

# REPORT ON MACHINERY.

Port of Sunderland

Received at London Office **TUES. 13 NOV 1900**

No. in Survey held at Sunderland Date, first Survey 22<sup>nd</sup> May Last Survey 22<sup>nd</sup> Oct 1900  
 Reg. Book. (Number of Visits 12)  
 (Sup) on the S. S. "Indian" (No. 640) Tons { Gross 185  
 Net 70  
 Master W. Hainwood Built at N. Shields By whom built Smiths Dock Co. Ltd When built 1900  
 Engines made at Sunderland By whom made N. Eas. Mar. Eng. Co. Ltd when made 1900  
 Boilers made at Sunderland By whom made N. Eas. Mar. Eng. Co. Ltd when made 1900  
 Registered Horse Power Owners Boston Ste. Fishing Co. Ltd Port belonging to Boston  
 Nom. Horse Power as per Section 28 61 Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple - Expansion No. of Cylinders 3 No. of Cranks 3  
 Diameter of Cylinders 12" 20" 32" Length of Stroke 22 1/2" Revolutions per minute 115 Diameter of Screw shaft as per rule 6.34  
as fitted 7"  
 Diameter of Tunnel shaft as per rule 5.73 Diameter of Crank shaft journals 6 3/8" Diameter of Crank pin 6 3/8" Size of Crank webs 12 1/2" x 4 1/16"  
as fitted 6 1/8"  
 Diameter of screw 8'-0" Pitch of screw 11'-0" No. of blades 4 State whether moveable No Total surface 25 sq ft  
 No. of Feed pumps 1 Diameter of ditto 2 1/2" Stroke 1'-1 1/2" Can one be overhauled while the other is at work   
 No. of Bilge pumps 1 Diameter of ditto 2 1/2" Stroke 1'-1 1/2" Can one be overhauled while the other is at work   
 No. of Donkey Engines 2 Sizes of Pumps 4 1/2" x 2 3/4" x 4 1/2" x 3" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 1 of 2" + 1 of 2 1/2" In Holds, &c. Fore Hold 1 of 2"

No. of bilge injections 1 sizes 3" Connected to condenser, or to circulating pump B. P. Is a separate donkey suction fitted in Engine room & size 1 of 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 Yes ~~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 none  
 Is it fitted with a watertight door  worked from

BOILERS, &c.— (Letter for record 2) Total Heating Surface of Boilers 1066 sq ft Is forced draft fitted No  
 No. and Description of Boilers 1 Ordinary Marine Type Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs  
 Date of test 13.10.00 Can each boiler be worked separately  Area of fire grate in each boiler 29 sq ft No. and Description of safety valves to  
 each boiler 2 Spring Area of each valve 3.14 sq in 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 12" Mean diameter of boilers 11'-5 1/16"  
 Length 9'-6" Material of shell plates S Thickness 1 5/16" Description of riveting: circum. seams D. R. L long. seams J. R. D. B. S  
 Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 6 5/8" Lap of plates or width of butt straps 16 3/4"  
 Per centages of strength of longitudinal joint 84.9 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"  
 plate 83.96  
 Size of compensating ring 30 x 26 x 1 5/16" No. and Description of Furnaces in each boiler 2 Plain Material S Outside diameter 3'-4 1/2"  
 Length of plain part 5'-10" Thickness of plates 4 9/16" Description of longitudinal joint D. B. S No. of strengthening rings   
 top 5'-10" bottom 6'-4 1/8" crown 4 9/16" bottom 1/64"  
 Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material S Thickness: Sides 19/32" Back 1/16" Top 19/32" Bottom 1/8"  
 Pitch of stays to ditto: Sides 8" x 8" Back 9 1/2" x 9 1/2" Top 8" x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 186 lbs  
 Material of stays S Area 1.79 sq in Diameter at smallest part 1.79" Area supported by each stay 64 sq in Working pressure by rules 215 lbs End plates in steam space:  
 Material S Thickness 3/32" Pitch of stays 16" x 15 1/2" How are stays secured D. nuts Working pressure by rules 203 lbs Material of stays S  
 Area 5.05 sq in Diameter at smallest part 5.05" Area supported by each stay 248 sq in Working pressure by rules 179 lbs Material of Front plates at bottom S  
 Thickness 1 3/16" Material of Lower back plate S Thickness 2 7/32" Greatest pitch of stays 13 1/2" Working pressure of plate by rules 184 lbs  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 5/8" Material of tube plates S Thickness: Front 1 3/16" Back 1 3/16" Mean pitch of stays 9" x 9 1/4"  
 Pitch across wide water spaces 14" Working pressures by rules 230 lbs Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 7" x 1 1/2" Length as per rule 26" Distance apart 8" Number and pitch of Stays in each 2 of 8"  
 Working pressure by rules 195 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

**DONKEY BOILER—** Description

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long. seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ 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 \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts, feed and bilge pump valves, bolts, nuts, and iron assorted, propellers*

The foregoing is a correct description,  
 For and on behalf of the *North Eastern Marine Eng. Co. Ltd*  
 Manufacturer.

*J. H. Turin*

Dates of Survey while building  
 During progress of work in shops— 1900— May 22, 24, July 24, 26, Aug 28, Sept 26, 29, Oct 12, 13, 16, 19, 22.  
 During erection on board vessel —  
 Total No. of visits 12

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

**ENGINES**—Length of stern bush 2'-6" Diameter of crank shaft journals *as per rule 6" Oct.* Diameter of thrust shaft under collars 6 3/8"  
**BOILERS**—Range of tensile strength 29-32 Are they welded or flanged *flanged* **DONKEY BOILERS**—No.  Range of tensile strength   
 Is the approved plan of main boiler forwarded herewith *No.* Is the approved plan of donkey boiler forwarded herewith

The machinery of this vessel has been constructed under Special Survey, the material and workmanship being good and efficient, and the engines when tried under steam worked satisfactorily.

The main steam pipes have been tested by hydraulic pressure to 400 lbs per square inch.

In my opinion this vessel is eligible for the notification in the Register Book of L. M. C. 10-1900.

It is submitted that this vessel is eligible for THE RECORD, + L.M.C. 10.00.

*bd.*  
 13.10.00  
 13.11.00

The amount of Entry Fee... £ 1: 0: When applied for.  
 Special ... £ 9: 3: 25.10.00  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) £ : : 8.11.00

*Pal. Salmon*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI, 16 NOV 1900**

Assigned

+ 2 m.c. 10.00



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Certificate (if required) to be sent to Newcastle on Tyne

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