

REPORT ON MACHINERY.

No. 6435

Received at London Office Rec'd 25th FEB, 1884.

No. in Survey held at Glasgow.

Date, first Survey 22.2.83.

Last Survey 22nd Feb. 1884.

Reg. Book.

(Number of Visits 43) 2404.64

on the

Screw Steamer Oopack.

Tons 1429.90

Master M. S. Thompson Built at Glasgow By whom built D & W. Henderson & Co When built 1883-4

Engines made at Glasgow By whom made D & W. Henderson & Co when made 1883-4

Boilers made at do. By whom made do. when made 1883-4

Registered Horse Power 480. Owners China Shippers Mutual Steam Nav. Co Port belonging to London

ENGINES, &c.—

Description of Engines Compound Inverted Direct Acting.
 Diameter of Cylinders 33" x 66" Length of Stroke 5ft No. of Rev. per minute 70 Point of Cut off, High Pressure var Low Pressure —
 Diameter of Screw shaft 14 1/2" Diam. of Tunnel shaft 14" Diam. of Crank shaft journals 14 1/2" Diam. of Crank pin 14 1/2" size of Crank webs Built 12 x 16
 Diameter of screw 17ft Pitch of screw 20'-6" No. of blades 4 state whether moveable yes total surface 83.6 sq ft.
 No. of Feed pumps two diameter of ditto 5" Stroke 30" Can one be overhauled while the other is at work yes
 No. of Bilge pumps two diameter of ditto 5" Stroke 30" 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 6.5" x 6" stroke Where do they pump from Sea, Tanks, Bilges
and Hotwell.

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 two and sizes 2 1/2" x 4 1/2" Are they connected to condenser, or to circulating pump One to each
 How are the pumps worked by levers excepting Circulating Pump worked by separate Engine
 Are all connections with the sea direct on the skin of the ship Pipes 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 above
 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 Tank & Bilge Pipes How are they protected wood flooring
 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 two Description Round Multitubular Whether Steel or Iron Steel
 Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test 12th Decr 1883.
 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 106. Description of safety valves direct Spring No. to each boiler two
 Area of each valve 25." 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 on woodwork 18" Diameter of boilers 14'-3"
 Length of boilers 16'-0" description of riveting of shell long. seams Sheb. Butt circum. seams double Lap Thickness of shell plates 13/16
 Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 1 1/2" Butts Lap of plating 20 1/2" x 13"
 Per centage of strength of longitudinal joint 86 working pressure of shell by rules 101 lbs size of manholes in shell 12" x 16"
 Size of compensating rings d Angle Iron 3" x 3 1/2" x 9/16 No. of Furnaces in each boiler Six
 Outside diameter 3'-3" length, top 6'-3" bottom through thickness of plates 7/16 description of joint welded if rings are fitted Corrugated
 Greatest length between rings — working pressure of furnace by the rules 128 lbs combustion chamber plating, thickness, sides 15" back — top 15"
 Pitch of stays to ditto, sides 8 1/2" x 1/2" back — top 8 1/4" x 8 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 93 lbs Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 120 lbs and plates in steam space, thickness 3/4"
 Pitch of stays to ditto 15 1/2" x 14 1/2" how stays are secured Nuts riv. wash working pressure by rules 95 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 147 lbs Front plates at bottom, thickness 5/8" Back plates, thickness —
 Greatest pitch of stays — working pressure by rules — Diameter of tubes 3 1/4" pitch of tubes 4 1/2" x 4 1/2" x 4 1/2" thickness of tube plates, front 3/4" back 3/4" how stayed 6 tubes pitch of stays 9" x 1 1/4" 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 —

6435 glb

DONKEY BOILER— Description *Round Multitubular*
Made at *Glasgow* by whom made *D. & W. Henderson & Co.* when made *1883-4* where fixed *On Deck*
Working pressure *90 lbs* tested by hydraulic pressure to *180 lbs* No. of Certificate *1321* fire grate area *25 sq. ft.* description of safety valves *direct spring* No. of safety valves *two* 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 *9'-0"* length *9'-0"* description of riveting *single & double*
Thickness of shell plates *1/2"* diameter of rivet holes *7/8"* whether punched or drilled *drilled* pitch of rivets *4 1/4"* *Butts* lap of plating *9 x 1/2"*
per centage of strength of joint *85* thickness of *end* *2 1/2"* plates *3/32"* stayed by *2 1/8" stays* *13 1/2"* pitch
Diameter of furnace, top *2'-6"* bottom *—* length of furnace *6'-0"* thickness of plates *7/16"* description of joint *double butt*
Thickness of *Tube* *furnace crown* plates *3/4"* stayed by *Stay Tubes*. working pressure of shell by rules *90 lbs.*
Working pressure of furnace by rules *95 lbs.* diameter of uptake *C. Chain* thickness of plates *7/16"* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *1 Crank shaft. 1 Propeller shaft. 1 Thrust shaft. 4 propeller blades. 1 Eccentric strap. 1 Valve spindle. 2 Top and bottom end bolts. 2 Main bearing bolts, 8 Coupling bolts. Feed bilge & donkey valves. Bolts & nuts of various sizes*

The foregoing is a correct description,
David & W. Henderson & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. *The above mentioned Engines and Boilers are now completed on board in a satisfactory manner and the machinery is now in our opinion in a safe & good working condition and eligible to be noted in the Society's Register Book.*
***.L.M.C.2.84.**

Tracings returned for Sister Ship

*It is submitted that this vessel is eligible to have the notation + L.M.C. 2, 84 recorded
W. & J.
26/2/84*

The amount of Entry Fee £ *3 : 0 : 0* received by me,
Special .. £ *44 : 0 : 0*
Donkey Boiler Fee .. £ *0 : 0 : 0*
Certificate (if required) .. £ *0 : 0 : 0* *21/2/84*
To be sent as per margin.

(Travelling Expenses, if any, £ — *8/-*)

Committee's Minute

TUESDAY 26 FEB 1884

+ J. M. L.

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

Glasgow Lloyd's Register Foundation