

REPORT ON MACHINERY.

No. 16402.

Port of Hull

Received at London Office 15 NOV 1904

No. in Survey held at Hull Date, first Survey July 16th Last Survey Nov. 5th 1904
 Reg. Book. 20 Supp on the Sc. K. Reliance (Number of Visits 20)
 Master Selby Built at Selby By whom built Lochrane & Sons Tons { Gross 203
 Engines made at Hull By whom made Messrs C. D. Holmes & Co when made 1904 Net 84
 Boilers made at Hull By whom made Messrs C. D. Holmes & Co when made 1904 When built 1904
 Registered Horse Power 61 Owners E. C. Grant Port belonging to Grimsby
 Nom. Horse Power as per Section 28 61 Is Refrigerating Machinery fitted No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Tri Compound No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 11 1/2" - 20" - 33" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft 6 1/2" 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 burned 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 If two liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 31
 Dia. of Tunnal shaft 6 1/2" as per rule 6 1/2" Dia. of Crank shaft journals 6 1/2" as per rule 6 1/2" Dia. of Crank pin 6 7/8" Size of Crank webs 12 1/2" x 4 1/2" Dia. of thrust shaft under collars 6 1/2" Dia. of screw 8" - 6" Pitch of screw 11" - 0" No. of blades 4 State whether moveable No Total surface 26 1/2
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work Can one be overhauled while the other is at work
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 24" Can one be overhauled while the other is at work Can one be overhauled while the other is at work
 No. of Donkey Engines One Sizes of Pumps 3 1/2" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2"
 In Engine Room Two 2" In Holds, &c. One 2" to hold, One 2" to slush well
 No. of bilge injections 1 sizes 3 Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room of size Yes 3"
 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 None
 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
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock before launching Is the screw shaft tunnel watertight None
 Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S.) Total Heating Surface of Boilers 1000 Is forced draft fitted No
 No. and Description of Boilers One cyl. Multi. Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs
 Date of test 20.10.04 Can each boiler be worked separately Area of fire grate in each boiler 30 No. and Description of safety valves to each boiler Two Spring Area of each valve 3.98 Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 11' - 6" Length 10' - 0" Material of shell plates Steel
 Thickness 3 1/2" Range of tensile strength 29 - 32 Are they welded or flanged Descrip. of riveting: cir. seams L. D. long. seams O. B. S. I. R.
 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7 1/2" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint 90 Working pressure of shell by rules 188 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 7" x 3 1/2" No. and Description of Furnaces in each boiler Two Holmes Material Steel Outside diameter 40"
 Length of plain part top Thickness of plates crown 7/8" Description of longitudinal joint welded No. of strengthening rings Holmes Patent
 Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/2" Back 1 1/2" Top 2 1/2" Bottom 1 1/2"
 Pitch of stays to ditto: Sides 8 1/2" x 9" Back 9 1/2" x 9 1/2" Top 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 193 lbs
 Material of stays Steel Diameter at smallest part 1 1/2" Area supported by each stay 84.4 Working pressure by rules 188 lbs End plates in steam space: Material Steel Thickness 1" Pitch of stays 15 3/4" x 15 3/4" How are stays secured O. R. washers Working pressure by rules 190 lbs Material of stays Steel
 Diameter at smallest part 2 3/32" Area supported by each stay 248 Working pressure by rules 233 lbs Material of Front plates at bottom Steel
 Thickness 2 1/2" Material of Lower back plate Steel Thickness 3 1/2" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 185 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/4" Material of tube plates Steel Thickness: Front 27/32" Back 13/16" Mean pitch of stays 9 1/2"
 Pitch across wide water spaces 14 1/4" Working pressures by rules 180 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 8 1/2" x 1 3/4" Length as per rule 2' - 9" Distance apart 7 1/2" Number and pitch of Stays in each 3 - 8 1/2"
 Working pressure by rules 180 lbs 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

61204-0022

DONKEY BOILER—

No. Description
 Made at By whom made When made Where fixed
 Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety 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 Per centage of strength of joint Rivets Thickness of shell crown plates Radius of do. No. of Stays to do.
 Dia. of stays. Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
 Thickness of furnace crown plates Stayed by Working pressure of shell by rules
 Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— Two each, top and bottom end connecting rod, main bearing bolts & nuts. One set coupling bolts
 One set each, feed bilge pump, circulating pump valves, and a quantity of assorted bolts, nuts etc.

The foregoing is a correct description,
 Charles D. Holmes Manufacturer.

Dates of Survey while building During progress of work in shops— 1904:— July 16. Aug 31. Sep 6. 7. 9. 15. 17. 20. 22. 27. Oct 5. 6. 20. 24. 26. 28. 31.
 During erection on board vessel — Nov 1. 3. 5.
 Total No. of visits 20

Is the approved plan of main boiler forwarded herewith yes

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery boiler of this vessel have been inspected throughout construction, in accordance with the Society's Rules. The workmanship & materials are good.
 The boiler tested by hydraulic pressure, and with the engines placed on board, tested under steam. They are now in good order, & safe working condition, and respectfully submitted as being eligible in my opinion to be classed, with the notation of L.M.C. 11.04 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD L.M.C. 11.04

15.11.04
15.11.04

The amount of Entry Fee.. £ 1 : . : .
 Special .. £ 9 : 3 : .
 Donkey Boiler Fee .. £ . : . : .
 Travelling Expenses (if any) £ . : . : .

When applied for, 10/11/04
 When received, 30/11/04

James Barclay
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

FRI. 18 NOV 1904

Assigned

+ L.M.C. 11.04

MACHINERY CERTIFICATE WRITTEN.



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