

REPORT ON MACHINERY.

Port of Sunderland

Received at London Office 11 DEC 1903

No. in Survey held at Sunderland Date, first Survey 22 Sep '03 Last Survey 2 Decr 1903

Reg. Book. on the S. S. "Wentbridge" (Number of Visits)

Master W. H. Bulmer Built at Sunderland By whom built J. Blumer & Co. Tons { Gross 2732 Net 1753 When built 1903

Engines made at Sunderland By whom made J. Dickinson & Sons Ltd when made 1903

Boilers made at Sunderland By whom made when made 1903

Registered Horse Power Owners J. Merryweather & Co. Port belonging to West Hartlepool

Nom. Horse Power as per Section 28 268 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 23 · 38 · 63 Length of Stroke 42 Revs. per minute 40 Dia. of Screw shaft 13 1/8 Material of screw shaft W.S.

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 — 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 4'-6"

Dia. of Tunnel shaft 11 1/2 Dia. of Crank shaft journals 12 1/8 Dia. of Crank pin 12 1/8 Size of Crank webs Patent Dia. of thrust shaft under collars 12 1/8 Dia. of screw 16'-0" Pitch of screw 16'-6" No. of blades 4 State whether moveable No Total surface 71 ft

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 1/4 Stroke 21 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps Duplex. 5 1/4 x 3 1/2 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 Port 3", 2 Starboard 3" In Holds, &c. 2 of 3" in each hold

No. of bilge injections 1 size 4" Connected to condenser, or to circulating pump C.P. Is a separate donkey suction fitted in Engine room & size Yes 4"

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 None How are they protected —

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 New vessel Is the screw shaft tunnel watertight Yes

Is it fitted with a watertight door Yes worked from top platform

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 3974 ft Is forced draft fitted No

No. and Description of Boilers 2 Single ended Working Pressure 180 Tested by hydraulic pressure to 360

Date of test 19-11-03 Can each boiler be worked separately Yes Area of fire grate in each boiler 55 1/2 ft No. and Description of safety valves to each boiler 2 Spring

Area of each valve 8.3 sq" 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 2'-0" Mean dia. of boilers 15'-0" Length 10'-6" Material of shell plates S

Thickness 1 1/32 Range of tensile strength 29 1/2 Are they welded or flanged No Descrip. of riveting: cir. seams D.R. long. seams V.R.D.B.S.

Diameter of rivet holes in long. seams 1 9/16 Pitch of rivets 8 1/16 Lap of plates or width of butt straps 1'-7 1/4"

Per centages of strength of longitudinal joint 92.4 Working pressure of shell by rules 180 lbs Size of manhole in shell 16 x 12

Size of compensating ring 8 5/8 x 1 1/32 No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3'-6"

Length of plain part 6-6 Thickness of plates 3/4 x 1/64 Description of longitudinal joint Welded No. of strengthening rings None

Working pressure of furnace by the rules 181 Combustion chamber plates: Material S Thickness: Sides 1/16 Back 1/16 Top 1/16 Bottom 1

Pitch of stays to ditto: Sides 10x9 Back 10x9 Top 10x9 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180

Material of stays S Diameter at smallest part 1 1/8 Area supported by each stay 90 Working pressure by rules 186 End plates in steam space:

Material S Thickness 1 3/32 Pitch of stays 18 1/4 x 16 1/2 How are stays secured Nuts Working pressure by rules 187 Material of stays S

Area at smallest part 557 Area supported by each stay 302 Working pressure by rules 186 Material of Front plates at bottom S

Thickness 7/8 Material of Lower back plate S Thickness 7/8 Greatest pitch of stays 13 3/4 Working pressure of plate by rules 183

Diameter of tubes 3 1/4 Pitch of tubes 4 1/2 Material of tube plates S Thickness: Front 7/8 Back 7/8 Mean pitch of stays 9

Pitch across wide water spaces 15 1/4 Working pressures by rules 218 lbs Girders to Chamber tops: Material S Depth and thickness of girder at centre 10 x 1 x 2 Length as per rule 2-6 1/16 Distance apart 9 Number and pitch of Stays in each 2 Stays of 10x9

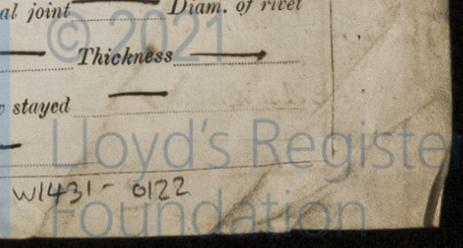
Working pressure by rules 187 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked separately —

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 —

If not, state whether, and when, one will be sent? Is a Report also sent on the Hull of the Ship?



W1431-0122

DONKEY BOILER— No. 1 Description Multitubular Horizontal
 Made at Sunderland By whom made J. Dickinson & Sons When made 1903 Where fixed On Deck
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 2208 Fire grate area 20sq Description of safety valves Spring
 No. of safety valves 2 Area of each 7.07 Pressure to which they are adjusted 80lbs If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 9'-0" Length 8'-6" Material of shell plates S Thickness 1/2 Range of tensile strength 25/32 Descrip. of riveting long. seams J.R.L. Dia. of rivet holes 13/16 Whether punched or drilled Drilled Pitch of rivets 3 7/16
 Lap of plating 5 1/16 Per centage of strength of joint Rivets 77.2 Thickness of shell end plates 47/64 Radius of do. Pitch No. of Stays to do. 16 1/2 x 19 1/4
 Dia. of stays 2' 4 1/8 Diameter of furnace Top 2'-8" Bottom Thickness of furnace plates 13/32 Description of joint Weld Thickness of furnace crown plates 1/2 Stayed by 1/2 Working pressure of shell by rules 91 7/8
 Working pressure of furnace by rules 86 7/8 Diameter of tubes 3/4 Thickness of tube plates 47/64 6 9/16 Thickness of stay tubes 1/4

SPARE GEAR. State the articles supplied:— Top & bottom end connecting rod bolts & nuts, 2 main bearing bolts & nuts; 1 set coupling bolts, feed & bilge pump valves; propeller, bolts & nuts assorted.

The foregoing is a correct description,
J. Dickinson & Sons, Limited, Manufacturer.

Dates { During progress of work in shops - } Director 1903 - Sep 22. 28 Oct 1. 9. 16. 26. Nov. 2. 5. 9. 16. 17. 18. 20
 { During erection on board vessel - } 23. 25. 28. 30 Dec 1. 2
 while building { Total No. of } 19 Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " No

General Remarks (State quality of workmanship, opinions as to class, &c.) The machinery of this vessel has been built under Special Survey. Materials & workmanship good. Boilers & steam pipes tested by hydraulic pressure to double the working pressure. The engines worked well. The safety valves of the boilers adjusted as above. The vessel is eligible in my opinion to have the notation in the Register Book of + L.M.C. 12.03

It is submitted that this vessel is eligible for THE RECORD L.M.C. 12.03.

J.S. 11.12.03
J.M.S. 11.12.03

The amount of Entry Fee. . . £ 2 : : When applied for, 7.12.03
 Special £ 33 : 8 : : 19.03
 Donkey Boiler Fee £ : : : When received 11.12.03
 Travelling Expenses (if any) £ : : : 8.12.19.03

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

Committee's Minute TUES. 15 DEC 1903
 Assigned + L.M.C. 12.03

MACHINERY CERTIFICATE
 WRITTEN.



© 2021
 Lloyd's Register
 Foundation

Sunderland

Certificate (if required) to be sent to the Surveyors are requested not to write on or about the space for Committee's Minute.