

# REPORT ON MACHINERY.

No. 6128

(Received at London Office Rec'd 31st May 1883)

No. in Survey held at Glasgow Date, first Survey Oct-31-82 Last Survey 29<sup>th</sup> May 1883  
 Reg. Book. \_\_\_\_\_ (Number of Visits) 2628  
 on the new Steam Vessel "Pathan" Tons 1762  
 Master J. Howley Built at Glasgow When built 1883  
 Engines made at Glasgow By whom made J. & S. Thomson when made \_\_\_\_\_  
 Boilers made at " By whom made " when made \_\_\_\_\_  
 Registered Horse Power 350 Owners Gillally, Hauchey & Co Port belonging to Glasgow

**ENGINES, &c.—**

Description of Engines Compound Inverted Surface Condensing  
 Diameter of Cylinders 43" & 45" Length of Stroke 51 No. of Rev. per minute 60 Point of Cut off, High Pressure 7/10 Low Pressure 7/10  
 Diameter of Screw shaft 13 3/4" Diameter of Tunnel shaft 18" Diameter of Crank shaft journals 14" Diameter of Crank pin 14" size of Crank webs 16" x 10"  
 Diameter of screw 1 1/2" x 8" Pitch of screw 22" x 0" No. of blades 4 state whether moveable Yes total surface 84 sq. ft.  
 No. of Feed pumps Two diameter of ditto 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps Two diameter of ditto 4 1/2" Stroke 25 1/2" Can one be overhauled while the other is at work Yes  
 Where do they pump from Bilges of Engine Room and all Compartments  
 No. of Donkey Engines One Size of Pumps 5" x 9 1/2" Where do they pump from Sea, Bilges, Hold  
all compartments of vessel and through Condenser  
 Are all the bilge suction pipes fitted with roses Yes Are the roses always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes  
 No. of bilge injections one and sizes 6" Are they connected to condenser, or to circulating pump Circulating  
 How are the pumps worked By Levers attached to crosshead  
 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 suction pipes How are they protected Wood casing  
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times Yes  
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges Yes  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching  
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Top Platform

**BOILERS, &c.—**

Number of Boilers Two Description Cylindrical & Multitubular (Horizontal)  
 Working Pressure 80 lbs Tested by hydraulic pressure to 160 lbs Date of test March 15<sup>th</sup> 83  
 Description of superheating apparatus or steam chest Horizontal Steam Reverser  
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately No  
 No. of square feet of fire grate surface in each boiler 125 sq. ft. Description of safety valves Direct Spring  
 No. to each boiler Two area of each valve 30.6 sq. in Are they fitted with easing gear Yes  
 No. of safety valves to superheater one area of each valve 7 sq. in are they fitted with easing gear No  
 Smallest distance between boilers and bunkers or woodwork 12 inches  
 Diameter of boilers 13' 6" Length of boilers 14' 0" description of riveting of shell long. seams Double Butt circum. seams Double Lap  
 Thickness of shell plates 1" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/2"  
 Lap of plating 12 inches per centage of strength of longitudinal joint 70% working pressure of shell by rules 98 lbs  
 Size of manholes in shell 15 1/2" x 12 1/2" size of compensating rings Angle Iron 3" x 3" x 1/2"  
 No. of Furnaces in each boiler 6 outside diameter 3' 4" length, top 6' 6" bottom 8' 6"  
 Thickness of plates 1 1/32" description of joint Double Butt if rings are fitted Angle Iron greatest length between rings \_\_\_\_\_  
 Working pressure of furnace by the rules 94 lbs  
 Combustion chamber plating, thickness, sides 1/2" back \_\_\_\_\_ top 1/2"  
 Pitch of stays to ditto, sides 8" x 4 3/4" back \_\_\_\_\_ top 8" x 8"  
 If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 120 lbs  
 Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 93 lbs  
 End plates in steam space, thickness 2 1/32" pitch of stays to ditto 16" x 16" how stays are secured Nut Washers  
 Working pressure by rules 99 lbs diameter of stays at smallest part 3 3/8" working pressure by rules 103 lbs  
 Front plates at bottom, thickness 1 1/16" Back plates, thickness \_\_\_\_\_ greatest pitch of stays \_\_\_\_\_ working pressure by rules \_\_\_\_\_

[Form No. 8-21/82] 1000.



