

REPORT ON MACHINERY.

Port of Hull

THUR. MAR 28 1907

Received at London Office

19

No. in Survey held at Selby & Hull Date, first Survey Oct 8th '06 Last Survey Mar 14th 1907
 Reg. Book. 6188 on the Screw Steamer "Bombay" (Number of Visits 24)
 Master Selby Built at Selby By whom built Cochrane & Sons When built 1907
 Engines made at Hull By whom made Charles & Holmes & Co. when made 1907
 Boilers made at do By whom made do when made 1907
 Registered Horse Power 68 1/2 Owners Grant & Baker S. F. Co. L^{td} Port belonging to Grimsby
 Nom. Horse Power as per Section 28 68 1/2 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 12 1/2", 22", 35" Length of Stroke 24 Revs. per minute 112 Dia. of Screw shaft 7 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 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 tapped or protected between the liners yes Length of stern bush 36"
 Dia. of Tunnel shaft 6 3/4" Dia. of Crank shaft journals 6 7/8" Dia. of Crank pin 7" Size of Crank webs 13 1/2" x 4 1/2" Dia. of thrust shaft under collars 7" Dia. of screw 8 7/2" Pitch of Screw 11-0" No. of Blades 4 State whether moccable No Total surface 28 sq. ft.
 No. of Feed pumps 1 Diameter of ditto 2 1/8" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 1 Diameter of ditto 2 1/8" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Donkey Engines one Sizes of Pumps 2 3/4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Two 2" dia. In Holds, &c. Three 2" dia.
Ejector suction from all bilges & 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" ejector
 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
 Dates of examination of completion of fitting of Sea Connections 2.11.06 of Stern Tube 2.11.06 Screw shaft and Propeller 2.11.06
 Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door yes worked from yes

BOILERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs Stewart & Lloyds
 Total Heating Surface of Boilers 1103 sq. ft. Is Forced Draft fitted No No. and Description of Boilers One S.C. 6 cyl. mult.
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 30.1.07 No. of Certificate 1544
 Can each boiler be worked separately yes Area of fire grate in each boiler 33 sq. ft. No. and Description of Safety Valves to each boiler Two spring Area of each valve 3.9" 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 6" Mean dia. of boilers 12-6" Length 10-0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 28 1/2 - 32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR half
 long. seams DR 5/8 Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 7" Lap of plates or width of butt straps 15"
 Per centages of strength of longitudinal joint rivets 86 plates 85.2 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 12"
 Size of compensating ring 7 x 1 1/2" No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 3'-7"
 Length of plain part top 3'-9" bottom 5'-2 1/2" Thickness of plates crown 49 bottom 64 Description of longitudinal joint Welded No. of strengthening rings yes
 Working pressure of furnace by the rules 185 lbs Combustion chamber plates: Material Steel Thickness: Sides 13/16" Back 1/16" Top 13/16" Bottom 13/16"
 Pitch of stays to ditto: Sides 9 x 10" Back 9 x 8 1/2" Top 9 x 8 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 219
 Material of stays Steel Diameter of smallest part 1 1/2" Area supported by each stay 117" Working pressure by rules 184 End plates in steam space: Material Steel Thickness 1 3/32" Pitch of stays 18 3/4" x 16" How are stays secured nut & wash Working pressure by rules 186 Material of stays Steel
 Area at smallest part 6.3" Area supported by each stay 300" Working pressure by rules 211 Material of Front plates at bottom Steel
 Thickness 29/32" Material of Lower back plate Steel Thickness 15/16" Greatest pitch of stays 17 3/4" x 9" Working pressure of plate by rules 180 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 3/4" x 4 5/8" Material of tube plates Steel Thickness: Front 29/32" Back 7/8" Mean pitch of stays 9 3/8"
 Pitch across wide water spaces 16" Working pressures by rules 180 lbs Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 9 x 1 3/4" Length as per rule 2-8' Distance apart 9" Number and pitch of stays in each 3 @ 8 1/2"
 Working pressure by rules 207 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately yes Diameter yes Length yes Thickness of shell plates yes Material yes Description of longitudinal joint yes Diam. of rivet holes yes Pitch of rivets yes Working pressure of shell by rules yes Diameter of flue yes Material of flue plates yes Thickness yes
 If stiffened with rings yes Distance between rings yes Working pressure by rules yes End plates: Thickness yes How stayed yes
 Working pressure of end plates yes Area of safety valves to superheater yes Are they fitted with easing gear yes

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety Valves _____

No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

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 _____ Plates _____

Working pressure of shell by rules _____ 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 _____

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 rod bolts + nuts. Two main bearing bolts + nuts. One set of coupling bolts + nuts. One set of feed + bilge pump valves. Main + donkey feed check valves. Assorted bolts + nuts + c.*

The foregoing is a correct description,

Charles S. Holmes Manufacturer.

Dates of Survey while building { During progress of work in shops - 1906: Oct. 8, 9, 19, 24, 26, 31. Nov. 2, 7, 14. Dec. 17, 1907: Jan. 4, 15, 22, 30. Feb. 5, 19, 27, 28. During erection on board vessel - Mar. 2, 5, 6, 12, 14. Total No. of visits 24.

Is the approved plan of main boiler forwarded herewith *yes*

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 22.1.07 Slides 19.2.07 Covers 27.2.07 Pistons 19.2.07 Rods 5.2.07 Connecting rods 5.2.07 Crank shaft 19.2.07 Thrust shaft 19.2.07 Tunnel shafts ✓ Screw shaft 26.10.06 Propeller 24.10.06 Stern tube 19.10.06 Steam pipes tested 6.3.07 Engine and boiler seatings 2.4.06 Engines holding down bolts 2.3.07 Completion of pumping arrangements 12.3.07 Boilers fixed 5.3.07 Engines tried under steam 12.3.07 Main boiler safety valves adjusted 12.3.07 Thickness of adjusting washers $F\frac{1}{2}$ $A\frac{1}{4}$

Material of Crank shaft *Iron* Identification Mark on Do. *293 J.K.* Material of Thrust shaft *Iron* Identification Mark on Do. *19.2.07*

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts *Iron* Identification Marks on Do. *293 J.K.*

Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Engine and Boiler of this vessel have been constructed under Special Survey, are of good material and workmanship, and have been fitted and secured on board in accordance with the Rules. They are now in good working condition and in my opinion eligible to have the notation of +L.M.C. 3, 07 in the Register Book.

+L.M.C. 307

J.S.M.
28/3/07
28.3.07

The amount of Entry Fee. . . £ 1 : - : - : When applied for, 27/3/1907

Special £ 10 : 4 : - : When received, 28/3/1907

Donkey Boiler Fee £ 8 : 2 : - : -

Travelling Expenses (if any) £ - : - : -

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

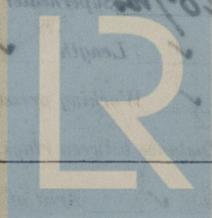
Committee's Minute

THUR. MAR 28 1907

Assigned

+L.M.C. 307

MACHINERY CERTIFICATE WRITTEN.



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Certificate (if required) to be sent to

(The Surveyors are requested not to write on, or below the space for Committee's Minute.)