

# REPORT ON MACHINERY 14954

No. *7346* Port of *West Hartlepool*  
No. in Survey held at *Hartlepool* Received at London Office *10 MARCH 1889*  
Reg. Book. *on the* *Screw Steamer "Jordan"* Date, first Survey *2 July 1888* Last Survey *14 Feb 1889*  
Master *J. H. Clark* Built at *Sunderland* By whom built *Messrs. J. L. Thompson & Co.* Tons *1329*  
Engines made at *Hartlepool* By whom made *Messrs. J. L. Thompson & Co.* When built *1889*  
Boilers made at *Hartlepool* By whom made *Messrs. J. L. Thompson & Co.* when made *1889*  
Registered Horse Power *550* Owners *Messrs. J. L. Thompson & Co.* when made *1889*  
Port belonging to *London.*

## ENGINES, &c.—

Description of Engines *Inverted, Triple Expansion, 3 Cylinders, 3 Cranks*  
Diameter of Cylinders *21½, 35, 59* Length of Stroke *39* No. of Rev. per minute *65* Point of Cut off, High Pressure *.5* Low Pressure *.6*  
Diameter of Screw shaft *10½* Diam. of Tunnel shaft *10½* Diam. of Crank shaft journals *10½* Diam. of Crank pin *10½* size of Crank webs *15½ x 7¼*  
Diameter of screw *15.0* Pitch of screw *17.4* No. of blades *4* state whether moveable *no* total surface *69 sq. ft.*  
No. of Feed pumps *2* diameter of ditto *3¼* Stroke *23* Can one be overhauled while the other is at work *yes*  
No. of Bilge pumps *2* diameter of ditto *3¼* Stroke *23* Can one be overhauled while the other is at work *yes*  
Where do they pump from *Sea, & main holds, Engine room, after well, & sea.*  
No. of Donkey Engines *2* Size of Pumps *(8½ x 7) (3½ x 5)* Where do they pump from *(Sea, ballast tanks, & engine room bilges)*  
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 *4½ dia.* Are they connected to condenser, or to circulating pump *Circulating pump.*  
How are the pumps worked *By levers from the after piston rod 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 *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*  
What pipes are carried through the bunkers *none* How are they protected *yes*  
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 *new vessel*  
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform of engine room*

## BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical, Single Ended* Whether Steel or Iron *Steel*  
Working Pressure *160 lb.* Tested by hydraulic pressure to *320 lb.* Date of test *18 December 1888.*  
Description of superheating apparatus or steam chest *none*  
Can the superheater be shut off and the boiler worked separately *no*  
No. of square feet of fire grate surface in each boiler *48.8* Description of safety valves *Spring* No. to each boiler *2*  
Area of each valve *5.94* Are they fitted with easing gear *yes* No. of safety valves to superheater *2*  
Are they fitted with easing gear *yes* Smallest distance between boilers and bunkers *on woodwork 12"* Area of each valve *5.94*  
Length of boilers *9.9* description of riveting of shell long. seams *double butt strap circum. seams double lap* Thickness of shell plates *1½"*  
Diameter of rivet holes *1½"* whether punched or drilled *drilled* pitch of rivets *1½"* size of manholes in shell *none*  
Percentage of strength of longitudinal joint *85.3* working pressure of shell by rules *160 lb.* No. of Furnaces in each boiler *3*  
Diameter of compensating rings *2.11* length, top *6.6* bottom *7.0* thickness of plates *½"* description of joint *welded*  
Smallest length between rings *8 x 7½* back *8 x 7½* top *8 x 8* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by *160 lb.*  
Diameter of stays at smallest part *1½"* working pressure of ditto by rules *180 lb.* end plates in steam space, thickness *1½"*  
Pitch of stays to ditto *15½" x 15½"* how stays are secured *double nuts & washers* working pressure by rules *160 lb.* diameter of stays at *1½"*  
Smallest part *3½"* working pressure by rules *160 lb.* Front plates at bottom, thickness *¾"* Back plates, thickness *1½"*  
Pitch of stays *11½"* working pressure by rules *150 lb.* Diameter of tubes *3½"* pitch of tubes *4½" x 4½"* thickness of tube *1½"*  
Plates, front *13½"* back *16"* how stayed *stay tubes* pitch of stays *9 x 8½"* width of water spaces *1¼"*  
Diameter of Superheater or Steam chest *none* length *none* thickness of plates *none* description of longitudinal joint *none* diam. of rivet holes *none*  
Pitch of rivets *none* working pressure of shell by rules *none* diameter of flue *none* thickness of plates *none* If stiffened with rings *none*  
Smallest length between rings *none* working pressure by rules *none* end plates of superheater, or steam chest; thickness *none* how stayed *none*  
Superheater or steam chest; how connected to boiler *none*



**DONKEY BOILER**— Description *Circular Vertical Cochran's patent.*  
 Made at *Birkenhead* by whom made *James Cochran & Co.* when made *29.12.88* where fixed *In stokehole*  
 Working pressure *80lb.* tested by hydraulic pressure to *160lb.* No. of Certificate *746* fire grate area *20.9 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 *6.6* length *13.6* description of riveting *double riv. lap*  
 Thickness of shell plates *1/4* diameter of rivet holes *1 1/8* whether punched or drilled *drilled* pitch of rivets *2 1/4* lap of plating *1 1/4*  
 per centage of strength of joint *70* thickness of crown plates *1 1/8* stayed by *Hemispherical*  
 Diameter of furnace, top *5.4* bottom *—* length of furnace *2.8* thickness of plates *1/2* description of joint *single riv. lap*  
 Thickness of furnace crown plates *1/2* stayed by *Hemispherical shape* working pressure of shell by rules *84lb.*  
 Working pressure of furnace by rules *90lb.* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

**SPARE GEAR.** State the articles supplied:— *One screw shaft, One propeller, One crank  
 shaft. One set of bolts & nuts for a connecting rod, main bearing,  
 and shaft coupling. 1 set feed pump valves, 1 set bilge pump valves  
 quantity of assorted bolts and nuts & iron of various sizes*

The foregoing is a correct description,

*J. H. Macdonald* Manufacturer of engines & main boilers

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

*Main steam pipes tested by hydraulic pressure to 320 lb. per  
 square inch and found tight*

*The engines and boilers of this vessel have been constructed  
 under Special Survey and the workmanship is of a good  
 quality. The engines and main boilers have been examined  
 under steam and found to work well and are now in safe  
 and efficient working condition and will, in my opinion, be  
 eligible to have the notification **L.M.C. 2.89** recorded in the  
 Register Book when the following work <sup>may have to be</sup> has been done.*

*Sluice valves and sea-cocks at the forward end of stokehole  
 be made accessible at all times. Screw tunnel to be fitted  
 a sluice door and made water tight, Donkey boiler to be test  
 under steam and the Spare gear to be supplied in accordance  
 with the Rules. The vessel has proceeded to Sunderland  
 for completion.*

*The above work has now been satisfactorily completed*  
*John J. Findlay*

*It is submitted that this  
 vessel is eligible to have  
 +L.M.C. 2.89 recorded*

*M.H.*  
*18.3.89*

The amount of Entry Fee .. £ 2 : 0 : 0 *received by me*  
 Special .. £ 32 : 10 : 0  
 Donkey Boiler Fee .. £ — : — : —  
 Certificate (if required) .. £ — : — : —  
 To be sent as per margin.

(Travelling Expenses, if any, £ .. ..)

Committee's Minute

TUES 19 MARCH 1889

FRIDAY 22 MARCH 1889

*+L.M.C. 2.89*

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



Lloyd's Register  
 Foundation