

REPORT ON MACHINERY

No. 25369

Received at London Office

FRI. AUG. -9. 1912

Date of writing Report 3-8-1912 When handed in at Local Office 6-8-1912 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 29. February Last Survey 2-8-1912
 Reg. Book. on the Milkey Bros. Y. 14 steel S/S NESTOR (Number of Visits 23)
 Master L. Prahm Built at Alloa By whom built Mackay Bros Tons } Gross 1120
 Engines made at Sunderland By whom made Mackay & Pollock Ltd (No 234) when made 1912 Net 862
 Boilers made at Sunderland By whom made Mackay & Pollock Ltd (No 234) when made 1912
 Registered Horse Power _____ Owners _____ Port belonging to Bremen
 Nom. Horse Power as per Section 28 153 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 18", 29", 48" Length of Stroke 33" Revs. per minute 75 Dia. of Screw shaft 10 1/2" Material of screw shaft steel
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight in the propeller boss ✓
 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 bedwood gland fitted Length of stern bush 3'-9 3/4"
 Dia. of Tunnel shaft 8 3/8" Dia. of Crank shaft journals 8 1/2" Dia. of Crank pin 9 5/8" Size of Crank webs 13 1/2" x 6 3/8" Dia. of thrust shaft under collars 9 5/8" Dia. of screw 13 0" Pitch of Screw 14 0" No. of Blades 4 State whether moveable no Total surface 62.6
 No. of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 14 1/2" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 2 1/2" Stroke 14 1/2" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 6 1/2" x 8 1/2" x 8" Feed 6 x 4 x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Two @ 2 1/4" and one @ 2 1/4" In Holds, &c. Forehold - 2 @ 2 1/4" After hold 2 @ 2 1/4" & 1 @ 2 1/2" in well Tunnel well 1 @ 2 1/2" No. of Tank (centre) 1 @ 2 1/2"
 No. of Bilge Injections 1 sizes 4 1/2" Connected to condenser, or to circulating pump top Is a separate Donkey Suction fitted in Engine room & size yes 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 none
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks brass
 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
 Dates of examination of completion of fitting of Sea Connections 31.5.12 of Stern Tube 17.7.12 Screw shaft and Propeller 17.7.12
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

OILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons limited
 Total Heating Surface of Boilers 2484 Is Forced Draft fitted no No. and Description of Boilers one single ended
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 17.7.12 No. of Certificate 3029
 Can each boiler be worked separately ✓ Area of fire grate in each boiler 65.6 No. and Description of Safety Valves to each boiler two direct spring Area of each valve 9.62 Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 14" Mean dia. of boilers 16'-3" Length 10'-9" Material of shell plates steel
 Thickness 1 3/8" Range of tensile strength 28 1/2 - 35 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams DR
 Long. seams TR, DBS Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 9 1/2" Length of plates or width of butt straps 20 7/8"
 Percentages of strength of longitudinal joint rivets 92.4 Working pressure of shell by rules 195 Size of manhole in shell 16" x 12"
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 3 Wighton Material steel Outside diameter 4'-4"
 Length of plain part top ✓ Thickness of plates crown 5 1/8" Description of longitudinal joint welded No. of strengthening rings ✓
 Working pressure of furnace by the rules 193 Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 15/16"
 Pitch of stays to ditto: Sides 7 3/4" x 9 1/4" Back 8 x 8" Top 8 x 8" If stays are fitted with nuts or riveted heads nuts in caps Working pressure by rules 212
 Material of stays steel Diameter at smallest part 1 1/2" Area supported by each stay 68.2 Working pressure by rules 181 & 195 End plates in steam space: Material steel Thickness 1 1/8" Pitch of stays 17 x 15 3/8" How are stays secured by nuts Working pressure by rules 228 Material of stays steel
 Diameter at smallest part 5 1/2" Area supported by each stay 261 Working pressure by rules 205 Material of Front plates at bottom steel
 Thickness 7/8" Material of Lower back plate steel Thickness 13/16" Greatest pitch of stays 13 3/8" x 8" Working pressure of plate by rules 83
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 7/8" Back 13/16" Mean pitch of stays 11 1/4"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 253 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 2 @ 7 1/4" x 13 1/16" Length as per rule 28 1/2" Distance apart 8" Number and pitch of stays in each 2 @ 8"
 Working pressure by rules 198 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 _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 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 _____

W198-0221

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 _____ Radius of do. _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SEPARATE REPORT

SPARE GEAR. State the articles supplied:—Two connecting rods top and bottom end bearings, bolts and nuts. Two main bearing bolts and nuts. One set of coupling bolts and nuts. One set of feed and bilge pump valves. Half set of air and circulating pump valves & quarter set for each donkey pump. Iron and bolts of various sizes. One propeller. One air and one circulating pump rod one slide rod and one fuel and one waste pump link.

The foregoing is a correct description,
W. GILL & POLLOCK LTD Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1912 Feb 29 Mar 18, 25 Apr 24 May 6, 13, 29 Jun 9, 10, 12, 18, 19, 24 Jul 2, 3, 10, 7
 During erection on board vessel -- 20, 23, 26, 30, 31 Aug 2.
 Total No. of visits 23

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

Dates of Examination of principal parts—Cylinders 25-3-12 Slides 3-7-12 Covers 13-5-12 Pistons 20-5-12 Rods 10-6-12
 Connecting rods 26-6-12 Crank shaft 6-3-12 Thrust shaft 13-5-12 Tunnel shafts 13-5-12 Screw shaft 29-5-12 Propeller 29-5-12
 Stern tube 10-7-12 Steam pipes tested 23-7-12 Engine and boiler seatings 31-5-12 Engines holding down bolts 23-7-12
 Completion of pumping arrangements 30-7-12 Boilers fixed 26-7-12 Engines tried under steam 31-7-12
 Main boiler safety valves adjusted 2-8-12 Thickness of adjusting washers both 1/2"

Material of Crank shaft **Steel** Identification Mark on Do. **2451HS** Material of Thrust shaft **Steel** Identification Mark on Do. **7370KH**
 Material of Tunnel shafts **Steel** Identification Marks on Do. **368-9-71KH** Material of Screw shafts **Steel** Identification Marks on Do. **7367KH**
 Material of Steam Pipes **Lapwelded steel** Test pressure **540 lbs per sq in**

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

The materials and workmanship are good.
 The machinery has been made under special survey and is eligible in our opinion for classification, and the record **+ LMC 8.12**

It is submitted that this vessel is eligible for **THE RECORD. + LMC 8.12**

The amount of Entry Fee .. £ 2 : - :
 Special .. £ 22 : 19 :
 Donkey Boiler Fee .. £ : :
 Travelling Expenses (if any) £ : 12 :
 When applied for, 29/7/12
 When received, 2/9/12

Committee's Minute **FRI. AUG. 16. 1912**
 Assigned **Thmc 8.12**

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



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pt. 5b.
 Date of writing Re
 No. in Survey Reg. Book.
 on the
 Master
 618 Port
 We hereby
 For boilers up to Horse Power, one above 200. The No. of the
 MEM.—In excep all cases where travel to be defrayed by the
 5804
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