

# REPORT ON MACHINERY.

No. *8575* Received at London Office *TUESDAY 9 OCT 1883*  
 No. in Survey held at *Glasgow* Date, first Survey *6<sup>th</sup> Feb. 1883* Last Survey *4<sup>th</sup> Oct. 1883*  
 Reg. Book. *S. S. Progress.* (Number of Visits *10*) *444.95*  
 on the *S. S. Progress.* Tons *271.47*  
 Master *Danarson* Built at *Glasgow* By whom built *Murdoch & Murray* When built *1883*  
 Engines made at *Glasgow* By whom made *Muir & Houston* when made *1883*  
 Boilers made at *do* By whom made *do* when made *do*  
 Registered Horse Power *65* Owners *J. & J. Macfarlane* Port belonging to *Glasgow*

ENGINES, &c.—  
 Description of Engines *Compound Inverted Direct Acting.*  
 Diameter of Cylinders *20" & 40"* Length of Stroke *27"* No. of Rev. per minute *90* Point of Cut off, High Pressure *var* Low Pressure *—*  
 Diameter of Screw shaft *7"* Diam. of Tunnel shaft *6 3/4"* Diam. of Crank shaft journals *7"* Diam. of Crank pin *7"* size of Crank webs *5" x 8 1/2"*  
 Diameter of screw *9' 6"* Pitch of screw *13' 0"* No. of blades *4* state whether moveable *no* total surface *25 sq. ft.*  
 No. of Feed pumps *One* diameter of ditto *2 3/4"* Stroke *15"* Can one be overhauled while the other is at work *—*  
 No. of Bilge pumps *One* diameter of ditto *2 3/4"* Stroke *15"* Can one be overhauled while the other is at work *—*  
 Where do they pump from *All Compartments.*  
 No. of Donkey Engines *One* Size of Pumps *5" Cyl. 3" x 6" Stroke* Where do they pump from *Sea, holds & Tanks.*  
*shotwell.*  
 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 *2 3/4"* Are they connected to condenser, or to circulating pump *Cir. pump.*  
 How are the pumps worked *by levers.*  
 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 *on 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 *yes*  
 That pipes are carried through the bunkers *Bilge & Tank Suctions* How are they protected *wood Casing*  
 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 *before Launching.*  
 Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *Upper platform.*

BOILERS, &c.—  
 Number of Boilers *One* Description *Round Multitubular* Whether Steel or Iron *Steel*  
 Working Pressure *80 lbs.* Tested by hydraulic pressure to *100 lbs.* Date of test *1<sup>st</sup> August 1883.*  
 Description of superheating apparatus or steam chest *Vertical Some.*  
 Can each boiler be worked separately *—* Can the superheater be shut off and the boiler worked separately *—*  
 No. of square feet of fire grate surface in each boiler *40* Description of safety valves *Direct Spring* No. to each boiler *two*  
 Area of each valve *9' 12"* 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 *13" to bunker* Diameter of boilers *12' 0"*  
 Length of boilers *9' 6"* description of riveting of shell long. seams *Treb. Lap.* circum. seams *Double Lap.* Thickness of shell plates *7/8"*  
 Diameter of rivet holes *1 1/4"* whether punched or drilled *rim.* pitch of rivets *5"* Lap of plating *9"*  
 Percentage of strength of longitudinal joint *76.* working pressure of shell by rules *82.5 lbs.* size of manholes in shell *12' x 16"*  
 Size of compensating rings *7/8" plate 5" broad.* No. of Furnaces in each boiler *Two.*  
 Outside diameter *3' 7"* length, top *6' 3"* bottom *9' 0"* thickness of plates *15/32"* description of joint *Butt* if rings are fitted *no*  
 Greatest length between rings *—* working pressure of furnace by the rules *83 lbs* combustion chamber plating, thickness, sides *7/16"* back *7/16"* top *7/16"*  
 Pitch of stays to ditto, sides *7/2"* back *7/2"* top *7/2" x 8"* If stays are fitted with nuts or riveted heads *Nuts.* working pressure of plating by rules *96 lbs.* Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *110 lbs* end plates in steam space, thickness *3/4"*  
 Pitch of stays to ditto *14" x 15"* how stays are secured *Nuts.* working pressure by rules *89 lbs.* diameter of stays at smallest part *2"* working pressure by rules *89.7 lbs.* Front plates at bottom, thickness *9/16"* Back plates, thickness *9/16"*  
 Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *3 1/4"* pitch of tubes *4 1/2"* thickness of tube plates, front *5/8"* back *5/8"* how stayed *Staves* pitch of stays *6 1/2" x 9 3/4"* width of water spaces *6"*  
 Diameter of Superheater or Steam chest *3' 0"* length *3' 0"* thickness of plates *7/16"* description of longitudinal joint *Lap.* diam. of rivet holes *3/4"*  
 Pitch of rivets *2 1/4"* working pressure of shell by rules *127 lbs* 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 *3"* how stayed *three rod*  
 Stays & double Nuts Superheater or steam chest; how connected to boiler *by Hange.*



