

## REPORT ON MACHINERY

No. 67596

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of writing Report 14<sup>th</sup> May 1915 When handed at Local Office 18<sup>th</sup> May 1915 Port of NEWCASTLE-ON-TYNE  
 in Survey held at Newcastle Date, First Survey Mar. 28, 1913 Last Survey May 15, 1915  
 Book. Upon the Machinery of the S.S. San Patricio (Number of Volls 8) Gross 712  
J. Tully Built at Newcastle By whom built Armstrong Whitworth & Co. Net 5461  
 When made 1915  
 Lines made at Newcastle By whom made North Eastern Marine Eng. Co. when made 1915  
 Laid down at Newcastle By whom made " when made 1915  
 Registered Horse Power " Owners Eagle Oil Transport Co. Port belonging to London  
 Horse Power as per Section 28 190 Is Refrigerating Machinery fitted for cargo purposes " Is Electric Light fitted Yes  
**GINES, &c.—Description of Engines** Quadruple No. of Cylinders 4 No. of Cranks 4  
 of Cylinders 28 1/2, 41, 58, 84 Length of Stroke 54" Revs. per minute 66 Dia. of Screw shaft as per rule 17 1/2" Material of screw shaft 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  
 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 6'-1 1/2"  
 Dia. of Tunnel shaft as per rule 15'-28" Dia. of Crank shaft journals as per rule 16" Dia. of Crank pin 16 1/4" Size of Crank webs 11 1/4" X 24" Dia. of thrust shaft under  
 bars 16 1/4" Dia. of screw 20'-6" Pitch of Screw 18'-6" No. of Blades 4 State whether moveable Yes Total surface 130 1/2  
 of Feed pumps 2 Diameter of ditto 5 1/2" Stroke 30" Can one be overhauled while the other is at work Yes  
 of Bilge pumps 2 Diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work Yes  
 of Donkey Engines 4 Sizes of Pumps 2 Weirs 10 X 13 1/2 X 21; 12 X 14 X 15 No. and size of Suctions connected to both Bilge and Donkey pumps  
 Engine Room 3 of 3 1/2" In Holds, &c. Oil cargo pumps  
 of Bilge Injections 1 size 1 1/2" Connected to condenser, or to circulating pump pumps Is a separate Donkey Suction fitted in Engine room & size Yes 6"  
 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 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 main 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  
 How are they protected Yes  
 Are all pipes carried through the bunkers none  
 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 5/2/15 of Stern Tube 5/2/15 Screw shaft and Propeller 9/2/15  
 Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door Yes worked from "  
**BOILERS, &c.—(Letter for record (7)) Manufacturers of Steel** J. & S. Spencer & Son  
 Total Heating Surface of Boilers 11320 Is Forced Draft fitted Yes No. and Description of Boilers 4 Single-ended  
 Working Pressure 220 lbs Tested by hydraulic pressure to 440 lbs Date of test 10/23/15 No. of Certificate 8757 & 8761  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 66.5 1/2 No. and Description of Safety Valves to  
 each boiler 2 direct spring Area of each valve 11.04 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-6" Mean dia. of boilers 15'-11 1/8" Length 12'-1" Material of shell plates Steel  
 Thickness 1 1/16" Range of tensile strength 30-34 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d. r. lap  
 Long. seams E. r. d. butt Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 10 1/2" Lap of plates or width of butt straps 24 1/4"  
 Percentages of strength of longitudinal joint rivets 93.8 Working pressure of shell by rules 258 lbs Size of manhole in shell 16" X 12"  
 plate 83.9 No. and Description of Furnaces in each boiler 4 Dighton Material Steel Outside diameter 41 1/2"  
 Size of compensating ring flanges Thickness of plates crown 5/8" Description of longitudinal joint welded No. of strengthening rings Yes  
 Length of plain part top Yes bottom Yes Thickness of plates crown 5/8" bottom 5/8" No. of strengthening rings Yes  
 Working pressure of furnace by the rules 242 lbs Combustion chamber plates: Material Steel Thickness: Sides 2 3/32" Back 2 3/32" Top 2 3/32" Bottom 1 1/8"  
 Pitch of stays to ditto: Sides 8" X 8" Back 8" X 8" Top 8 1/2" X 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 278 lbs  
 Material of stays iron Diameter at smallest part 2.03 Area supported by each stay 64 Working pressure by rules 236 lbs End plates in steam space  
 Material Steel Thickness 1 1/16" Pitch of stays 18" X 23 1/2" How are stays secured d. new Working pressure by rules 224 lbs Material of stays Steel  
 Area at smallest part 11.04 Area supported by each stay 423 Working pressure by rules 272 lbs Material of Front plates at bottom Steel  
 Thickness 1 1/16" Material of Lower back plate Steel Thickness 1 1/32" Greatest pitch of stays 16 1/4" X 8" Working pressure of plate by rules 224 lbs  
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" Material of tube plates Steel Thickness: Front 1 1/16" Back 1 3/16" Mean pitch of stays 7 1/2"  
 Pitch across wide water spaces 14 1/2" Working pressures by rules 232 lbs Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 9 1/8" X 2" Length as per rule 36" Distance apart 8 1/2" Number and pitch of stays in each 3 of 8"  
 Working pressure by rules 238 lbs Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked  
 separately Yes Diameter " Length " Thickness of shell plates " Material " Description of longitudinal joint " Diam. of rivets "  
 holes " Pitch of rivets " Working pressure of shell by rules " Diameter of flue " Material of flue plates " Thickness "  
 If stiffened with rings Yes 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 "

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