

REPORT ON MACHINERY.

No. 28700

TUE. AUG. 3-1915

Received at London Office

Date of writing Report 17.7 1915 Port of **Hull**
 Date, First Survey 7.10.14 Last Survey 16-7-1915
 (Number of Visits 49)
 in Survey held at **Hull**
 on the **Steam Trawler "Earl Hitchener"**
 Tons { Gross 347
 Net 162
 Master Built at **Beverly** By whom built **Cook, Welton & Gemmell** When built **1915**
 Engines made at **Hull** By whom made **Amos & Smith (No 2619)** when made **1915**
 Boilers made at **Hull** By whom made **Amos & Smith** when made **1915**
 Registered Horse Power Owners **Imperial S.F. Co. Ltd.** Port belonging to **Hull**
 Nom. Horse Power as per Section 28 **87** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **yes**

ENGINES, &c.—Description of Engines **Triple expansion** No. of Cylinders **3** No. of Cranks **3**
 Dia. of Cylinders **13-22½-37** Length of Stroke **24** Revs. per minute **114** Dia. of Screw shaft as per rule **7.72"** Material of } **Iron**
 as fitted **8½"** screw shaft }
 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 **40"**
 Dia. of Tunnel shaft as per rule **6.82"** Dia. of Crank shaft journals as per rule **7.16"** Dia. of Crank pin **7¾"** Size of Crank webs **15x4¾"** Dia. of thrust shaft under
 collars **7¾"** Dia. of screw **9.6"** Pitch of Screw **10.9"** No. of Blades **4** State whether moveable **no** Total surface **34 sq ft**
 No. of Feed pumps **1** Diameter of ditto **3"** Stroke **13"** Can one be overhauled while the other is at work —
 No. of Bilge pumps **1** Diameter of ditto **3"** Stroke **13"** Can one be overhauled while the other is at work —
 No. of Donkey Engines **2+1-2½** Sizes of Pumps **6x3x6 & 6¼x6½x6"** No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room **two 2" dia.** In Holds, &c. **Forehold, Fishroom, & Spare**
Fishroom, each one 2" dia; Forward & aft slushwells, each one 3" dia.
 No. of Bilge Injections **1** sizes **3"** Connected to condenser, or to circulating pump **pump** Is a separate Donkey Suction fitted in Engine room & size **2½" 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 —
 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 Suctions** How are they protected **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 **22-1-15** of Stern Tube **22-1-15** Screw shaft and Propeller **22-1-15**
 Is the Screw Shaft Tunnel watertight **✓** Is it fitted with a watertight door **✓** worked from **✓**

BOILERS, &c.—(Letter for record **S**) Manufacturers of Steel **W. Beardmore**
 Total Heating Surface of Boilers **1476** Is Forced Draft fitted **no** No. and Description of Boilers **one single ended**
 Working Pressure **200** Tested by hydraulic pressure to **400** Date of test **10-6-15** No. of Certificate **3084**
 Can each boiler be worked separately **✓** Area of fire grate in each boiler **48.5 sq ft** No. and Description of Safety Valves to
 each boiler **2 spring loaded** Area of each valve **4.90"** Pressure to which they are adjusted **205 lbs** Are they fitted with easing gear **yes**
 Smallest distance between boilers or uptakes and bunkers or woodwork **7¼"** Mean dia. of boilers **13.0"** Length **10.6"** Material of shell plates **S**
 Thickness **1⅛"** Range of tensile strength **29/33 tons** Are the shell plates welded or flanged **no** Descrip. of riveting: cir. seams **double**
 long. seams **TR.D.B.S.** Diameter of rivet holes in long. seams **1⅜"** Pitch of rivets **8⅞"** Lap of plates or width of butt straps **17¾"**
 Per centages of strength of longitudinal joint rivets **87** Working pressure of shell by rules **201** Size of manhole in shell **12x16"**
 Size of compensating ring **9"x1½"** No. and Description of Furnaces in each boiler **3 plain** Material **S** Outside diameter **38⅞"**
 Length of plain part top **80"** Thickness of plates crown } **25"** Description of longitudinal joint **welded** No. of strengthening rings **✓**
 bottom **73"** bottom } **32"**
 Working pressure of furnace by the rules **200** Combustion chamber plates: Material **S** Thickness: Sides **11/16"** Back **11/16"** Top **11/16"** Bottom **3/4"**
 Pitch of stays to ditto: Sides **9½"x8"** Back **8¾"x8¾"** Top **9¼"x8½"** If stays are fitted with nuts or riveted heads **nuts** Working pressure by rules **208**
 Material of stays **S** Diameter at smallest part **2.07"** Area supported by each stay **78.50"** Working pressure by rules **237** End plates in steam space:
 Material **S** Thickness **1⅛"** Pitch of stays **17½"x17"** How are stays secured **screws & nuts** Working pressure by rules **201** Material of stays **S**
 Diameter at smallest part **7.24"** Area supported by each stay **298.0"** Working pressure by rules **252** Material of Front plates at bottom **S**
 Thickness **1¼"** Material of Lower back plate **S** Thickness **15/16"** Greatest pitch of stays **14"x8⅜"** Working pressure of plate by rules **229**
 Diameter of tubes **3½"** Pitch of tubes **4¾"** Material of tube plates **S** Thickness: Front **1¼"** Back **7/8"** Mean pitch of stays **9½"**
 Pitch across wide water spaces **14"** Working pressures by rules **201** Girders to Chamber tops: Material **S** Depth and
 thickness of girder at centre **9½"x1¾"** Length as per rule **34"** Distance apart **9¼"** Number and pitch of stays in each **three 8½"**
 Working pressure by rules **215** 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 **✓**

