

REPORT ON MACHINERY.

3487

3487
8861

No. in Survey held at
y. Book.

Port of Glasgow.

Glasgow.

Date, first Survey 14th April

Received at London Office 20 NOV 1888
Last Survey 29th Sept 1888

(Number of Visits 19) 1801
Tons 1168

on the "Nallace" Built at Belfast. By whom built Workman, Clark & Co. When built 1888.

ster "Nallace" Built at Belfast. By whom made Wm King & Co. when made 1888.

ines made at Glasgow. By whom made Do. when made 1888.

ers made at Do. By whom made Do. when made 1888.

Registered Horse Power 190 Owners James R. Cuthbertson & Co. Port belonging to Glasgow.

GINES, &c.—

Description of Engines Inverted Direct Acting - Triple expansion - Surface Condensing.

Diameter of Cylinders 19, 32, 52. Length of Stroke 42". No. of Rev. per minute 85. Point of Cut off, High Pressure 128" Low Pressure 24"

Diameter of Screw shaft 10 1/2" Diam. of Tunnel shaft 10 1/4" Diam. of Crank shaft journals 10 1/2" Diam. of Crank pin 10 1/2" size of Crank webs 7 1/2" x 14 3/4"

Diameter of screw 13-0" Pitch of screw 14-6" No. of blades Four state whether moveable Solid total surface 600 sq ft.

No. of Feed pumps Two diameter of ditto 4" Stroke 21" Can one be overhauled while the other is at work Yes

No. of Bilge pumps Two diameter of ditto 4" Stroke 21" 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 Ballast 8" pump x 12" stroke. Feed 4" x 6" Where do they pump from Pair of double acting feed pumps.

Where do they pump from Pair of double acting feed pumps.

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" dia Are they connected to condenser, or to circulating pump Circulating. Port 3" dia Yes.

How are the pumps worked By levers from Crosshead of Low pressure 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 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.

How are pipes carried through the bunkers 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

Were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching. See Belfast Report No 3484.

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Engine room platform.

BOILERS, &c.—

No. of Boilers One Description Cylindrical - Multitubular Whether Steel or Iron Steel

Working Pressure 160 lbs. Tested by hydraulic pressure to 320 lbs. Date of test July 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 Yes

Area of square feet of fire grate surface in each boiler 102 sq ft. Description of safety valves Direct springs No. to each boiler Two

Area of each valve 14.19 sq in Are they fitted with easing gear Yes No. of safety valves to superheater 1 area of each valve -

Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 12" Diameter of boilers 12-9"

No. of boilers 17-8" description of riveting of shell long. seams Butt. three runs circum. seams Lap. double. Thickness of shell plates 1 3/16"

Diameter of rivet holes 1 5/16" whether punched or drilled Drilled pitch of rivets 7 3/4" + 3 1/2" Lap of plating 20 1/4" x 1 1/16" butt.

Working pressure of longitudinal joint 83 working pressure of shell by rules 174 lbs. size of manholes in shell 16" x 12"

Description of compensating rings Double riveted plate. M^c Nichols. No. of Furnaces in each boiler Six

Diameter 35" length, top 7-0" bottom 1/2" thickness of plates 1/2" description of joint Weld if rings are fitted Annular

Length between rings 9" working pressure of furnace by the rules 170 lbs combustion chamber plating, thickness, sides 9/16" back - top 3/4"

Stays to ditto, sides 7 3/4" x 7 1/2" back - top Hemispherical If stays are fitted with nuts or riveted heads Nuts working pressure of plating by

162 lbs Diameter of stays at smallest part 1 1/2" working pressure of ditto by rules 180 lbs end plates in steam space, thickness 3/4" doubling 10 x 1/16"

Stays to ditto 13 1/2" x 13 1/2" how stays are secured Nuts working pressure by rules 160 lbs diameter of stays at

Smallest part 2 1/4" fine thread working pressure by rules 160 lbs Front plates at bottom, thickness 13/16" Back plates, thickness -

St pitch of stays 3/4" working pressure by rules 3 1/2" Diameter of tubes 3 1/2" pitch of tubes 4 1/2" thickness of tube

Stays, front 3/4" back 3/4" how stayed Lutes pitch of stays 15 1/2" x 9" width of water spaces 20 1/2"

No. of Superheater or Steam chest None length - thickness of plates - description of longitudinal joint - diam. of rivet holes -

Are rivets fitted with easing gear Yes working pressure of shell by rules - diameter of flue - thickness of plates - If stiffened with rings -

Are they between rings Yes working pressure by rules - end plates of superheater, or steam chest; thickness - how stayed -

Superheater or steam chest; how connected to boiler -

Lloyd's Register
Foundation

B665-0188

DONKEY BOILER— Description *Vertical. Four cross tubes.*
 Made at *Gateshead* by whom made *Black Chapman + Parsons* when made *1888* where fixed *In Stockhold*
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *2568* fire grate area *21 sq ft* description of safety
 valves *Direct spring* No. of safety valves *One* area of each *12 sq in* if fitted with easing gear *Yes* if steam from main boilers can
 enter the donkey boiler *No* diameter of donkey boiler *6-6"* length *12-9"* description of riveting *Lap double*
 Thickness of shell plates *3/8"* diameter of rivet holes *3/4"* whether punched or drilled *Punched + annealed* pitch of rivets *2 3/4"* lap of plating *3 5/8"*
 per centage of strength of joint *72.7* thickness of crown plates *9/16"* stayed by *Five stays - 1 9/16" effective dia*
 Diameter of furnace, top *5-2"* bottom *5-6 3/4"* length of furnace *6-2"* thickness of plates *1/2"* description of joint *Lap single*
 Thickness of furnace crown plates *1/2"* stayed by *Same as above* working pressure of shell by rules *60-9 lbs*
 Working pressure of furnace by rules *60 lbs* diameter of uptake *15"* thickness of plates *3/16"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *Two top & bottom end bolts & nuts - Two main bearing
 bolts - One set of coupling bolts - Feed & bilge pump valves - Assorted bolts &c.*

The foregoing is a correct description,

Wm. Black Chapman 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. 10-88. in the Register
 Book.*

Appended hereto are eighteen Reports on Steel Lugs and two Reports on forging.

Boyle

The amount of Entry Fee .. £ *2* : - : received by me,
 Special .. £ *28* : *10* : -
 Donkey Boiler Fee .. £ .. : - :
 Certificate (if required) .. £ .. : - : *19/11/88*

(Travelling Expenses, if any, £ .. : - :)

Committee's Minute

*+ Lmb #/88
 9*

FRIDAY 29 NOV 1888

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

*Submitted that this vessel
 is eligible to be classed + L.M.C.
 20 11 88*



Lloyd's Register
 Foundation