

# REPORT ON MACHINERY.

88

No. 7324 Inbro No 88 Port of Hull Received at London Office JUN 30 1890  
 No in Survey held at Hull Date, first Survey Oct. 21<sup>st</sup> 1889 Last Survey 26<sup>th</sup> June 1890  
 eg. Book. (Number of Visits 34) 1435.45  
 Tons 1115.94  
 Name of the Screw Steamer Montebello  
 Master Pepper Built at Stockton By whom built Richardson Buck & Co When built 1890  
 Engines made at Hull By whom made Amos Smith when made 1890  
 Millers made at Hull By whom made Amos Smith when made 1890  
 Registered Horse Power 230 Owners Thos Wilson Sons & Co Port belonging to Hull  
 Net Tonnage 276

## ENGINES, &c.—

Description of Engines Triple Compound Smoked steel Acting  
 Diameter of Cylinders 24.38 x 62 Length of Stroke 42" No. of Rev. per minute 85 Point of Cut off, High Pressure .62 Low Pressure .604  
 Diameter of Screw shaft 11 1/2" Diam. of Tunnel shaft 11" Diam. of Crank shaft journals 11 1/2" Diam. of Crank pin 11 1/2" size of Crank webs 14 1/2" x 7 1/2"  
 Diameter of screw 14.0 Pitch of screw 14.6 No. of blades 4 state whether moreable No total surface 60 sq ft  
 No. of Feed pumps two diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps two diameter of ditto 3 1/2" Stroke 24" Can one be overhauled while the other is at work Yes  
 Where do they pump from Engine Bilge, Fore main & After holds, Stunnel Tanks & Sea  
 No. of Donkey Engines two Size of Pumps No 1 4 1/2" x 4" No 2 9" x 9" Where do they pump from No 1 All main Bilge suction discharges to Boiler back & overboard - also from hotwell No 2 Tanks, Bilges, Sea discharges to overboard & 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 Pump  
 How are the pumps worked Circulating Pump separate Engine Room After Engine rocking lever  
 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 No  
 How are the pipes carried through the bunkers How are they protected  
 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 unintended connection between the sea and the bilges Yes  
 Have the stern tube, propeller, screw shaft, and all connections examined in dry dock How New  
 Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Main back

## BOILERS, &c.—

Number of Boilers two Description Cylindrical Steel Whether Steel or Iron Steel  
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 9<sup>th</sup> & 16<sup>th</sup> April 1890  
 Description of superheating apparatus or steam chest None fitted  
 Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes  
 Area of square feet of fire grate surface in each boiler 56 sq ft Description of safety valves Spring loaded No. to each boiler two  
 Area of each valve 12.56 sq in Are they fitted with easing gear Yes No. of safety valves to superheater — area of each valve —  
 Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 12" Diameter of boilers 15.0"  
 Length of boilers 10.6' description of riveting of shell long. seams double strap steel circum. seams double strap steel Thickness of shell plates 19/16"  
 Diameter of rivet holes 13/16" whether punched or drilled drilled pitch of rivets 8 1/8" Lap of plating 19 3/4"  
 Percentage of strength of longitudinal joint 84.5% working pressure of shell by rules 160 lbs size of manholes in shell 16" x 12"  
 Diameter of compensating rings 2.6" x 2.2" x 19/16" No. of Furnaces in each boiler three  
 Inside diameter 4.7" length, top 6.6' bottom 7.0' thickness of plates 19/32" description of joint welded if rings are fitted Yes  
 Shortest length between rings 19/32" working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"  
 No. of stays to ditto, sides 7 3/4" back 7 3/4" top 7 3/4" If stays are fitted with nuts or riveted heads Nuts working pressure of plating by rules 161 lbs  
 Diameter of stays at smallest part 1.22 ana working pressure of ditto by rules 162 lbs end plates in steam space, thickness 1 1/32"  
 No. of stays to ditto 15 3/4" how stays are secured with nuts working pressure by rules 161 lbs diameter of stays at smallest part 4.3 ana working pressure by rules 164 lbs Front plates at bottom, thickness 1 1/16" Back plates, thickness 1 1/16"  
 Shortest pitch of stays 12" working pressure by rules 160 lbs Diameter of tubes 3 1/2" pitch of tubes 4 3/4" thickness of tube plates, front 13/16" back 13/16" how stayed stay tubes pitch of stays 12 1/4" width of water spaces 10 1/2"  
 Diameter of Superheater or Steam chest length thickness of plates description of longitudinal joint diam. of rivet holes  
 No. of rivets working pressure of shell by rules 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 how stayed  
 Heating surface 4552 sq ft Superheater or steam chest; how connected to boiler

Description of furnaces



*Steel*  
**DONKEY BOILER**— Description *Cylindrical multichamber with 2 plain furnaces*  
 Made at *Stockton* by whom made *Riley Bros* when made *1849* where fixed *on level of deck*  
 Working pressure *90 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *1020* fire grate area *75 sq ft* description of safety valves *Spring* No. of safety valves *2* area of each *4.06* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *4' 6"* length *9' 0"* description of riveting *Long Lap Double*  
 Thickness of shell plates *17/32"* diameter of rivet holes *13/16"* whether punched or drilled *Quenched* pitch of rivets *3 1/4"* lap of plating *6"*  
 per centage of strength of joint *78* thickness of *iron* plates *1/6"* stayed by *1 1/2" x 1 1/2" iron stays* Pitch *15 1/2" x 11"*  
 Diameter of furnace, top *24 1/2"* bottom *15 1/2"* length of furnace *6 1/2 ft* thickness of plates *1/2"* description of joint *Straps Single*  
 Thickness of furnace *iron* plates *15/32"* stayed by *1 1/2" x 1 1/2" iron stays* Pitch *4 1/2" x 7 1/2"* working pressure of shell by rules *90 lbs*  
 Working pressure of furnace by rules *99 lbs* diameter of uptake *3"* thickness of plates *1/16"* thickness of water tubes *1/2"*

**SPARE GEAR.** State the articles supplied:— *The top end bolts, the bottom end bolts, the main bearing bolts, one set coupling bolts, one set feed pump valves, one set bilge pump valves, iron of various sizes, bolts and nuts assorted, one length crane shaft, propeller shaft, one pair of connecting rod brasses, centrifugal pump fan spindle, one pump head valve bucket seal and guard, one set of piston springs, 50 condenser tubes, one spare spring for each eye of escape valve, one safety valve spring & one main valve spindle.*

The foregoing is a correct description,  
*James Smith* Manufacturer.

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

*The requirements of the Society's Rules have been complied with in all respects with the exception of the covering plate being fitted to the Blow off Cock, as the vessel has not been docked here. The Engineers promise as per letter attached to have it fitted upon the first opportunity.*

*The Engines and Boilers of this vessel are now in my opinion in safe working condition. They have been constructed under special survey and placed on board in accordance with the Society's Rules. The case is respectfully submitted for the certification, + L.M.C. 6.90. in the Register Book, upon condition that the covering plate be fitted when the vessel is dry docked.*

*It is submitted that this vessel is eligible to have + L.M.C. 6.90 recorded, subject to the brass covering plate being fitted to the blow off cock.*

*30.6.90*

The amount of Entry Fee .. £ *2* : 0 : 0 received by me,  
 Special .. .. £ *33* : 16 : 0  
 Donkey Boiler Fee .. .. £ : :  
 Certificate (if required) .. £ : : *18*  
 To be sent as per margin.

(Travelling Expenses, if any, £ *10*)

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

Committee's Minute

*made out*

*+ L.M.C. 6/90 subject to*

MOR 731275

