

REPORT ON MACHINERY.

No. 5633

(Received in London) RECEIVED 26 MAR. 82.

No. in Survey held at Glasgow

Date, first Survey 10.5.81.

Last Survey 20 Feb 1882

Reg. Book.

1314 on the S.S. "Assyria"

Tons 7,949.1495

Master W. R. Mason

Built at Renfrew

When built 1872

Engines made at Renfrew

By whom made J. Simons & Co. when made 1872

Boilers made at Glasgow

By whom made D. H. Henderson when made 1881

Registered Horse Power 200

Owners Brit. Ind. & Am. Har. Co. (Lm.) Port belonging to Glasgow

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting

Diameter of Cylinders 35 7/8" x 46" 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

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 & Hot Air 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 treble circum. seams double

Thickness of shell plates 3/32" 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 74 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' 11" 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 to ditto 9 3/8" sides 9 3/8" back working pressure of plating by rules 62 lbs. per sq. in.

If stays are fitted with nuts or riveted heads No. working pressure of ditto by rules 75 lbs.

Diameter of stays at smallest part 1 3/16" pitch of stays to ditto 15 x 15"

End plates in steam space, thickness 11/16" Working pressure by rules 83 lbs.

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

5633 gers

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 *disks*
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 *Highland* 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. Highspeed Vices renewed in stern bush. Eccentric pullays, ships. & 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 & *Lloyds M.C. 2.82*

The amount of Entry Fee £ *1:10:0* received by me, *(Signature)*
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
Lloyds M.C. 2.82
NB 82

(Signature) 2019
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Lloyd's Register Foundation
Robert Edmund Taylor & Son Printers, 19, Old Street, Goswell Road, London, E.C.