

REPORT ON MACHINERY.

No. 65739
THU. MAR. 19. 1914

Received at London Office

Date of writing Report 8th March 1914 When handed in at Local Office MAR 18 1914 Port of NEWCASTLE-ON-TYNE

No. in Survey held at Newcastle Date, First Survey 8th May 1913 Last Survey 9th Nov. 1914
Reg. Book. (Number of Visits 55)

35 (Sup) on the Steel screw steamer "Imber" Tons { Gross 2154
Net 1186

Master. Built at Newcastle By whom built Swan Hunter & Wigham Richardson Ltd When built 1914

Engines made at Newcastle By whom made Swan Hunter & Wigham Richardson Ltd when made 1914

Boilers made at Newcastle By whom made Swan Hunter & Wigham Richardson Ltd when made 1914

Registered Horse Power Owners Cork S. S. Co Ltd Port belonging to Cork

Nom. Horse Power as per Section 28 340 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Inverted triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 22 1/2, 34, & 62 Length of Stroke 42 Revs. per minute 80 Dia. of Screw shaft as per rule 12.24 Material of screw shaft as fitted 12 Steel

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 lapped or protected between the liners Yes Length of stern bush 4-4

Dia. of Tunnel shaft as per rule 11.3 as fitted 11.36 Dia. of Crank shaft journals as per rule 11.86 as fitted 12 Dia. of Crank pin 12 Size of Crank webs 18 1/2 x 7 1/2 Dia. of thrust shaft under collars 12 1/4 Dia. of screw 16-3 Pitch of Screw 15-9 No. of Blades 4 State whether moveable No Total surface 44 sq ft

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 22 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4 Stroke 22 Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 2 1/2, 3, 4, 5, 6, 8, 10, 12, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 110, 120, 130, 140, 150, 160, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300, 310, 320, 330, 340, 350, 360, 370, 380, 390, 400, 410, 420, 430, 440, 450, 460, 470, 480, 490, 500, 510, 520, 530, 540, 550, 560, 570, 580, 590, 600, 610, 620, 630, 640, 650, 660, 670, 680, 690, 700, 710, 720, 730, 740, 750, 760, 770, 780, 790, 800, 810, 820, 830, 840, 850, 860, 870, 880, 890, 900, 910, 920, 930, 940, 950, 960, 970, 980, 990, 1000

In Engine Room 3 of 3 + 1 of 2 1/2 to Tunnel Well In Holds, &c. No 1 - 2 of 3 No 2 - 2 of 3 No 3 - 2 of 3

No. of Bilge Injections One sizes 5 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & 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 Yes

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 Below

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 Inward bilge suction How are they protected Strong wood casings

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 9. 2. 14 of Stern Tube 9. 2. 14 Screw shaft and Propeller 9. 2. 14

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Yes Platform

BOILERS, &c.—(Letter for record +) Manufacturers of Steel J. Spencer & Sons

Total Heating Surface of Boilers 5640 sq ft Is Forced Draft fitted Yes No. and Description of Boilers Two S. S. Cyl. Mult?

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11. 12. 13 No. of Certificate 8598

Can each boiler be worked separately Yes Area of fire grate in each boiler 68 1/2 sq ft No. and Description of Safety Valves to each boiler Two spring loaded Area of each valve 11.04 sq in 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 5-6 Inside Mean dia. of boilers 15-9 1/4 Length 11-9 Material of shell plates Steel

Thickness 1 1/32 Range of tensile strength 29 3/4 / 33 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d. x lap long. seams E. x d. x b. Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 18 1/2

Per centages of strength of longitudinal joint rivets 88 plate 80.3 Working pressure of shell by rules 184 lbs Size of manhole in shell 16 x 12

Size of compensating ring 9 x 1 1/32 No. and Description of Furnaces in each boiler 2 Brighton Material Steel Outside diameter 52 1/2

Length of plain part top bottom Thickness of plates crown bottom 9/32 Description of longitudinal joint Welded No. of strengthening rings 1

Working pressure of furnace by the rules 181 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/4 Back 3/32 Top 1/4 Bottom 1

Pitch of stays to ditto: Sides 9 1/2 x 9 Back 9 x 8 1/2 Top 9 x 9 1/2 If stays are fitted with nuts or riveted heads tub Working pressure by rules 199.5 lbs

