

# REPORT ON MACHINERY.

Port of Falmouth

THUR 5 NOV 1896

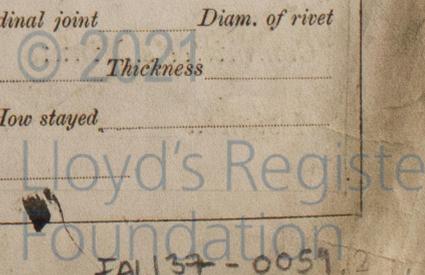
Received at London Office 18

No. in Survey held at Falmouth Date, first Survey 21<sup>st</sup> Dec 1894 Last Survey 26<sup>th</sup> October 1896  
 Reg. Book. 67 on the S.S. "Ants" James Pool, Skinner & Williams S.S. No 46 (Number of Visits 40)  
 Master H. Trevena Built at Falmouth By whom built Pool, Skinner & Williams Tons { Gross 138  
 Engines made at Gloicester By whom made W. Lison & Co Net 79  
 Boilers made at Falmouth By whom made Pool, Skinner & Williams When built 1895  
 Registered Horse Power 50 Owners James Pool, Skinner & Williams when made 1894 & 95  
 Port belonging to Falmouth

Reg. Horse Power as per Section 28

**ENGINES, &c.** — Description of Engines No. of Cylinders  
 Diameter of Cylinders Length of Stroke Revolutions per minute Diameter of Screw shaft as per rule  
 Diameter of Tunnel shaft as fitted Diameter of Crank shaft journals Diameter of Crank pin Size of Crank webs  
 Diameter of screw Pitch of screw No. of blades State whether moveable Total surface  
 No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work  
 No. of Donkey Engines Sizes of Pumps No. and size of Sections connected to both Bilge and Donkey pumps  
 Engine Room Two, 3" to valve box, from D.P. to main and donkey in Holds, &c. Two, 3" to forward hold, one, 2 1/2" to Bilge  
 under after cabin  
 No. of bilge injections one size 3" Connected to condenser, or to circulating pump Pump Is a separate donkey suction fitted in Engine room & size yes, 1 1/2"  
 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  
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves & Cocks  
 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  
 How are they protected on the top by the fore and after side  
 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 17/9/96 Is the screw shaft tunnel watertight none fitted  
 Is it fitted with a watertight door ✓ worked from ✓

**BOILERS, &c.** — (Letter for record) Total Heating Surface of Boilers  
 No. and Description of Boilers One, Water Tube Type, not approved Working Pressure Tested by hydraulic pressure to  
 Date of test Can each boiler be worked separately Area of fire grate in each boiler No. and Description of safety valves to  
 Each boiler Area of each valve Pressure to which they are adjusted Are they fitted  
 with easing gear Smallest distance between boilers or uptakes and bunkers or woodwork Mean diameter of boilers  
 Length Material of shell plates Thickness Description of riveting: circum. seams long. seams  
 Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell  
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings  
 bottom Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom  
 Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules  
 Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:  
 Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays  
 Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom  
 Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules  
 Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays  
 Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and  
 Thickness of girder at centre Length as per rule Distance apart Number and pitch of Stays in each  
 Working pressure by rules 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  
 Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness  
 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  
 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  
 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: — *Two Connecting Rod Top, and two bottom end Bolts and Nuts, Two main Bearing Studs & Nuts, One set of Bilge Pump valves, One Feed Pump Valve & two Springs, One set of Packing rings for each side of Piston of main Engines, One set of Packing rings for Pistons of Auxiliary & Donkey Engine, One Air Pump Bucket, Guard & Rod complete, One Circulating Pump & Rod complete, Feed Pump Ram and Rod, Donkey Pump Ram, and Rod complete, Side Metal Air Pump Valve, and S.P. Valve for a Side Circulating Pump Valve, Four Propeller Blades & Four Bolts for a quantity of assorted bolts & Nuts, & Iron of various sizes*

The foregoing is a correct description, and  
*W. S. Iron* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The main and Auxiliary Engines were constructed under special Survey at Gloucester and forwarded to Falmouth to be placed and fitted on board the Vessel all Gloucester Report No 5845. Attached,  
 The Feed and Steam Pipes are made of Solid drawn Copper and were tested in my presence by Hydraulic pressure to 400 lbs per inch and showed no signs of weakness or bad workmanship. At the Trial the Engines worked well and efficiently with no signs of heated Bearings.  
 The Boiler is of the Water Tube Type of novel construction a plan of the same was forwarded to the Committee but they did not approve of it, see Secretary's Letter of the 11<sup>th</sup> of April and the 14<sup>th</sup> March 1895.  
 An Electric Light Installation, and a Motor for driving a 6" Centrifugal Pump were fitted on board, but have been taken out of the Vessel a few days ago by the makers.  
 I beg to Recommend for the Committee's Approval that the notation "Water Tube Boiler, Experimental" be inserted against the vessel's name in the Register Book and that Entry 1, be withheld*

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

Certificate (if required) to be sent to \_\_\_\_\_  
 The amount of Entry Fee . . . £ : : When applied for, \_\_\_\_\_  
 Special *see by attach* £ *3/16* : : \_\_\_\_\_  
 Donkey Boiler Fee . . . £ *nil* : : \_\_\_\_\_  
 Travelling Expenses (if any) £ : : \_\_\_\_\_  
 When received, \_\_\_\_\_  
 \_\_\_\_\_ 21/10/97

*R. H. Cooper*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping

TUES 10 NOV 1896

Committee's Minute  
 Assigned *Water Tube Boiler - Appl*



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