engines were working, ash ejector pump. It is very doubtful whether all these pumps were working with full efficiency at this time. The strums were becoming choked. The water in the engine room and stokehold bilges was not being kept under.

Between 4 a.m. and 8 a.m. a bucket gang was organised to bail out water from the cross-alleyway. It worked for some hours but its efforts were quite ineffective.

By 8 a.m. there was water right fore and aft on the starboard side of the upper deck. In the stokehold the water was just below the starboard wing plates in the way of the starboard boiler and in the engine room at a corresponding level. The starboard boiler was closed down soon after 4 a.m. on Monday because the water in the bilges had washed up the starboard floor plates. The remaining boilers maintained sufficient steam for the pumps in use.

At 8.37 a.m. the Captain sent out the alarm signal C.Q.

At 9.56 a.m. the S.O.S. signal was sent out. These messages were received and answered by 58 ships and some shore stations.

At 10.40 a.m. a wireless message was sent from "Lamport & Holt" to "Vestris."—"Wire us immediately your trouble."

At 11 a.m. the Captain sent a wireless message to Lamport and Holt:—

> "Hove to from noon yesterday during night developed 32° list starboard decks under water ship lying on beam ends Impossible proceed anywhere sea moderately rough."

At 11.27 a.m. "Lamport and Holt" to "Vestris."

> "U.S. destroyer 'Davis' proceeding to your assistance."

About 9.30 a.m. the Chief Engineer got leave from the Captain to stop the starboard engine so that he might keep steam for the pumps.

At about 10 a.m. the Master started to prepare and get out the port boats.

Shortly after 11 a.m. the Chief Engineer told the Captain that his men were working well, that the steam was coming up, and that the pumps were doing well. He also said to the Captain: "As long as I can maintain steam I think I shall be able to keep her afloat." The Captain replied: "I expect two destroyers here at five o'clock. Do the best you can."

About 11.30 a.m. the watertight bulkhead separating the engine room from the stokehold gave way.

About 1.45 p.m. owing to the condition of affairs in the stokehold and engine room, the engineers left the engine room and came up on deck. The Chief Engineer was the last to leave. Meanwhile, the Captain, from 10 a.m. onwards, had been working at the boats. He was in charge of the boats on the port side and ordered them to be got out. Owing to the heavy list of the ship this was a lengthy and difficult operation. The 3rd Class passengers had been taken to the boat deck, the 1st and 2nd Class passengers had either been sent or found their way to the port side of the promenade deck. After the port boats were lowered to within 10 to 15 feet of the water the women and children were placed in boats Nos. 4, 6, and 8. The Chief Officer had received orders to attend to the starboard boats. These boats, being the lee boats, were got out and lowered into the water without difficulty. They all got away safely with the exception of No. 9 which,

whilst being lowered, was upended and swamped. A large number of the native crew from Barbadoes were saved by means of the starboard boats. Many of these men jumped from the ship into the sea and were then picked up by the boats; some swarmed over the davits and down the falls. The reason why so many of these men were saved is due to the fact that they were excellent swimmers. When the ship sank the women and children were still in boats Nos. 4, 6, and 8. Boat No. 4 was never released from the falls and went down with the ship. The falls of No. 6 were cut but she was stove in and capsized when the vessel sank. No. 8 was damaged during lowering and repaired. She was got clear of the ship but was swamped very soon after being put into the water. All the boats on the poop, except No. 12 got away. No. 11 was lowered into the water, No. 13 floated off, No. 14 rolled over into the water, losing all her gear in doing so. Eight of these boats were picked up by the s.s. "American Shipper," the s.s. "Myriam," and the s.s. "Berlin." The U.S.S. "Wyoming" picked up nine men, presumably from wreckage.

The Captain was the last to leave the ship. He was not wearing a lifebelt. He walked down the port side of the ship into the sea and his last words were: "My God, my God, I am not to blame for this."

OBSERVATIONS.

Whilst the Court are not forgetful that the Captain was a ship master of experience and good repute, it thinks his conduct in connection with the boats is open to some criticism. The time was one of stress and difficulty and the ship had a heavy list to starboard. It may be that the Captain was unduly optimistic and still had reason for thinking the ship might be saved. The Captain is not here to justify himself. Notwithstanding all these considerations, the Court thinks it was unwise to have attempted to lower the weather boats. This opinion is fortified by the fact that only one of them survived, whereas six of the lee boats and No. 14, which launched itself on the lee side as the ship sank, were successfully lowered, although they were not taken in hand until much later than the weather boats. The only boat on the lee side to be lost was No. 9, which was upended in being lowered and was thus swamped. The Court thinks better use might have been made of the lee boats. It seems to the Court that had a strong lead been given, many passengers might have been induced to go to the lee side, and get into the boats by way of the davits and falls. This observation applies especially to the male passengers. It may be that when the Captain ordered the women and children to be placed in the weather boats he did so as a precautionary measure and expected that help would arrive before the ship foundered.

