

REPORT ON MACHINERY.

8462

No. 8462
 Port of *Glasgow*
 Date, first Survey *6th Dec^r 1884* Last Survey *12th April 1888*
 Received at London Office *16 APR 88*
 (Number of Visits *14*) *1805 61*
 Tons *1192.02*
 on the *S S Algonquin*
 Master *J. S. Moore* Built at *(Yoker) Glasgow* By whom built *Napier Shanks & Bell* When built *1888*
 Engines made at *Glasgow* By whom made *Dunsmuir & Jackson* when made *1888*
 Boilers made at *Do* By whom made *Do* when made *1888*
 Registered Horse Power *150* Owners *Thos Marks & Co* Port belonging to *Glasgow*

ENGINES, &c.—

Description of Engines *Inverted Direct Acting - Surface Condensing - Triple Expansion*
 Diameter of Cylinders *21 33 54* Length of Stroke *36* No. of Rev. per minute *90* Point of Cut off, High Pressure *.75* Low Pressure *.75*
 Diameter of Screw shaft *10 1/2* Diam. of Tunnel shaft *10* Diam. of Crank shaft journals *10 1/2* Diam. of Crank pin *10 1/2* size of Crank webs *6 1/2 x 13*
 Diameter of screw *12-7* Pitch of screw *17-0* No. of blades *Four* state whether moveable *Yes* total surface *50 1/2 sq ft*
 No. of Feed pumps *Two* diameter of ditto *3"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *Two* diameter of ditto *3"* Stroke *18"* Can one be overhauled while the other is at work *Yes*
 Where do they pump from *Holds & Engine Room*
 No. of Donkey Engines *Two* Size of Pumps *Feed - 7 1/2 gals 4 pumps 9" slide Ballast - 7 1/2* Where do they pump from *Ballast from Tanks & Sea*
Feed donkey from Sea, hotwell & bilges. Also one 4" steam ejector Aft and one 2 1/2" ejector in Fore Peak
 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 *3 1/2"* 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 ~~below~~ the deep water line *Yes*
 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 *For 2 1/2" pipes. 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 *Before launching*
 Is the screw shaft tunnel watertight *No tunnel* and fitted with a sluice door *✓* worked from *✓*

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical - Multi* Whether Steel or Iron *Steel*
 Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *March 12th 1888*
 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 *50* Description of safety valves *Direct spring* No. to each boiler *Two*
 Area of each valve *8.3 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 *3 feet* Diameter of boilers *13'-0"*
 Length of boilers *9'-3"* description of riveting of shell long. seams *Butt - three rows* circum. seams *Lap - double* Thickness of shell plates *1 1/2"*
 Diameter of rivet holes *1 1/32* whether punched or drilled *Drilled* pitch of rivets *7 1/2" & 3 3/4"* Lap of plating *17"*
 Per centage of strength of longitudinal joint *84.5* working pressure of shell by rules *163 lbs* size of manholes in shell *16" x 12"*
 Size of compensating rings *Double riveted ring* No. of Furnaces in each boiler *Three*
 Outside diameter *36"* length, top *6'-3"* bottom *✓* thickness of plates *1 1/2"* description of joint *Weld* if rings are fitted *Annular*
 Greatest length between rings *9'* working pressure of furnace by the rules *183 lbs* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*
 Pitch of stays to ditto, sides *7 3/4"* back *7 3/4"* top *7 3/4"* If stays are fitted with nuts or riveted heads *Nut inside* working pressure of plating by rules *162 lbs* Diameter of stays at smallest part *1 1/8" & 1 5/8"* working pressure of ditto by rules *164 lbs* end plates in steam space, thickness *3/32" with 1/16" doubling*
 Pitch of stays to ditto *17" x 15"* how stays are secured *Nut* working pressure by rules *167 lbs* diameter of stays at smallest part *2 3/4"* working pressure by rules *172 lbs* Front plates at bottom, thickness *3/4"* Back plates, thickness *1/16"*
 Greatest pitch of stays *12" x 7 3/4"* working pressure by rules *160 lbs* Diameter of tubes *3 1/4"* pitch of tubes *4 3/8"* thickness of tube plates, front *13/16"* back *3/4"* how stayed *Tubes* pitch of stays *14" x 8 3/4"* width of water spaces *4" to 6"*
 Diameter of Superheater or Steam chest *None* 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 *✓*

GLS155-0189

8462 gls

DONKEY BOILER— Description *Vertical.*
Made at *Gateshead* by whom made *Clarke Chapman, Parsons & Co* when made *1888* where fixed *On deck*
Working pressure *80 lb* tested by hydraulic pressure to *160 lb* No. of Certificate *2433* fire grate area *13 sq ft* description of safety
valves *Direct spring* No. of safety valves *Two* area of each *3.14 sq in* if fitted with easing gear *yes* if steam from main boilers can
enter the donkey boiler *No* diameter of donkey boiler *5-0* length *10-6* description of riveting *Lap double*
Thickness of shell plates *3/8* diameter of rivet holes *3/4* whether punched or drilled *Drilled* pitch of rivets *2 3/4* lap of plating *3 7/8*
per centage of strength of joint *72* thickness of crown plates *1/2* stayed by *Five stays - 1 1/2" effective dia*
Diameter of furnace, top *3-8* bottom *4-2* length of furnace *5-0* thickness of plates *1/2* description of joint *Single*
Thickness of furnace crown plates *1/2* stayed by *As above* working pressure of shell by rules *90 lb*
Working pressure of furnace by rules *80 lb* diameter of uptake *12" dia* thickness of plates *7/16* thickness of water tubes *3/8" dia*

SPARE GEAR. State the articles supplied:— *Connecting rod top + bottom end bolts + nuts - One set*
of coupling bolts - Feed + bilge pump valves - Main bearing bolts - Mounted bolts, nuts
iron etc. - Also two blades for propeller - One dozen boiler tubes and one dozen Condenser tubes.

The foregoing is a correct description,
Russell & Jackson 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. 4-88 in the Register Book.

Appended hereto are Six Reports on Steel Tests - Two Reports on Forgings
also the approved tracing of Main boiler.

It is submitted that this
report is eligible to have the
non-peculiar + long
16/4/88
4-88 recorded

The amount of Entry Fee .. £ *2* : - : - received by me,
Special .. £ *22* : *10* : -
Donkey Boiler Fee .. £ - : - : -
Certificate (if required) .. £ - : - : - *14/4/1888*
To be sent as per margin.

(Travelling Expenses, if any, £ ..)
Committee's Minute
+ LMC 4/88

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

