

## REPORT ON MACHINERY

No. 21573

Date of writing Report *Aug 17 1909* When handed in at Local Office *20/8/1909* Port of *Hull*  
 No. in Survey held at *Hull* Date, First Survey *Apr 23<sup>rd</sup>* Last Survey *Aug 11<sup>th</sup> 1909*  
 Reg. Book. *167* on the *1/2 Hauler WASHINGTON* (Number of Visits *30*)  
 Master *Selby* Built at *Hull* By whom built *Lockman & Sons* Tons *Gross 209 Net 103*  
 Engines made at *Hull* By whom made *Thos. D. Holmes & Co* When built *1909*  
 Boilers made at *H* By whom made *H* when made *H*  
 Registered Horse Power *66* Owners *Premier Steam Fishing & Ice Port belonging to Trinity*  
 Nom. Horse Power as per Section 28 *66* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Three triple expansion* No. of Cylinders *3* No. of Cranks *3*  
 Dia. of Cylinders *12-21-34* Length of Stroke *24* Revs. per minute *6.9* Dia. of Screw shaft *6.9* Material of screw shaft *Iron*  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube *Yes* Is the after end of the liner made water tight in the propeller boss *Yes* If the liner is in more than one length are the joints burned *Yes* If the liner does not fit tightly at the part between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive *Yes* If two liners are fitted, is the shaft lapped or protected between the liners *Yes* Length of stern bush *36*  
 Dia. of Tunnel shaft *6.3* Dia. of Crank shaft journals *6.5* Dia. of Crank pin *6.7* Size of Crank webs *48* Dia. of thrust shaft under collars *6.3* Dia. of screw *8.6* Pitch of Screw *10.9* No. of Blades *4* State whether moveable *No* Total surface *27.5*  
 No. of Feed pumps *one* Diameter of ditto *2.6* Stroke *24* Can one be overhauled while the other is at work *Yes*  
 No. of Bilge pumps *one* Diameter of ditto *2.6* Stroke *24* Can one be overhauled while the other is at work *Yes*  
 No. of Donkey Engines *one* Sizes of Pumps *2 1/2 x 5* No. and size of Suctions connected to both Bilge and Donkey pumps *2-2*  
 In Engine Room *2-2 (In 1st aft)* In Holds, &c. *2-2* *Flush well for hold*  
*Exhaust suction to all bilges with discharge on deck*  
 No. of Bilge Injections *1* sizes *3* Connected to condenser, or to circulating pump *Yes* Is a separate Donkey Suction fitted in Engine room & size *2 1/2*  
 Are all the bilge suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*  
 Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Both*  
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates *Yes* Are the Discharge Pipes above or below the deep water line *Above*  
 Are they each fitted with a Discharge Valve always accessible on the plating of the vessel *Yes* Are the Blow Off Cocks fitted with a spigot and brass covering plate *Yes*  
 What pipes are carried through the bunkers *Hold suction* How are they protected *Wood casing*  
 Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *Yes*  
 Dates of examination of completion of fitting of Sea Connections *18.6.09* of Stern Tube *18.6.09* Screw shaft and Propeller *18.6.09*  
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Phoenix & Herd. Westphalia*  
 Total Heating Surface of Boilers *10700* Is Forced Draft fitted *No* No. and Description of Boilers *1 S.E. Multitubular*  
 Working Pressure *180 lbs.* Tested by hydraulic pressure to *360* Date of test *28.7.09* No. of Certificate *1714*  
 Can each boiler be worked separately *Yes* Area of fire grate in each boiler *33* No. and Description of Safety Valves to each boiler *2 spring loaded* Area of each valve *3.97* Pressure to which they are adjusted *180 lbs.* Are they fitted with easing gear *Yes*  
 Smallest distance between boilers or uptakes and bunkers or woodwork *7* Mean dia. of boilers *2.6* Length *10.0* Material of shell plates *Steel*  
 Thickness *1/2* Range of tensile strength *28-32* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *SA Lap*  
 long. seams *SA* Diameter of rivet holes in long. seams *1/2* Pitch of rivets *7* Lap of plates or width of butt straps *16*  
 Per centages of strength of longitudinal joint *88.69* Working pressure of shell by rules *180* Size of manhole in shell *16 1/2*  
 Size of compensating ring *7 x 1 1/2* No. and Description of Furnaces in each boiler *2 plain* Material *Steel* Outside diameter *2.7*  
 Length of plain part *7.0* Thickness of plates *1.49* Description of longitudinal joint *Welded* No. of strengthening rings *1*  
 Working pressure of furnace by the rules *187* Combustion chamber plates: Material *Steel* Thickness: Sides *2 1/2* Back *1 1/2* Top *2 1/2* Bottom *2 1/2*  
 Pitch of stays to ditto: Sides *10 x 8 1/2* Back *9 1/2 x 8 1/2* Top *10 x 8 1/2* If stays are fitted with nuts or riveted heads *Yes* Working pressure by rules *190*  
 Material of stays *Steel* Diameter at smallest part *1 1/2* Area supported by each stay *1090* Working pressure by rules *198* End plates in steam space: Material *Steel* Thickness *1 1/2* Pitch of stays *17 x 17* How are stays secured *Stays with washers* Working pressure by rules *185* Material of stays *Steel*  
 Diameter at smallest part *5.79* Area supported by each stay *289* Working pressure by rules *208* Material of Front plates at bottom *Steel*  
 Thickness *3/4* Material of Lower back plate *Steel* Thickness *3/4* Greatest pitch of stays *14 1/2 x 9 1/2* Working pressure of plate by rules *189*  
 Diameter of tubes *3 1/2* Pitch of tubes *5 x 5* Material of tube plates *Steel* Thickness: Front *3/4* Back *3/4* Mean pitch of stays *10 x 10*  
 Pitch across wide water spaces *15* Working pressures by rules *274* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *9 x 1 1/2* Length as per rule *22 3/4* Distance apart *8 1/2* Number and pitch of stays in each *2 x 10*  
 Working pressure by rules *245* Superheater or Steam chest; how connected to boiler *Can the superheater be shut off and the boiler worked separately*  
 Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet holes Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 If stiffened with rings Distance between rings Working pressure by rules End plates: Thickness How stayed  
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear

