

# REPORT ON MACHINERY. 27820

No. 27820

(Received in London Office 2/11/81)

No. in Survey held at Preston Date, first Survey 17<sup>th</sup> February Last Survey 20<sup>th</sup> Oct. 1881  
 Reg. Book. Preston  
 on the Screw Steamer "Jackal" Tons 78.40  
 Master R. Downer Built at Preston When built 1881.  
 Engines made at Preston By whom made R. Smith when made 1881.  
 Boilers made at Preston By whom made C. O'Neil when made 1881.  
 Registered Horse Power 30 Owners Jones & Hitchens B<sup>rs</sup> Port belonging to Preston

## ENGINES, &c.—

Description of Engines Compound, Inverted, 2 Cylinders.  
 Diameter of Cylinders 14" x 25" Length of Stroke 16" No. of Rev. per minute 120 Point of Cut off, High Pressure 5/8 stroke Low Pressure 1/2 stroke  
 Diameter of Screw shaft 4" Diameter of Tunnel shaft — Diameter of Crank shaft journals 4 1/2" Diameter of Crank pin 4 1/2" size of Crank webs 5" x 3 1/4"  
 Diameter of screw 5.9" Pitch of screw 8.6" No. of blades 4 state whether moveable no total surface 15 sq. ft.  
 No. of Feed pumps one diameter of ditto 3" Stroke 8" Can one be overhauled while the other is at work —  
 No. of Bilge pumps one diameter of ditto 3" Stroke 6" Can one be overhauled while the other is at work —  
 Where do they pump from Engine Room.  
 No. of Donkey Engines one Size of Pumps 2" x 4" Where do they pump from Engine room bilge, sea, and ballast tanks.  
 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 no  
 No. of bilge injections one and sizes 2" dia. Are they connected to condenser, or to circulating pump Circulating pump.  
 How are the pumps worked By levers from the low pressure piston rod crosshead.  
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks valves and 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  
 What pipes are carried through the bunkers Suction pipe to forward ballast tank How are they protected By ceiling.  
 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 12<sup>th</sup> August 1881  
 Is the screw shaft tunnel watertight no tunnel and fitted with a sluice door — worked from —

## OILERS, &c.—

Number of Boilers One Description Cylindrical, multitubular, Single ended.  
 Working Pressure 80 lbs. Tested by hydraulic pressure to 160 lbs. Date of test 22<sup>nd</sup> August 1881.  
 Description of superheating apparatus or steam chest None.  
 Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —  
 No. of square feet of fire grate surface in each boiler 22 sq. ft. Description of safety valves Spring  
 No. to each boiler 2 area of each valve 5.9" Are they fitted with easing gear yes  
 No. of safety valves to superheater — area of each valve — are they fitted with easing gear —  
 Smallest distance between boilers and bunkers or woodwork 4 ins.  
 Diameter of boilers 9.0 Length of boilers 8.0 description of riveting of shell long. seams double riv<sup>d</sup> lap joint circum. seams double riv<sup>d</sup> lap joint  
 Thickness of shell plates 1/16" diameter of rivet holes 1" whether punched or drilled punched pitch of rivets 4 3/8"  
 Lap of plating 6/4" per centage of strength of longitudinal joint 77 working pressure of shell by rules 80 lbs.  
 Size of manholes in shell 15" x 11" size of compensating rings 5" x 3/4"  
 No. of Furnaces in each boiler 2 outside diameter 2.8 1/16" length, top 5.3" bottom 7.3"  
 Thickness of plates 1/16" 1/2" description of joint welded if rings are fitted no flange greatest length between flanges 2.9"  
 Working pressure of furnace by the rules 106 lbs.  
 Combustion chamber plating, thickness, sides 7/16" back 7/16" top 7/16"  
 Pitch of stays to ditto sides 8 1/4" x 8 1/4" back 8 1/4" x 8 1/4" top 8 1/4" x 8 1/4"  
 Stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 99 lbs.  
 Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 130 lbs.  
 End plates in steam space, thickness 1/16" pitch of stays to ditto 16" x 10" how stays are secured Wattle nuts  
 Working pressure by rules 75 lbs. with 3/8" drilling plate diameter of stays at smallest part 2" working pressure by rules 117 lbs.  
 Front plates at bottom, thickness 1/16" Back plates, thickness 1/16" greatest pitch of stays 13" working pressure by rules 100 lbs.



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Diameter of tubes  $3\frac{1}{4}$  " pitch of tubes  $4\frac{1}{2}$  " thickness of tube plates, front  $3\frac{1}{4}$  " back  $3\frac{1}{4}$  "  
 How stayed *Stay tubes* pitch of stays  $13\frac{1}{2} \times 9$  " width of water spaces  $1\frac{1}{4}$  "  
 Diameter of ~~Superheater~~ Steam chest  $2\cdot 9$  " length  $2\cdot 6$  "  
 Thickness of plates  $3\frac{1}{8}$  " description of longitudinal joint *lap double* diameter of rivet holes  $1\frac{1}{8}$  " pitch of rivets  $2\frac{3}{4}$  "  
 Working pressure of shell by rules  $119$  lbs. 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  $1\frac{1}{2}$  " How stayed *4 Vertical stays*  $1\frac{1}{2}$  " dia.  
~~Superheater~~ or steam chest; how connected to boiler *By flange*

**DONKEY BOILER—**

Description

*No Donkey Boiler*

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 \_\_\_\_\_  
 If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_  
 thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_  
 pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_ per centage of strength of joint \_\_\_\_\_  
 thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
 Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_  
 thickness of 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 plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

The foregoing is a correct description,

*Richard Smith* Manufacturer.

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

*The machinery and boiler, are of a good quality of workmanship, they have been constructed under Special Survey, tried under steam, and found to work satisfactorily and are now in good order and safe working condition and render this vessel eligible, in my opinion, to have*  
 ⚓ *Lloyd's M. C. 10.81.* recorded in the Register of this Society.

The amount of Entry Fee £ 1 : 0 : 0 received by me,

Special £ 8 : 0 : 0 *29/10/81* *J.F.L.*

Certificate (if required) .. £ : : 18

To be sent as per margin.

(Travelling Expenses, if any, £ *0.16.9*)

Committee's Minute *Liverpool Nov 1<sup>st</sup> 1881.*

*Lloyd's M.C. 10-81.*

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



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