W1628 0020



IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of feed, bilge, & air pump valves, one main & one donkey check valve, a quantity of bolts & nuts & iron of various sizes.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

G. J. Robinson

Manufacturer.

Secretary.

Dates of Survey while building { During progress of work in shops -- 1914: - Oct. 7. 9. 16 Nov 11. 24. Dec. 15. 18. 1915: - Jan 2. 7. 11. 15. 21. 22. 27. Feb 2. 10. 18. 23. March 5. 9. 12. 18. 22. 26. 29. April 1. 8. 12. 16. 20. 23. 26. May 4. 12. 14. 19. 21. 27. June 4. 10. 17. 21. July 2. 3. 6. 13. 16. Total No. of visits 49

Is the approved plan of main boiler forwarded herewith *Ref 2851*

Dates of Examination of principal parts—Cylinders 12-5-15 Slides 4-6-15 Covers 12-5-15 Pistons 21-5-15 Rods 27-5-15

Connecting rods 21-5-15 Crank shaft 4-6-15 Thrust shaft 4-6-15 Tunnel shafts 4-6-15 Screw shaft 11-11-14 Propeller 11-11-14

Stern tube 11-11-14 Steam pipes tested 3-7-15 Engine and boiler seatings 22-1-15 Engines holding down bolts 1-7-15

Completion of pumping arrangements 13-7-15. Boilers fixed 1-7-15 Engines tried under steam 6-7-15

Main boiler safety valves adjusted 6-7-15 Thickness of adjusting washers F. $\frac{7}{16}$, A $\frac{3}{8}$

Material of Crank shaft *steel* Identification Mark on Do. *41 PF.* Material of Thrust shaft *steel* Identification Mark on Do. *42 PF.*

Material of Tunnel shafts *steel* Identification Marks on Do. *43 PF.* Material of Screw shafts *iron* Identification Marks on Do. *1376 FLS.*

Material of Steam Pipes *S.D. Copper* Test pressure *400 lbs per sq. inch* ✓

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 *yes.* If so, state name of vessel *Sir John French.*

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society; the materials & workmanship are good, the boiler & steam pipes have been tested as above by hydraulic pressure & found sound & good. The machinery has been properly fitted & secured on board, & on completion tried under steam & found satisfactory. The safety valves have been adjusted under steam pressure & tested for accumulation, which did not exceed 208 lbs. In my opinion the vessel is eligible for the record + LMC 7,15.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 7,15

J.F.S.
8.8.15

G.F.S.

The amount of Entry Fee ... £ 1 : 0 : 0 When applied for.

Special ... £ 13 : 1 : 0 21-7-15

Donkey Boiler Fee ... £ : : : When received.

Travelling Expenses (if any) £ : 2 : - 21/7/15 3/8/15

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

Committee's Minute WED. AUG. 4 - 1915

Assigned + LMC 7,15

MACHINERY CERTIFICATE
ISSUED



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Certificate (if required) to be sent to *Shell*

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