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# VERTICAL DONKEY BOILER—Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by	
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

SPARE GEAR. State the articles supplied:— *Two top & two bottom end connecting rods with nuts, two main bearing bolts, one set of coupling bolts, one set of feed & help pump valves, one set of air & circulating pump valves, one main donkey feed check valve, assorted bolts nuts etc.*

The foregoing is a correct description,

p. pro CHARLES D. HOLMES & Co. LTD.

Manufacturer.

Dates of Survey while building	During progress of work in shops - -	During erection on board vessel - -	Total No. of visits
			30

Dates of Examination of principal parts—Cylinders	26.5.09	Slides	16.7.09	Covers	8.6.09	Pistons	2.6.09	Rods	8.6.09
Connecting rods	8.6.09	Crank shaft	17.5.09	Thrust shaft	15.6.09	Tunnel shafts	✓	Screw shaft	15.6.09
Stern tube	15.6.09	Steam pipes tested	6.8.09	Engine and boiler seatings	18.6.09	Engines holding down bolts	15.8.09		
Completion of pumping arrangements	11.8.09	Boilers fixed	5.8.09	Engines tried under steam	7.8.09				
Main boiler safety valves adjusted	7.8.09	Thickness of adjusting washers	F5 7/16 A5 5/16						
Material of Crank shaft	Iron	Identification Mark on Do.	17.5.09	Material of Thrust shaft	Iron	Identification Mark on Do.	15.6.09		
Material of Tunnel shafts	✓	Identification Marks on Do.	✓	Material of Screw shafts	Iron	Identification Marks on Do.	15.6.09		
Material of Steam Pipes	Solid drawn copper	Test pressure	360 lbs.						

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery & boiler of this vessel have been constructed under Special Survey and of good material & workmanship & have been fitted & secured in accordance with the Rules. They are now in good working condition & eligible in my opinion to have record of L.M.C. 8-09 in the Register Book.*

The amount of Entry Fee	£ 1 : 0 : 0	When applied for,	20.8.1909
Special	£ 9 : 18 : 0	When received,	31.8.1909
Donkey Boiler Fee	£ :		
Travelling Expenses (if any)	£ :		

Committee's Minute

Assigned

TUES. 24 AUG 1909

+ L.M.C. 8.09

MACHINERY CERTIFICATE WRITTEN.

THIS VESSEL IS ELIGIBLE FOR THE RECORD

+ L.M.C. 8.09

23.8.09

John. W. Guymer  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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