

REPORT ON MACHINERY

Mtd. No. 5120
Sta. No. 23358
TUES. 23 JUL 1907

Port of MIDDLESBROUGH-ON-TEES

Received at London Office

No. in Survey held at Stockton & Sunderland Date, first Survey 24th February Last Survey 19th July 1907

Reg. Book. 4 on the Steel S.S. "Moravitz" (Number of Voids 31) Tons { Gross 4799.50
Net 3113.42

Master Emil William Built at Sunderland By whom built J. L. Thompson & Sons Ltd. When built 1907

Engines made at Stockton By whom made Polain & Co. Ltd. when made 1907

Boilers made at Stockton By whom made Polain & Co. Ltd. when made 1907

Registered Horse Power _____ Owners Atlantic Ste. Amou. de Nav. Maint. Port belonging to Fiume

Nom. Horse Power as per Section 28 392 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Direct acting Trip expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26-42-60 Length of Stroke 48 Revs. per minute 56 Dia. of Screw shaft 14 1/2 Material of screw shaft Wrought 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 No 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 No Length of stern bush 6-4

Dia. of Tunnel shaft 12.9 as per rule 13.2 Dia. of Crank shaft journals 13.6 as per rule 14 Dia. of Crank pin 14 1/2 Size of Crank webs 22 3/4 x 9 1/4 Dia. of thrust shaft under

collars 14 1/2 Dia. of screw 17-6 Pitch of Screw 1 1/2 No. of Blades 4 State whether moveable No Total surface 92 sq

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 34 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 3/4 Stroke 34 Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps Ballast 9 x 10 Feed 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 3 1/2 diam In Holds, &c. 2 of 3 1/2 to each

No. of Bilge Injections One sizes 6 1/4 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 No

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 No

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 11.6.07 of Stern Tube 11.6.07 Screw shaft and Propeller 24.6.07

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) Manufacturers of Steel John Spencer & Sons Ltd.

Total Heating Surface of Boilers 6650 sq Is Forced Draft fitted No No. and Description of Boilers Two Cylindrical Tubular

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 28-5-07 No. of Certificate 3930

Can each boiler be worked separately Yes Area of fire grate in each boiler 7 1/2 sq No. and Description of Safety Valves to

each boiler Two Spring Area of each valve 8.29 sq Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 20 Dia. of boilers 17-6 Length 11-6 Material of shell plates Steel

Thickness 2 1/2 Range of tensile strength 28/32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams 2 D Riv

long. seams 2 Butt Straps Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 5 Lap of plates or width of butt straps 1-9 7/8

Per centages of strength of longitudinal joint rivets 89.5 Working pressure of shell by rules 183.9 lb Size of manhole in shell 17 x 13

Size of compensating ring 31 x 27 x 1 1/2 No. and Description of Furnaces in each boiler 4 Suspension Material Steel Outside diameter 3-2

Length of plain part 7-0 Thickness of plates 1 1/2 Description of longitudinal joint Welded No. of strengthening rings —

Working pressure of furnace by the rules 198 lb Combustion chamber plates: Material Steel Thickness: Sides 5 1/8 Back 5 1/32 Top 5 1/32 Bottom 3 1/4

Pitch of stays to ditto: Sides 9 3/8 x 8 5/8 Back 9 3/8 x 8 3/16 Top 9 3/8 x 8 1/8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183.4 lb

Material of stays Steel Diameter at smallest part 1 9/16 Area supported by each stay 80.6 sq Working pressure by rules 213 lb End plates in steam space:

Material Steel Thickness 1 1/16 Pitch of stays 24 x 23 How are stays secured By nuts Working pressure by rules 185 lb Material of stays Steel

Diameter at smallest part 3 5/8 Area supported by each stay 552 sq Working pressure by rules 186.9 lb Material of Front plates at bottom Steel

Thickness 1 1/32 Material of Lower back plate Steel Thickness 1 3/32 Greatest pitch of stays 19 1/4 x 8 13/16 Working pressure of plate by rules 184 lb

