

REPORT ON MACHINERY.

5633

No. 5633

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No. in Survey held at Glasgow

Date, first Survey 10.5.81

Last Survey 20 Feb 1882

Reg. Book.

7314 on the S.P. Assyria

Tons 940.9.1495

Master W. R. Mason

Built at Renfrew

When built 1842

Engines made at Renfrew

By whom made H. Simons & Co. when made 1842

Boilers made at Glasgow

By whom made D. M. Henderson when made 1881

Registered Horse Power 200

Owners Brit. Ind. & Gen. Co. (Lm.)

Port belonging to Glasgow

ENGINES, &c.—

Description of Engines *Compound Inverted Direct Acting*

Diameter of Cylinders *35 7/8" + 60* Length of Stroke *39* No. of Rev. per minute *50* Point of Cut off, High Pressure *27"* Low Pressure *27"*

Diameter of Screw shaft *11 1/4"* Diameter of Tunnel shaft *11"* Diameter of Crank shaft journals *11 1/4"* Diameter of Crank pin *11 x 8"* size of Crank webs

Diameter of screw *14.2 ft* Pitch of screw *19 ft* No. of blades *4* state whether moveable *yes* total surface *44'*

No. of Feed pumps *2* diameter of ditto *4 1/8"* Stroke *20"* Can one be overhauled while the other is at work *no*

No. of Bilge pumps *2* diameter of ditto *4 1/8"* Stroke *20"* Can one be overhauled while the other is at work *no*

Where do they pump from *All compartments.*

No. of Donkey Engines *2* Size of Pumps *"* Where do they pump from *All Compartments.*

Are all the bilge suction pipes fitted with roses *yes* Are the roses always accessible *yes* Are the cocks on Engine room bulkheads always accessible *yes* *cocks opened from top platform & floor*

No. of bilge injections *1* and sizes *3"* Are they connected to condenser, or to circulating pump *the latter*

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 *below*

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 *Main & Air Hold Suctions* How are they protected *by 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 *8.2.82*

Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *top platform of Engine room*

OILERS, &c.—

Number of Boilers *one* Description *Cylindrical, double Ended, Multitubular, Steel Internets*

Working Pressure *65* Tested by hydraulic pressure to *130* Date of test *21.9.81. A.C.H*

Description of superheating apparatus or steam chest *Horizontal Chest*

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 *115.5 sq.* Description of safety valves *Direct Spring*

No. to each boiler *two* area of each valve *30.62* 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 *10 1/2"*

Diameter of boilers *13' 11"* Length of boilers *16' 4"* description of riveting of shell long. seams *triple* circum. seams *double*

Thickness of shell plates *3 1/32"* diameter of rivet holes *1 1/4"* whether punched or drilled *punched* pitch of rivets *5"*

Lap of plating *8 1/2"* per centage of strength of longitudinal joint *75.46* working pressure of shell by rules *44 lbs. per sq. in.*

Size of manholes in shell *14 x 11* size of compensating rings *20" x 14" x 5/8" Thick*

No. of Furnaces in each boiler *6* outside diameter *3' 6"* length, top *6' 6"* bottom *through*

Thickness of plates *7/16" Steel* description of joint *lap.* if rings are fitted *no* greatest length between rings *7 ins. at bottom*

Working pressure of furnace by the rules *62.3 lbs. per sq. in.*

Combustion chamber plating, thickness, sides *7/16" Steel* back *9/16" Steel* top *7/16" Steel* *pitch of stays 9 3/8" x 8 3/8"*

Pitch of stays to ditto *9 3/8"* sides *9 3/8"* back top *India 4.3 Stays 7 x 3 1/2" x 1 1/2"*

If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *62 lbs. per sq. in.*

Diameter of stays at smallest part *1 3/16"* working pressure of ditto by rules *45 lbs.*

End plates in steam space, thickness *11/16"* pitch of stays to ditto *15 x 15"* how stays are secured *Double Nuts Washers*

Working pressure by rules *45 lbs.* diameter of stays at smallest part *2"* working pressure by rules *83 lbs.*

Front plates at bottom, thickness *5/8"* Back plates, thickness greatest pitch of stays working pressure by rules

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Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4}$ " thickness of tube plates, front $\frac{5}{8}$ back $9/16$ "
 How stayed *Stay tubes* pitch of stays $15\frac{1}{2} \times 15\frac{1}{2}$ width of water spaces $6\frac{1}{2}$ "
 Diameter of Superheater or Steam chest $3'$ length $18'$
 Thickness of plates $\frac{7}{16}$ description of longitudinal joint *lap* diameter of rivet holes $\frac{3}{4}$ " pitch of rivets $2\frac{1}{2}$ "
 Working pressure of shell by rules 110 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 $9/16$ " How stayed *dished*
 Superheater or steam chest; how connected to boiler *Flanged throat at each end*

DONKEY BOILER— Description *Vertical iron boiler*
 Made at *Bombay* By whom made — when made *9.80.*
 Where fixed *Upper deck* working pressure *45 lbs.* Tested by hydraulic pressure to *90 lbs* No. of Certificate —
 Fire grate area — Description of safety valves *Height* No. of safety valves *2* area of each *3.14"*
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler *5.3"* length *Height 9'9"* description of riveting *zig zag*
 thickness of shell plates $\frac{1}{2}$ diameter of rivet holes $\frac{7}{8}$ " 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 *four 1 3/4" rod stays with double nuts.*
 Working pressure of shell by rules — working pressure of furnace by rules —
 diameter of uptake — thickness of plates — thickness of water tubes —

The foregoing is a correct description,

David M. Henderson & Co. Manufacturers of Boilers

General Remarks (State quality of workmanship, opinions as to class, &c.) *H.M. Press Cylinders thoroughly*
exmd. H.P. Cyl. bored out & new piston fitted piston rods turned
up & new neck rings fitted. Cyl. Slide & Expansion valve faces
scraped up & made good. Valve rods turned. & new neck rings
fitted & glands bushed. Main guides faced & honed. Crank & Turn
shafting exmd. & bearings run up with white metal. The new
length of Crank shafting fitted to after end. Screw shaft cleaned
up & new propeller boss fitted. Highness Vices renewed in stern
bush & eccentric pullups, shaps. & all main gear refitted
New bilge injection fitted to circulating pump. Main Condenser
cleaned & tested. Bilge, Feed & other pumps repaired. Blowoff
& other sea connections placed up on ships side as required
by the "Rules". Watertight doors ord. Donkey boiler exmd. & repaired
& four 1 3/4" rod stays fitted to crowns

The above work has been done in a first class manner
 & the Machinery & Boilers are in my opinion eligible to be
 classed in the Register Book. NB & Lloyd's M.C. 2.82

The amount of Entry Fee £ 1:10:0 received by me,
 Special new Boilers £ 3:3:0
 Certificate (if required) £ 0:0:0 6.3.1882
 To be sent as per margin. £ 14:13:0
 Travelling Expenses, if any, £

Committee's Minute 10/3/82 18
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 NB 82

Eng. Downie
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
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