

REPORT ON MACHINERY.

No. 12204

Port of Glasgow
 No. in Survey held at Glasgow Date, first Survey 26th Dec. 1892 Last Survey 1st May 1893
 Reg. Book. S.S. Cumberland (Number of Visits 14)
 Master Evans Built at Paisley By whom built Fulton & Co. Glasgow
 Engines made at Glasgow By whom made Ross & Duncan when made 1893
 Boilers made at Do By whom made Do when made 1893
 Registered Horse Power 67 Owners J. J. Mack & Sons Port belonging to Liverpool
 Nom. Horse Power as per Section 28 ☒

ENGINES, &c.— Description of Engines Compound Vertical Direct Acting of Cylinders Two
 Diameter of Cylinders 20-49 Length of Stroke 24 Revolutions per minute 106 Diameter of Screw shaft as per rule
 Diameter of Tunnel shaft as fitted Diameter of Crank shaft journals 7 1/2 Diameter of Crank pin 7 1/2 Size of Crank webs 24 1/2 x 3 1/2
 Diameter of screw 9-0 Pitch of screw 11-6 No. of blades Four State whether moveable Stuck Total surface 34 sq. ft.
 No. of Feed pumps One Diameter of ditto 3 Stroke 13 1/2 Can one be overhauled while the other is at work ☒
 No. of Bilge pumps One Diameter of ditto 3 1/2 Stroke 13 1/2 Can one be overhauled while the other is at work ☒
 No. of Donkey Engines One Sizes of Pumps 4 x 5 x 5 Stroke No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three - 2 In Holds, &c. Two - 2 1/2 Two - 2

No. of bilge injections One sizes 3 Connected to condenser, or to circulating pump Ramp Is a separate donkey suction fitted in Engine room & size yes - 2
 Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible Yes
 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
 What pipes are carried through the bunkers None How are they protected ☒
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock Before launching the screw shaft tunnel watertight No tunnel
 Is it fitted with a watertight door ☒ worked from ☒

BOILERS, &c.— (Letter for record S) Total Heating Surface of Boilers 1283 sq. ft.
 No. and Description of Boilers One - Cylindrical Multitubular Working Pressure 100 lbs. Tested by hydraulic pressure to 200 lbs.
 Date of test 14-4-93 Can each boiler be worked separately ☒ Area of fire grate in each boiler 40 sq. ft. No. and Description of safety valves to
 each boiler Two - Direct Spring Area of each valve 7.07 sq. in. Pressure to which they are adjusted 100 lbs. Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 10 Mean diameter of boilers 12'-6"
 Length 9'-6" Material of shell plates Steel Thickness 1/2" Description of riveting: circum. seams Lap Rivet seams Butt Rivet
 Diameter of rivet holes in long. seams 1/2" Pitch of rivets 5 1/2" Lap of plates or width of butt straps 13 1/2"
 Per centages of strength of longitudinal joint 88.9 Working pressure of shell by rules 101 lbs. Size of manhole in shell 15 x 11 1/2
 Size of compensating ring 6 x 1/4 No. and Description of Furnaces in each boiler Two - Plain Material Steel Outside diameter 47 3/4
 Length of plain part 6'-0" Thickness of plates 1/2" Description of longitudinal joint Welded No. of strengthening rings 2 on top
 Working pressure of furnace by the rules 111 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"
 Pitch of stays to ditto: Sides 8 x 8 Back 8 x 8 Top 8 x 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 105 lbs.
 Material of stays Steel Diameter at smallest part 1 1/2 x 1 3/4 Area supported by each stay 64 sq. in. Working pressure by rules 111 lbs. End plates in steam space:
 Material Steel Thickness 1/2" Pitch of stays 14 1/2 x 16 1/2 How are stays secured Nuts & Rivets Working pressure by rules 105 lbs. Material of stays Steel
 Diameter at smallest part 2 1/2 Area supported by each stay 292 sq. in. Working pressure by rules 115 lbs. Material of Front plates at bottom Steel
 Thickness 5 Material of Lower back plate Steel Thickness 5 Greatest pitch of stays 11 1/2 x 8 Working pressure of plate by rules 105 lbs.
 Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates Steel Thickness: Front 1/2" Back 5 Mean pitch of stays 11 1/2"
 Pitch across wide water spaces 13 1/2 x 11 1/2 Working pressures by rules 105 + 140 lbs. Girders to Chamber tops: Material Iron Depth and
 thickness of girder at centre 6 1/2 x 3 Length as per rule 25 Distance apart 8 Number and pitch of Stays in each Two - 8
 Working pressure by rules 111 lbs. Superheater or Steam chest; how connected to boiler ☒ Can the superheater be shut off and the boiler worked
 separately ☒ Diameter ☒ Length ☒ Thickness of shell plates ☒ Material ☒ Description of longitudinal joint ☒ Diam. of rivet
 holes ☒ Pitch of rivets ☒ Working pressure of shell by rules ☒ Diameter of flue ☒ Material of flue plates ☒ Thickness ☒
 If stiffened with rings ☒ Distance between rings ☒ Working pressure by rules ☒ End plates: Thickness ☒ How stayed ☒
 Working pressure of end plates ☒ Area of safety valves to superheater ☒ Are they fitted with easing gear ☒

