

# REPORT ON MACHINERY.

10952  
16 SEP. 91

No. 10952. Port of Glasgow Received at London Office  
 No. in Survey held at Glasgow Date, first Survey 24<sup>th</sup> Sept 1890 Last Survey Sept 10<sup>th</sup> 1891  
 Reg. Book. (Number of Visits 26)  
 Tons { Gross 2052  
 Net 1338  
 Ran upon the S. S. Ardnamhor  
 Master W. Anderson Built at Belfast By whom built Worke, Clark & Co When built 1891  
 Engines made at Glasgow By whom made James Howden & Coy when made 1891  
 Boilers made at Glasgow By whom made James Howden & Coy when made 1891  
 Registered Horse Power 200 Owners Clark & Service Port belonging to Glasgow

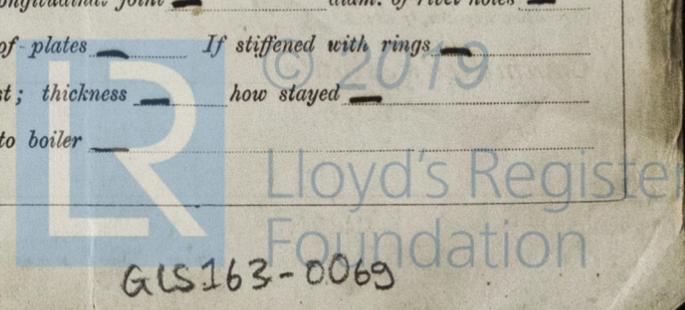
## ENGINES, &c.—

Description of Engines Triple Expansion No. of Cylinders Three  
 Diam. of Cylinders 22 1/2, 35 1/2 & 58 1/2 Length of Stroke 39 Rev. per minute 70 Point of Cut off, High Pressure var Low Pressure var  
 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 built  
 Diameter of screw 14-4 Pitch of screw 16 to 17 ft. No. of blades 4 state whether moveable sol. total surface 60 sq ft  
 No. of Feed pumps 2 diameter of ditto 3 Stroke 19 Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 diameter of ditto 3 Stroke 19 Can one be overhauled while the other is at work yes  
 Where do they pump from all Compartments  
 No. of Donkey Engines two Size of Pumps 5 1/2 x 5 x 3 1/2 Where do they pump from Hotwell, sea tanks & bilges  
ruis 8 x 18 x 6  
 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 5 1/2 Are they connected to condensers, or to circulating pump yes  
 How are the pumps worked by levers L. P. 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 —  
 What pipes are carried through the bunkers none 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 unintentional connection between the sea and the bilges yes  
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock at Belfast  
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from upper platform

## BOILERS, &c.—

No. of Boilers Two Description Howden's Forced Dr. Arr<sup>mt</sup> Material Steel Letter (for record) B.  
 Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs. Date of test July 4<sup>th</sup> 1891.  
 Description of superheating apparatus or steam chest none  
 Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately —  
 No. of square feet of fire grate surface in each boiler 37 Description of safety valves d. Spring No. to each boiler two  
 Area of each valve Heating 7 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 9' Diameter of boilers 12'-6"  
 Length of boilers 11'-0" description of riveting of shell long. seams d. butt joint circum. seams d. riv. lap Thickness of shell plates 1 3/32  
 Diameter of rivet holes 1 3/32 whether punched or drilled drilled pitch of rivets 7 1/2 & 3 7/8 Lap of plating 5 1/2  
 Per centage of strength of longitudinal joint 84.9 lbs working pressure of shell by rules 161 lbs size of manholes in shell 12" x 16"  
 Size of compensating rings M. Nuts ring No. of Furnaces in each boiler three Description of Furnaces Purvis  
 Outside diameter 43" length 8'-0" thickness of plates 1/2" description of joint welded if rings are fitted —  
 Greatest length between rings — working pressure of furnace by the rules 162 lbs combustion chamber plating, thickness, sides 5/8 back 3/16 top 5/8  
 Pitch of stays to ditto, sides 8 1/4" back 7 3/4" top 8 1/4" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 162 lbs Diameter of stays at smallest part 1 1/2 & 1 7/8 working pressure of ditto by rules 174 lbs end plates in steam space, thickness 1" & wash.  
 Pitch of stays to ditto 15 1/4 x 15 1/4" how stays are secured d. nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 5/8" st. bars working pressure by rules 170 lbs Front plates at bottom, thickness 3/4" Back plates, thickness 3/4"  
 Greatest pitch of stays — working pressure by rules — Diameter of tubes 2 1/2" pitch of tubes 5 1/4 & 3 7/8 thickness of tube plates, front 3/4" back 1/16" how stayed stubes pitch of stays 7 1/2 & 7 1/2" width of water spaces 6"  
 Diameter of Superheater or Steam chest — length — thickness of plates — description of longitudinal joint — diam. of rivet holes —  
 Pitch 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 —  
 Superheater or steam chest; how connected to boiler —

No. 8.—Copyable



10952 g/s

**DONKEY BOILER**— Description *Vertical with cross tubes*  
 Made at *Gateshead* by whom made *Clark, Chapman & Coy* when made *1891* where fixed *At the hold*  
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs*. No. of Certificate *3630*. fire grate area *23 ft* description of safety  
 valves *d. spring* No. of safety valves *one* area of each *9.62* if fitted with easing gear *yes* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *7'-3"* length *12'-6"* description of riveting *lap d. riv*  
 Thickness of shell plates *1/2"* diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *3 1/4"* lap of plating *4 1/2"*  
 per centage of strength of joint *71* thickness of crown plates *1/16"* stayed by *nine 1 1/2" off stays*  
 Diameter of furnace, top *5'-11 1/2"* bottom *6'-3 1/4"* length of furnace *5'-0"* thickness of plates *5/8"* description of joint *lap single*  
 Thickness of furnace crown plates *5/8"* stayed by *as shell crown* working pressure of shell by rules *87 lbs*  
 Working pressure of furnace by rules *80 lbs*. diameter of uptake *18"* thickness of plates *3/8"* thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *Propeller and shaft complete. One piece  
 crank shaft. Air pump rod. Top and bottom end bolts  
 and brasses. Main bearing & coupling bolts. Feed and  
 bidge pump valves etc.*

The foregoing is a correct description,  
 Manufacturer.

*James Morrison & Co*

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

*Two Reports on Forgings are enclosed herewith*

*These engines & boilers have been constructed on  
 special survey - they are of good material & workmanship - they have  
 been well fitted on board - satisfactorily tested under steam and we are  
 of opinion they are eligible to be classed **+ L.M.C 9-91** in the Register  
 Book.*

*It is submitted that this vessel is  
 eligible to have **+ L.M.C 9-91**  
 recorded. *MA* 21-9-91*

*Ordinary Certificate  
 Written.*

Certificate (if required) to be sent to

The amount of Entry Fee .. £ *2* : - - received by me,  
 Special .. £ *24* : *16* : -  
 Donkey Boiler Fee .. .. £ .. : ..

*15.9 1891*

*J. J. Rolison John Anderson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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

Committee's Minute

**TUES. 22 SEP 1891**

*+ Lmb 9/91*