The Court considers that the S.O.S. signal should have been sent out after the Captain's visit to the engine room not later than 4 a.m. on Monday. The ship was then heavily listed, water in large quantities was continuing to get into her, and, according to the evidence, the Captain and the Chief Engineer were unable to inform themselves of what was the cause of the trouble. Had the message been sent out at 4 a.m., that is nearly six hours earlier than it was actually sent, more than one ship would almost certainly have arrived on the scene before the "Vestris" sank. Vessels coming to her assistance would have had daylight in which to find the ship or boats instead of having to search for the latter in the dark.

In Messrs. Lamport and Holt's General Instructions to Masters the two following Instructions are material to this Inquiry:—

The first is—

> "The first consideration of the Master of a steamer must always be the safety of his ship and crew and all committed to his charge. The second only, the speedy fulfilment of his voyage."

The second is—

> "In the case of a serious disaster happening to one of the vessels of this Line while at sea, the Master must, in the first instance, carefully consider the actual amount of the peril there may be for the lives of those under his charge and then judge whether he will be justified or not in fighting his own way unaided to the nearest port. His being able to succeed in this will always be considered a matter of high recommendation to him as a Master."

The Court thinks that the latter part of this second Instruction is highly undesirable. The Captain's decision to avail himself of the S.O.S. signal should not be affected by any such considerations. The Court thinks it would be well if this Instruction was cancelled.

A theory to account for the listing and loss of the "Vestris" was put forward by Mr. Little, M.I.N.A., Consulting Engineer and Naval Architect. This theory was supported by Sir John Biles, Naval Constructor at the Admiralty from 1877 to 1881, a member of the Board of Trade Departmental Committee on Tonnage, 1905-6, and by Mr. Edward Wilding, M.I.C.E., M.I.N.A., a Consulting Naval Architect. Mr. Little said that seeing that the pumps were working efficiently they must have dealt with a quantity of water largely in excess of that which could have entered the ship from the known leaks. For the purposes of his theory he assumed that the water had come in through a broken sanitary discharge pipe 5 inches in diameter, which was close to the starboard hatch in the cross-alleyway directly under the starboard halfdoor, and passed through the lower bunker. This theory was based on the following assumptions:—

1. Vessel was loaded as per a Loading Plan called B which was made after the disaster, and for the purposes of this Inquiry.

2. Bunker coal on board at sailing was 2,715 tons.

3. Draft was 26 feet 9¼ inches.

4. No free surface of water in any tanks, except No. 5.

Upon the foregoing assumptions Mr. Little calculated the G.M. to be 1.23 feet.

5. The engine room pumps were assumed to be working at such efficiency that a total quantity of approximately 5,000 tons of water was pumped out of the ship from the engine and boiler rooms between 6 a.m. Sunday and 1 p.m. Monday.

6. It was also assumed that the known leaks from (*a*) the ash ejector, (*b*) the halfdoors, (*c*) sanitary pipe (over dynamo flat), (*d*) booby hatch and various defective ports, (*e*) scuppers, did not account for the quantity of water disposed of by the pumps, as assumed above.

The following are the reasons why this theory cannot be accepted:—

1. Plan B is unreliable.

2. Bunker coal was 3,019 tons.

3. The draft was approximately 27 feet 2½ inches.

4. There may have been, and probably was, free water, through tanks not being pressed up full, in some or all of the ballast tanks.

Because of the foregoing reasons a G.M. of 1.23 feet cannot be accepted.

5. The pumps would not be working at anything like the efficiency assumed by Mr. Little, the loss of efficiency being due to choking of the strums and the hydrostatic conditions obtaining in the suction system.

6. The leak from the ash ejector and half-doors was very serious.

7. The pipe assumed to have been broken, being between the main and upper deck, would not account for the water on the upper deck and cross-alleyway and shelter deck bunker. Its proximity to the starboard hatch in the cross-alleyway would lead the Court to expect that such a heavy leak would have made itself heard and probably seen by those engaged in the cross-alleyway and at the starboard hatch.

8. No adequate reason can be found for assuming that such a pipe would so break.

9. Moreover, this pipe would not account for the initial list, as it would be above water when the vessel was upright.

Dated this 31st July, 1929.

BUTLER COLE ASPINALL.
Wreck Commissioner.

We concur,

E. L. BOOTY,
H. P. LEARMONT,
FRED J. THOMPSON,
WM. M. FLETCHER,
S. H. HAMBLING,
} *Assessors.*

(Issued by the Board of Trade in London on Thursday, the 15th day of August, 1929.)

(5165—27) Wt. 167—31 500 8/29 P.St. G. 8/ 10.