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DONKEY BOILER—

Description

Vertical - Two Cross Tubes

Made at

Gateshead

By whom made

Clarke Chapman & Co

When made

1893

Where fixed

on deck

Working pressure

Tested by hydraulic pressure to 140 lbs

No. of Certificate

4080

Fire grate area

82 sq ft

Description of safety valves

Direct Spring

No. of safety valves

one

Area of each

4.91

Pressure to which they are adjusted

40 lbs

If fitted with easing gear

Yes

If steam from main boilers can

enter the donkey boiler

No

Diameter of donkey boiler

4'-3"

Length

9'-6"

Material of shell plates

Steel

Description of riveting long. seams

Lap. Riv.

Diameter of rivet holes

7/8"

Whether punched or drilled

Drilled

Pitch of rivets

2 1/2"

Lap of plating

3 3/8"

Per centage of strength of joint

Rivets 72%
Plates 72%

Thickness of shell crown plates

7/16"

Radius of do.

5'-0"

No. of Stays to do

Dia. of stays

1 3/8"

Diameter of furnace Top

3'-2 3/8"

Bottom

3'-7"

Length of furnace

4'-6"

Thickness of furnace plates

joint Lap. Riv.

Thickness of furnace crown plates

1 1/2"

Stayed by

As shell crown

Working pressure of shell by rules

97 lbs

Working pressure of furnace by rules

79 lbs

Diameter of uptake

12"

Thickness of uptake plates

3/8"

Thickness of water tubes

5/8"

SPARE GEAR. State the articles supplied:—

Connecting rod top bottom end bolts & nuts
two main bearing bolts: set and pump bolts: set feed & bilge pump
valves: bolts, nuts, screw, etc.

The foregoing is a correct description,

Manufacturer.

Ross & Duncan
J. Buchanan

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery of this vessel has been constructed under Special Survey. The materials and the workmanship is of good description, and in my opinion is eligible to be noted + L.M.C. 5-93 in the Register Book. Appended are two Fitting Reports and one Boiler Fitting.

It is submitted that
this vessel is eligible for
THE RECORD + L.M.C. 5-93 -

Prob 11/5/93 -

Certificate (if required) to be sent to

The amount of Entry Fee..

£

1

MACHINERY CERTIFICATE

When applied for,

Special

£

10

1

2/5/93

Donkey Boiler Fee

£

1

1

4/5/93

Travelling Expenses (if any)

£

1

1

4/5/93

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

Committee's Minute

FRI 12 MAY 1893

Assigned

+ L.M.C. 5, 93



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Foundation