

REPORT ON MACHINERY.

9970

No. **9940** Port of **Glasgow** Received at London Office **WED 13 JULY 1890**
 No. in Survey held at **Glasgow** Date, first Survey **18th Sept 1889** Last Survey **July 14th 1890**
 Reg. Book. **S. S. Alessis** (Number of Visits **30**)
 on the **Putt** Built at **Glasgow** By whom built **Mackie & Thomson** Tons { Gross **1850**
 Master **Putt** Built at **Glasgow** By whom built **Mackie & Thomson** Net **1204**
 Engines made at **Glasgow** By whom made **Muir & Houston** When built **1890**
 Boilers made at **Do** By whom made **Do** when made **1890**
 Registered Horse Power **130** Owners **Aitken & Walker** Port belonging to **Glasgow**

ENGINES, &c.
 Description of Engines **Immersed Direct Acting Triple Expansion** No. of Cylinders **Three**
 Diam. of Cylinders **14, 31, 51** Length of Stroke **39** Rev. per minute **75** Point of Cut off, High Pressure $\frac{11}{16}$ Low Pressure $\frac{9}{16}$
 Diameter of Screw shaft **10** Diam. of Tunnel shaft **9 1/2** Diam. of Crank shaft journals **10** Diam. of Crank pin **10** size of Crank webs **Built 11 1/2 x 7 1/2**
 Diameter of screw **13-0** Pitch of screw **15-0** No. of blades **Four** state whether moveable **Solid** total surface **54 sq ft**
 No. of Feed pumps **Two** diameter of ditto **2 3/4** Stroke **19 1/2** Can one be overhauled while the other is at work **Yes**
 No. of Bilge pumps **Two** diameter of ditto **3 1/2** Stroke **19 1/2** Can one be overhauled while the other is at work **Yes**
 Where do they pump from **Engine Room Holds & Yanks**
 No. of Donkey Engines **Two** Size of Pumps **Feed 7 1/2 4 pump x 6 stroke** Where do they pump from **Both pump from all holds and tanks, also from the sea - and the Feed donkey pumps from Hotwell & boiler -**
 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 **4 1/2 dia** Are they connected to condenser, or to circulating pump **Circulating**
 How are the pumps worked **By levers from crosshead of Intermediate engine**
 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 **At level**
 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**
 Are pipes carried through the bunkers **None** How are they protected **✓**
 Are 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 **Before launching**
 Is the screw shaft tunnel watertight **Yes** and fitted with a sluice door **Yes** worked from **Engine room platform at deck**

BOILERS, &c.
 No. of Boilers **Two** Description **Cylindrical. Mult^l** Material **Steel** Letter (for record) **S**
 Working Pressure **160 lbs.** Tested by hydraulic pressure to **320 lbs.** Date of test **May 21st 1890.**
 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 **✓**
 Area of square feet of fire grate surface in each boiler **45** Description of safety valves **Direct openings** No. to each boiler **Two**
 Area of each valve **4.9 sq ins** 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 **12"** Diameter of boilers **12-2"**
 Length of boilers **9-6** description of riveting of shell long. seams **Bull. three rows** circum. seams **Lap. double** Thickness of shell plates **1 1/16**
 Diameter of rivet holes **1 1/8"** whether punched or drilled **Drilled** pitch of rivets **7 3/4 x 3 7/8** Lap of plating **17 x 13 bull.**
 Percentage of strength of longitudinal joint **85.5** working pressure of shell by rules **162 lb.** size of manholes in shell **15"**
 Description of compensating rings **Double riveted plate** No. of Furnaces in each boiler **Three** Description of Furnaces **Purvis' patent ribbed**
 Inside diameter **37"** length **6-0"** thickness of plates **✓** description of joint **Weld** if rings are fitted **Yes**
 Greatest length between rings **9"** working pressure of furnace by the rules **186 lb.** combustion chamber plating, thickness, sides **1/2"** back **1/2"** top **1/2"**
 If stays to ditto, sides **7"** back **7"** top **7 x 6 1/2** If stays are fitted with nuts or riveted heads **Nuts** working pressure of plating by rules **157 lb.**
 Diameter of stays at smallest part **1 1/4 ins** working pressure of ditto by rules **160 lb.** end plates in steam space, thickness **7/8"**
 Pitch of stays to ditto **13 x 13** how stays are secured **Nuts** working pressure by rules **162 lb.** diameter of stays at smallest part **2 1/4 ins**
 working pressure by rules **162 lb.** Front plates at bottom, thickness **13/16"** Back plates, thickness **13/16"**
 Greatest pitch of stays **11 1/2 x 7** working pressure by rules **160 lb.** Diameter of tubes **3 1/4"** pitch of tubes **4 1/2 x 4 1/2** thickness of tube plates, front **13/16"** back **13/16"** how stayed **Tubes** pitch of stays **13 x 9** width of water spaces **5 1/2 x 6"**
 Diameter of Superheater or Steam chest **None** length **✓** thickness of plates **✓** description of longitudinal joint **✓** diam. of rivet holes **✓**
 diameter 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 **✓**

9970 e/s.

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 _____

SPARE GEAR. State the articles supplied:— *connecting top & bottom end bolts & nuts - two main bearing bolts - One set of coupling bolts - Feed & bilge pump valves - Assorted bolts, nuts, irons &*

The foregoing is a correct description,
Wm. Houston Manufacturer.

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

These engines & boilers have been constructed under special survey - they are of good material & workmanship - they have been well fitted on board - satisfactorily tested under steam and I am of opinion they are eligible to be classed + L. M. C. 7-90 in the Register Book.

Appended hereto are two Reports on Forging -

It is submitted that this vessel is eligible to have + LMC 7.90 recorded

*J. M. H. L. D.
 16. 7. 90*

Machinery Certificate Written

The amount of Entry Fee . . . £ 2 : - : - received by me,
 Special £ 19 : 10 : -
 Donkey Boiler Fee £ - : - : -
 Certificate (if required) . . . £ - : - : - *15/4 1890*
 (Travelling Expenses, if any, £ _____)

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

Committee's Minute *FRI 18 JULY 1890*
+ Rmb 7/90