6128 Gls

Diameter of tubes  $3\frac{1}{2}$ " pitch of tubes  $4\frac{3}{4} \times 4\frac{3}{4}$ " thickness of tube plates, front  $\frac{1}{16}$ " back  $\frac{5}{8}$ "  
 How stayed *Substay* pitch of stays  $11\frac{1}{4} \times 9\frac{1}{2}$ " width of water spaces 6"  
 Diameter of Superheater or Steam chest 5'0" length 22'0"  
 Thickness of plates  $\frac{9}{16}$ " description of longitudinal joint *Lap dr* diameter of rivet holes  $\frac{7}{8}$ " pitch of rivets  $\frac{3}{4}$ "  
 Working pressure of shell by rules 100 lb Diameter of flue *---* thickness of plates *---*  
 If stiffened with rings *---* distance between rings *---* Working pressure by rules *---*  
 End plates of superheater, or steam chest; thickness  $\frac{1}{16}$ " How stayed *H bar stay 3/8" Effective dia*  
 Superheater or steam chest; how connected to boiler *Stop valves stopper pipe*

DONKEY BOILER— Description *Circular Top & Bottom Flat sided.*  
 Made at *Glasgow* By whom made *J & S Thomson* when made *1883*  
 Where fixed *on deck* working pressure 50 lb Tested by hydraulic pressure to 100 lb No. of Certificate 1000  
 Fire grate area 18.7 ft<sup>2</sup> Description of safety valves *Direct Spring* No. of safety valves 2000 area of each 7" sq in  
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*  
 Diameter of donkey boiler 5'0" length  $4\frac{1}{2}$  ft  $4\frac{1}{2} \times 9\frac{1}{2}$  ft description of riveting *Double Riveted Lap*  
 thickness of shell plates  $\frac{1}{2}$ " diameter of rivet holes  $\frac{7}{8}$ " whether punched or drilled *punched*  
 pitch of rivets  $\frac{3}{4}$ " lap of plating *H* per centage of strength of joint 40%  
 thickness of ~~end~~ plates  $\frac{1}{2}$ " stayed by *bar stay 1/2 dia*  
 Diameter of furnace, top  $3\frac{1}{4}$  ft bottom  $3\frac{1}{4}$  ft length of furnace 5'0"  
 thickness of plates  $\frac{7}{16} \times \frac{8}{16}$ " description of joint *Double butt straps single riveted.*  
 thickness of ~~combustion chamber~~ plates  $\frac{7}{16}$ " stayed by *round stay 1/2 dia pitch 9 x 9"*  
 Working pressure of shell by rules 90 lb working pressure of furnace by rules 46 lb  
 diameter of uptake *---* thickness of plates *---* thickness of water tubes *---*

The foregoing is a correct description,  
*John James Thomson* Manufacturer.

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

*The above Engines and Boilers have been constructed under special survey. The material and workmanship are of good quality and were found to be good and efficient when tested under steam. and are in my opinion eligible for the Notification of Lloyd's M.C. 5.83 in the Society Register Book*

*Not submitted to the committee  
 as it is not possible to have  
 a certificate of the above  
 recorded 31/5/83*

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

The amount of Entry Fee £ 3 : 0 : 0 received by me,  
 Special £ 34 : 10 : 0  
 Certificate (if required) £ *resales* 29/5/1883  
 (Travelling Expenses, if any, £ *---*)

Committee's Minute FRIDAY 1 JUNE 1883 18  
*+ J.M.C. 5.83*

*Lloyd's District*  
 Lloyd's Register Foundation