

REPORT ON MACHINERY.

977

No. *977* Port of *Glasgow*
 No. in Survey held at *Glasgow* Date, first Survey *16th Oct 1888* Last Survey *20th June 1889*
 Reg. Book. _____ Received at London Office _____
 on the *S.S. "Baron Elibank"* (Number of Visits *29*) Tons _____
 Master _____ Built at *Glasgow* By whom built *Murdoch & Murray* When built *1889*
 Engines made at *Glasgow* By whom made *D. Stewart & Co* when made *1889*
 Boilers made at *Glasgow* By whom made *D. Stewart & Co* when made *1889*
 Registered Horse Power *155* Owners *H. Hogarth* Port belonging to *Androssan*

ENGINES, &c.—

Description of Engines *Triple Expansion (three cranks)*
 Diameter of Cylinders *19 1/2", 30 1/2" & 50"* Length of Stroke *39"* No. of Rev. per minute *70* Point of Cut off, High Pressure *1/4* Low Pressure *1/2*
 Diameter of Screw shaft *10"* Diam. of Tunnel shaft *9 1/2"* Diam. of Crank shaft journals *10 1/2"* Diam. of Crank pin *10"* size of Crank webs *built*
 Diameter of screw *14'-2"* Pitch of screw *16'-0"* No. of blades *4* state whether moveable *yes* total surface *50 sq ft*
 No. of Feed pumps *2* diameter of ditto *3 1/2"* Stroke *15"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *4"* Stroke *15"* 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" x 8 1/2" x 3 1/2"* Where do they pump from *Water, Sea,*
Tanks & bilges *10 1/2" x 10" x 9"*
 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"* Are they connected to condenser or to circulating pump *yes*
 How are the pumps worked *by levers off int. to cyl's crankhead*
 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
 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 *see Greenock Report No 9702. attached*
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *upper platform*

BOILERS, &c.—

Number of Boilers *two* Description *S.E. Multitubular* Whether Steel or Iron *Steel*
 Working Pressure *160 lbs.* Tested by hydraulic pressure to *320 lbs.* Date of test *9th May 1889.*
 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 *42* Description of safety valves *direct spring* No. to each boiler *two*
 Area of each valve *5"* 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'-8"*
 Length of boilers *9'-10 1/2"* description of riveting of shell long. seams *d. butt st.* circum. seams *d. riv. lap* Thickness of shell plates *1 1/2"*
 Diameter of rivet holes *1 3/16"* whether punched or drilled *drilled* pitch of rivets *7.125"* Lap of plating *18 1/2" butt st.*
 Percentage of strength of longitudinal joint *83%* working pressure of shell by rules *160 lbs.* size of manholes in shell *12" x 16"*
 Size of compensating rings *McNeill's patent ring & door* No. of Furnaces in each boiler *2*
 Outside diameter *44"* length, top *6'-6"* bottom *9'-4"* thickness of plates *9/16"* description of joints *Purves patent* if rings are fitted _____
 Greatest length between rings _____ working pressure of furnace by the rules *160 lbs* combustion chamber plating, thickness, sides *19/32"* back *19/32"* top *19/32"*
 Pitch of stays to ditto, sides *7 1/2"* back *7 1/2"* top *7 1/2" x 8 1/2"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *190 lbs* Diameter of stays at smallest part *1 1/2"* working pressure of ditto by rules *160 lbs* end plates in steam space, thickness *15/16" & 7/8" double pl.*
 Pitch of stays to ditto *15" x 14"* how stays are secured *d. nuts* working pressure by rules *165 lbs* diameter of stays at smallest part *3" iron bars* working pressure by rules *200 lbs.* Front plates at bottom, thickness *13/16"* Back plates, thickness *7/8"*
 Greatest pitch of stays _____ working pressure by rules _____ Diameter of tubes *3 1/2"* pitch of tubes *4 1/2"* thickness of tube plates, front *7/8"* back *7/8"* how stayed *stayed* pitch of stays *9 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 _____

DONKEY BOILER— Description *Vertical (with Crown tubes) Keel.*
 Made at *Glasgow* by whom made *D. Stewart & Co* when made *1889* where fixed *Stokehold*
 Working pressure *70 lbs* tested by hydraulic pressure to *140 lbs*. No. of Certificate *2160*. fire grate area *22 sq ft* description of safety
 valves *direct 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 *6'-6"* length *13'-0"* description of riveting *single & double*
 Thickness of shell plates *7/16* diameter of rivet holes *3/4"* whether punched or drilled *drilled* pitch of rivets *3 1/4"* lap of plating *4"*
 per centage of strength of joint *74* thickness of crown plates *9/16* stayed by *dished & sil 2" rod stays*
 Diameter of furnace, top *5'-4"* bottom *5'-9"* length of furnace *6'-3"* thickness of plates *1/2"* description of joint *lap*
 Thickness of furnace crown plates *1/2"* stayed by *dished & sil 2" rod stays* working pressure of shell by rules
 Working pressure of furnace by rules diameter of uptake *16"* thickness of plates *7/16* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Two propeller blades and studs —*
Fwd and bilge pump valves & seats — Valves for donkey
Top and bottom end bolts, main bearing and
coupling bolts. Bolts, nuts iron & assorted —
 The foregoing is a correct description,
D. Stewart & Co Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned*)
engines and boilers, which have been built under
Special Survey, are now completed onboard in
in a satisfactory manner, of good workmanship
and material and this machinery is now in
*my opinion eligible to the notation: **L.M.C. 6.89.***
in the Society's Register Book.

It is submitted that this vessel is
*eligible to have **L.M.C. 6.89.***
recorded. W.A.
22-6-89.

The amount of Entry Fee .. £ *2* : *0* : *0* received by me,
 Special .. £ *23* : *5* : *0*
 Donkey Boiler Fee .. £ *15* : *0* : *0* *more paid 24/6/89*
 Certificate (if required) .. £ *0* : *0* : *0* *18/6/1889*
To be sent as per margin.
 (Travelling Expenses, if any, £)

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

Committee's Minute **JUN 25 1889**

L.M.C. 689

Glasgow.
 Lloyd's Register
 Foundation

L.M.C. 689 Record in board & web names

22/6/89