DONKEY BOILER— Description *Vertical two Cross Tubes.*  
Made at *Glasgow* by whom made *Muir & Houston* when made *1883* where fixed *Stoke hold.*  
Working pressure *60 lbs.* tested by hydraulic pressure to *120 lbs.* No. of Certificate *1145.* fire grate area *10- $\frac{3}{4}$  sq. ft.* description of safety  
valves *direct Spring* No. of safety valves *One* area of each *7.* if fitted with easing gear *yes* if steam from main boilers can  
enter the donkey boiler *No.* diameter of donkey boiler *4'-3"* length *9' high* description of riveting *single & double*  
Thickness of shell plates  *$\frac{3}{8}$ "* diameter of rivet holes  *$\frac{3}{4}$ "* whether punched or drilled *punch* pitch of rivets *3 $\frac{1}{2}$ "* lap of plating *3 $\frac{1}{2}$ "*  
per centage of strength of joint  *$\frac{7}{14}$ .* thickness of crown plates  *$\frac{7}{16}$ "* stayed by *3 palm stays attached to shell.*  
Diameter of furnace, top *3'-4"* bottom *3'-9"* length of furnace *4'6"* thickness of plates  *$\frac{3}{8}$ "* description of joint *Lap.*  
Thickness of furnace crown plates  *$\frac{7}{16}$ "* stayed by *Uptake.* working pressure of shell by rules *82 lbs.*  
Working pressure of furnace by rules *30 lbs.* diameter of uptake *10"* thickness of plates  *$\frac{3}{8}$ "* thickness of water tubes  *$\frac{5}{16}$ "*

SPARE GEAR. State the articles supplied:— *One set Top and Bottom End Bolts.*  
*1 set Coupling Bolts. 2 Main Bearing Bolts. 1 set of*  
*Feed and Bidge pump valves. Bolts & nuts assorted*  
*Iron of various sizes.*

The foregoing is a correct description,  
*Muir & Houston* Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned Engine*  
*and Boilers are now Completed on board of good*  
*workmanship and Material and the Machinery*  
*is now in my opinion in a safe and good*  
*working Condition and eligible to be noted*  
*in the Society's Register Book: \*L.M.C.10.83.*

*It is submitted that this vessel is*  
*eligible to have the notation*  
*+ L.M.C. 10.83 recorded*

*65*  
*11/10/83*

The amount of Entry Fee .. £ *1: 0: 0* received by me,  
Special .. £ *9: 15: 0 at Glasgow*  
Donkey Boiler Fee .. £ *0: 0: 0*  
Certificate (if required) .. £ *0: 0: 0* *5/10/1883*  
To be sent as per margin.  *$\frac{4}{16}$*   
(Travelling Expenses, if any, £ — "  *$\frac{4}{16}$* )

Committee's Minute

*+ Del*

*John Sanderford*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
*Glasgow District*