

# REPORT ON MACHINERY.

Port of Sunderland

WED. 5 SEP 1900

No. in Survey held at Sunderland Date, first Survey 29<sup>th</sup> Jan Last Survey 23<sup>rd</sup> Augt 1900  
 Reg. Book. S.S. on the Screw Steamer "Immacolata" (Number of Visits 40)  
 Master Giuseppe Built at Sunderland By whom built R. Thompson & Sons Tons { Gross 3317 Net 2136  
 Engines made at Sunderland By whom made G. Clark & Co when made 1900  
 Boilers made at " By whom made " when made "  
 Registered Horse Power 285 Owners Condorgio Proscapa & W. Immacolata Port belonging to Lussin piccolo  
 Is Electric Light fitted Yes

**ENGINES, &c.—Description of Engines** Triple Expansion No. of Cylinders 3 No. of Cranks 3  
 Diameter of Cylinders 24"-39"-64" Length of Stroke 42" Revolutions per minute 65 Diameter of Screw shaft as per rule 11.86"  
 Diameter of Tunnel shaft as per rule 10.42" Diameter of Crank shaft journals 11 1/4" Diameter of Crank pin 11 1/4" Size of Crank webs 17 1/2" x 8 1/2"  
 Diameter of screw 16-0" Pitch of screw 16-3" No. of blades 4 State whether moveable No Total surface 48 sq ft  
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 26" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4 1/4" Stroke 26" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 2 Sizes of Pumps 8" x 10 1/2" x 9" & 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 3 of 3 1/2" In Holds, &c. 2-3 1/2" to each.

No. of bilge injections 1 sizes 5" 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 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 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  
 Are all pipes 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  
 Were stern tube, propeller, screw shaft, and all connections examined in dry dock Yes 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) Total Heating Surface of Boilers 4574 sq ft Is forced draft fitted No  
 Kind and Description of Boilers Ordinary Marine 2 Working Pressure 160 lbs Tested by hydraulic pressure to 220 lbs  
 Date of test 9/1/00 Can each boiler be worked separately Yes Area of fire grate in each boiler 81 sq ft No. and Description of safety valves to  
 boiler 2 Spring Area of each valve 8.29 sq ft Pressure to which they are adjusted 180 lbs Are they fitted  
 with casing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean diameter of boilers 15.6"  
 No. of shell plates 10-6 Material of shell plates S Thickness 1 1/8" Description of riveting: circum. seams J.R.L. long. seams J.R.B.  
 Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 7 1/16" ~~Gap of plates or width of butt straps~~ 18 1/4"  
 Percentages of strength of longitudinal joint rivets 91.7 Working pressure of shell by rules 162 lbs Size of manhole in shell 16 x 13"  
 Diameter of compensating ring 8 1/2" x 1 3/16" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 3-10"  
 Diameter of plain part top 6-0" Thickness of plates crown 3/4" Description of longitudinal joint Welded No. of strengthening rings 1  
 bottom 6-0" bottom 3/4" Working pressure of furnace by the rules 165 lbs Combustion chamber plates: Material S Thickness: Sides 1 1/16" Back 2 1/32" Top 1 1/16" Bottom 1 1/16"  
 Diameter of stays to ditto: Sides 1 1/4" x 9 5/8" Back 10" x 9 1/4" Top 8 3/4" If stays are fitted with nuts or riveted heads Yes Working pressure by rules 161 lbs  
 Number of stays 5 Diameter at smallest part 1.6" Area supported by each stay 127.6 sq ft Working pressure by rules 161 lbs End plates in steam space:  
 Diameter 5 Thickness 1 1/4" Pitch of stays 23" x 18 3/8" How are stays secured RTU Working pressure by rules 165 lbs Material of stays S  
 Diameter at smallest part 3.03 1/2" Area supported by each stay 4210 sq ft Working pressure by rules 170 lbs Material of Front plates at bottom S  
 Thickness 3/4" Material of Lower back plate S Thickness 1 3/16" + 1/64" Greatest pitch of stays 14" x 10" Working pressure of plate by rules  
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" Material of tube plates S Thickness: Front 1 1/16" + 1/64" Back 2 3/32" Mean pitch of stays 10 1/8"  
 Distance across wide water spaces 14 1/4" Working pressures by rules 160 lbs Girders to Chamber tops: Material S Depth and  
 Breadth of girder at centre 9 5/8" x 1 3/8" Length as per rule 2-1 1/2" Distance apart 8 3/4" Number and pitch of Stays in each 2 of 11 1/4"  
 Working pressure by rules 164 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked  
 by — 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 —  
 Fitted 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 casing gear —