Diameter of tubes 3 3/4 Pitch of tubes 5 x 5 1/8 Material of tube plates Steel Thickness: Front 1 1/32 Back 1 3/16 Mean pitch of stays 11 1/2

Pitch across wide water spaces 14 3/4 Working pressures by rules 187 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 5/8 x 2 Length as per rule 33 Distance apart 9 3/4 Number and pitch of stays in each Three 8 3/8

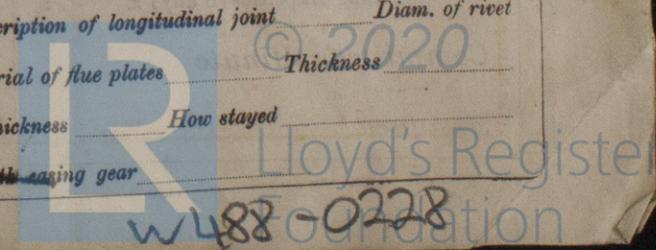
Working pressure by rules 184 lb Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

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 _____



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 _____
 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:— *Set of top and bottom end connecting rod bolts and nuts Two main bearing bolts Set of coupling bolts Set of feed & bilge pump valves. 4 x 1/2" piston rings of 2" piston springs Propellers & propeller shaft Bolts & nuts assorted 4 x 4*

The foregoing is a correct description,
 FOR BLAIR & CO., LIMITED.
Geo. Kettlehip Manufacturer.

STANT SECRETARY. 1907 Feb 25. Mar 11. 16. 21. 26. Apr 2. 11. 19. 20. May 2. 3. 6. 9. 14. 24. 27. 28. 30
 Dates of Survey while building: June 2. 5. 11. 14. 24. 25. 26. 28. July 2. 3. - Sld - June 11. 13. 19.
 Total No. of visits 31. Is the approved plan of main boiler forwarded herewith *No. 70*

Dates of Examination of principal parts—Cylinders 21-3-07 Slides 14-4-07 Covers 28-3-07 Pistons 28-3-07 Rods 28-3-07
 Connecting rods 28-3-07 Crank shaft 3-6-07 Thrust shaft 24-5-07 Tunnel shafts 28-5-07 Screw shaft 11-6-07 Propeller 17-5-07
 Stern tube 2-5-07 Steam pipes tested 27-28-6-07 Engine and boiler seatings 11-6-07 Engines holding down bolts 26-6-07
 Completion of pumping arrangements *2 Nov 3-7-07* Boilers fixed 26-6-07 Engines tried under steam 3-7-07
 Main boiler safety valves adjusted 3-7-07 Thickness of adjusting washers *575. 5/16" 17 1/2" 17 1/2" 17 1/2" 17 1/2"*
 Material of Crank shaft *Steel* Identification Mark on Do. 6240 Material of Thrust shaft *Steel* Identification Mark on Do. 6222
 Material of Tunnel shafts *Steel* Identification Marks on Do. 6229, 6227, 6227, 6227, 6223, 6223, 6224
 Material of Steam Pipes *Copper solid drawn* Test pressure *400 lbs per sq in*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*The engines and boilers of this vessel have been constructed under special survey, the materials and workmanship are good & efficient, and when tested under steam were found satisfactory. In our opinion the machinery is eligible for the notation *J.M.C. 7.07* in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD *J.M.C. 7.07*
Elec light
J.C. 23-7-07

The amount of Entry Fee. . . £ 3 : 0 : 0 When applied for, 22-7-1907
 Special £ 29 : 12 : 0 When received, 24-7-1907
 Donkey Boiler Fee £ : : :
 Travelling Expenses (if any) £ : : :
 Committee's Minute
 Assigned

Geo. A. Milner & Wm. Coombes
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

FRI. JUL 26 1907



MACHINERY CERTIFICATE WRITTEN.

FLAT PL (If Bar I GARBOAL State ac thickness way of D Bottom
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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.)