Material of stays Iron Diameter at smallest part 2.09 Area supported by each stay 46.5 sq in Working pressure by rules 199 lbs End plates in steam space: Material Steel Thickness 1/32 Pitch of stays 18 1/4 x 1 1/4 How are stays secured d. x w. Working pressure by rules 181.6 lbs Material of stays Steel

Diameter at smallest part 5.05 Area supported by each stay 26.7 sq in Working pressure by rules 196.5 lbs Material of Front plates at bottom Steel

Thickness 1 1/2 Material of Lower back plate Steel Thickness 1/32 Greatest pitch of stays 13 x 9 Working pressure of plate by rules 211 lbs

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

Pitch across wide water spaces 13 1/4 Working pressures by rules 194.5 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 x 1 1/4 Length as per rule 33.6 Distance apart 9 Number and pitch of stays in each 2 x 9 1/2

Working pressure by rules 182.8 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

If not, state whether, and when, one will be sent



IS A DONKEY BOILER FITTED? *Yes*

If so, is a report now forwarded? *Yes*

SPARE GEAR. State the articles supplied:—

Keel end bolts & nuts; 2 Bottom end bolts & nuts; 2 main bearing bolts & nuts; one set of Crankling bolts & nuts; One set of Feed pump valves; One set of Bilge pump valves; One set of Piston rings for HP & MP cylinders; One Propeller. Assorted bolts & nuts and rod & shot iron

The foregoing is a correct description,

SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

G.F. Tweedy

Manufacturer.

Dates of Survey while building: During progress of work in shops -- *1913 May 8. 16. 20. 23. 26. 30. Jun. 11. 17. 20. Jul. 4. 7. 8. 10. 16. 21. 24. 30. Aug. 1. 6. 8. 13. 14. 18. 20. 26. Sep. 2. 3. 19.*
During erection on board vessel -- *23. 30. Oct. 7. 9. 14. 16. 17. 22. 27. 28. 30. 31. Nov. 3. 5. 6. 10. 14. 18. 20. 24. 25. 28. Dec. 1. 2. 4. 11. 12. 15. 17. 23. 24. 30.*
Total No. of visits *85*

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

" " " donkey " " " *Yes*

Dates of Examination of principal parts—Cylinders *14. 12. 13* Slides *25. 11. 13* Covers *14. 12. 13* Pistons *14. 12. 13* Rods *14. 12. 13*
Connecting rods *14. 12. 13* Crank shaft *25. 11. 13* Thrust shaft *23. 12. 13* Tunnel shafts *23. 12. 13* Screw shaft *23. 12. 13* Propeller *14. 12. 13*
Stern tube *13. 1. 14* Steam pipes tested *26. 2. 14* Engine and boiler seatings *9. 2. 14* Engines holding down bolts *25. 2. 14*
Completion of pumping arrangements *6. 3. 14* Boilers fixed *25. 2. 14* Engines tried under steam *4. 3. 14*
Main boiler safety valves adjusted *4. 3. 14* Thickness of adjusting washers *At boiler 2 1/2" 3/4" 1/2" At boiler 2 1/2" 3/4" 1/2"*
Material of Crank shaft *Steel* Identification Mark on Do. *430 W.S.* Material of Thrust shaft *Steel* Identification Mark on Do. *23. 12. 13 R.W.C.*
Material of Tunnel shafts *Steel* Identification Marks on Do. *23. 12. 13 R.W.C.* Material of Screw shafts *Steel* Identification Marks on Do. *23. 12. 13 R.W.C.*
Material of Steam Pipes *Steel* Test pressure *540 lbs*
Is an installation fitted for burning oil fuel *No* Is the flash point of the oil to be used over 150° F. *✓*

Have the requirements of Section 49 of the Rules been complied with *✓*

Is this machinery duplicate of a previous case *No* If so, state name of vessel *Es. "Yringa"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Engines & boilers of this vessel, have been built under special survey. The material & workmanship is good. They have been efficiently fitted on board, tried under steam and found satisfactory. In our opinion the vessel is eligible to have the notation of L.M.C. 3. 14 made in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 3. 14.

F.D.

J.W.D.
19/3/14

The amount of Entry Fee ... £ 3 : 0 :
Special ... £ 48 : 10 :
Donkey Boiler Fee ... £ 2 : 2 :
Travelling Expenses (if any) £ : :
When applied for, *MAR 14 1914*
When received, *MAR 16 1914*

H.W. Croucher, & Wm. Courie
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. MAR. 27. 1914*

Assigned *+ L.M.C. 3. 14*
F.D.