W11-0176

**DONKEY BOILER**— Description *Donk. Cyl. Mull. 2 plain furnaces*  
 Made at *Stockton* By whom made *Sudron & Co* When made *28/7/00* Where fixed *Fidley*  
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2262* Fire grate area *24 sq ft* Description of safety valves *Spring*  
 No. of safety valves *2* Area of each *7.5* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *9-6"* Length *8-6"* Material of shell plates *S* Thickness *15/32"*  
 Description of riveting long. seams *D.B.* Diameter of rivet holes *13/16"* Whether punched or drilled *D* Pitch of rivets *4 1/2 x 2 1/2"*  
 Lap of plating *8 1/2"* Percentage of strength of joint *81.9* Rivets *105* Thickness of shell *1/8"* *end* *1/8"* *W.* Radius of do. *Pitch* No. of Stays to do. *17 1/2 x 13*  
 Dia. of stays *2 1/8"* Diameter of furnace *Top 36"* *Bottom 36"* Length of furnace *5-9"* Thickness of furnace plates *1/16"* *1/2"* Description of joint *D.B.* Thickness of furnace *C.C.* *Sides 1/32"* *Backs 1/2"* Stayed by *1 1/8 x 1 1/4"* *in stays 1/4 x 8 1/2 p.* Working pressure of shell by rules *82.5*  
 Working pressure of furnace by rules *82 lbs* Diameter of uptake *3 1/4"* Thickness of uptake plates *5/16"* *D 1/2"* Thickness of water tubes *5/16"*

**SPARE GEAR.** State the articles supplied:— *Two top & bottom end connecting rod bolts & nuts. Set of coupling bolts & nuts, main bearing bolts & nuts, feed, & bilge pump valves. Bolts, nuts & washers of various sizes.*

The foregoing is a correct description,

*Carblack* Manufacturer. *Exchpt of Donkey Boiler*

Dates During progress of work in shops— *1900— Jan 29, 31, Feb 7, 14, 16, 19, March 1, 5, 8, 12, 14, 17, 21, 26, 30, April 2, 5, 10, 14*  
 During erection on board vessel— *23, 25, May 1, 2, 25, 28, 30, June 1, 7, 13, 21, 25, July 3, 5, 9, 16, 19, 21, 23, August 23.*  
 Total No. of visits *40.*

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

**ENGINES**—Length of stern bush *4-1"* Diameter of crank shaft journals *as per rule 11.29* Diameter of thrust shaft under collars *12/8"*  
**BOILERS**—Range of tensile strength *32 1/2* Are they welded or flanged *End F* **DONKEY BOILERS**—No. / Range of tensile strength *27 1/2*

Is the approved plan of main boiler forwarded herewith *Yes* Is the approved plan of donkey boiler forwarded herewith *No*

*Machinery & boilers constructed under special Ins. materials & workmanship are good & efficient. Boilers & steam pipes tested to double working pressure, & afterwards examined under steam at 160 lbs pressure, when the machinery worked satisfactorily.*

*In my opinion the machinery of this vessel is eligible for the Notification in the Register of T.L.M.C 8/100*

*It is submitted that this vessel is eligible for THE BOARD. + £2068.00. Rec. light*

*J.S.* *5.9.00*

The amount of Entry Fee. £ *2 : 00* When applied for.  
 Special . . . . . £ *34 : 50* *29.8.00*  
 Donkey Boiler Fee . . . . . £ : :  
 Travelling Expenses (if any) £ : : *11.9.00*

*J.W. Silburne*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI. 7 SEP 1900**

Assigned

*+ £2068.00*

MACHINERY CERTIFICATE  
 WRITTEN



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Certificate (if required) to be sent to Sunderland.

This Surveyor's report is to be written on or below the space for Committee's Minute.