

REPORT ON MACHINERY.

Port of Glasgow Received at London Office FRI. 21 APL 1899

No. in Survey held at Glasgow Date, first Survey 14 Feby 1898 Last Survey 13 April 1899

Reg. Book. S.S. Keelina (Number of Visits 73)

Master Pat Glasgow Built at Pat Glasgow By whom built A. Rodger & Co When built 1899

Engines made at Glasgow By whom made Wall Brown & Co when made 1899

Boilers made at Glasgow By whom made Tuesday Burns & Co when made 1899

Registered Horse Power _____ Owners _____ Port belonging to _____

Nom. Horse Power as per Section 28 250 Is Refrigerating Machinery fitted no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders three No. of Cranks 3

Dia. of Cylinders 22 1/2 x 37-61 Length of Stroke 42 Revs. per minute 89 Dia. of Screw shaft 11 1/2 Lgth. of stern bush 46"

Dia. of Tunnel shaft 10 3/4 Dia. of Crank shaft journals 10 3/4 Dia. of Crank pin 11 1/2 Size of Crank webs 7 1/2 Dia. of thrust shaft under collars 11 1/2 Dia. of screw 18-9 Pitch of screw 18-6 No. of blades 4 State whether moceable no Total surface 76.5 sq ft

No. of Feed pumps two Diameter of ditto 3 1/2 Stroke 21" Can one be overhauled while the other is at work yes

No. of Bilge pumps two Diameter of ditto 3 1/2 Stroke 21" Can one be overhauled while the other is at work yes

No. of Donkey Engines two Sizes of Pumps 6-4-6 & 10-10-15 No. and size of Suctions connected to both Bilge and Donkey pumps two 3" + one 3 1/2"

In Engine Room three 3" + one 3 1/2" In Holds, &c. one 3" + one in tunnel well

No. of bilge injections 1 sizes 6 Connected to condenser, or to circulating pump pump is a separate donkey suction fitted in Engine room & size 3 1/2"

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

How are they protected by covers

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 launch Is the screw shaft tunnel watertight apparently

Is it fitted with a watertight door yes worked from top platforms

BOILERS, &c.— (Letter for record 3) Total Heating Surface of Boilers 3562 sq ft Is forced draft fitted no

No. and Description of Boilers 2 single ended cylindrical Working Pressure 160 Tested by hydraulic pressure to 320

Date of test 14/2/95 Can each boiler be worked separately yes Area of fire grate in each boiler 46 sq ft No. and Description of safety valves to each boiler one plain and one spring of each valve 5-93 Pressure to which they are adjusted 165 lbs Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 9" Mean dia. of boilers 15-0 Length 10-6 Material of shell plates steel

Thickness 1 3/8 Range of tensile strength 27-32 Are they welded or flanged no Descrip. of riveting: cir. seams lap double long. seams butt butt

Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 5 1/2 Top of plates width of butt straps 18 1/2

Percentages of strength of longitudinal joint: rivets 88-9 plate 86-1 Working pressure of shell by rules 171 Size of manhole in shell 16 x 12"

No. of compensating ring one plain No. and Description of Furnaces in each boiler one plain Material steel Outside diameter 40 1/2

Length of plain part: top 6-3 bottom 7-3 Thickness of plates: crown 3/4 bottom 3/4 Description of longitudinal joint butt straps No. of strengthening rings one

Working pressure of furnace by the rules 70 Combustion chamber plates: Material steel Thickness: Sides 5/8 Back 5/8 Top 5/8 Bottom 5/8

No. of stays to ditto: Sides 95-9 Back 95-9 Top 95-9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 165

Material of stays steel at smallest part 1 1/2 Area supported by each stay 82" Working pressure by rules 240 End plates in steam space: Material steel Thickness 1 1/2 Pitch of stays 17-17 1/2 How are stays secured 2 nuts Working pressure by rules 162 Material of stays steel

Thickness at smallest part 5-27 Area supported by each stay 293" Working pressure by rules 180 Material of Front plates at bottom steel

Thickness 3/4 Material of Lower back plate steel Thickness 3/4 Greatest pitch of stays 14 1/2 Working pressure of plate by rules 307

Diameter of tubes 3 1/2 Pitch of tubes 17-17 1/2 Material of tube plates steel Thickness: Front 3/4 Back 3/4 Mean pitch of stays 10-89

Working pressures across wide water spaces 160 & 180 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 8 x 4 1/2 Length as per rule 2-65 Distance apart 9" Number and pitch of Stays in each two 9 1/2

Working pressure by rules 160 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked no

Material steel Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____

Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____

Are they fitted 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 _____

DONKEY BOILER— No. *100* Description *Cylindrical return tube*
 Made at *Glasgow* By whom made *Cumy & Thomson* When made *1899* Where fixed *on deck*
 Working pressure *80* tested by hydraulic pressure to *160* No. of Certificate *100* Fire grate area *232* Description of safety valves *spring loaded*
 No. of safety valves *2* Area of each *1.9* Pressure to which they are adjusted *80 lbs* If fitted with easing gear *no* If steam from main boilers
 enter the donkey boiler *no* Dia. of donkey boiler *9.0* Length *8.6* Material of shell plates *steel* Thickness *1/2* Range of ten-
 strength *9132* Descrip. of riveting long. seams *lap butt joints* Dia. of rivet holes *7/16* Whether punched or drilled *drilled* Pitch of rivets
 Lap of plating *5/16* Per centage of strength of joint Rivets *7/16* Thickness of shell crown plates *1/2* Radius of do. *1/2* No. of Stays to do. *4*
 Dia. of stays *1* Diameter of furnace *Top 9.0 Bottom 8.7* Length of furnace *8.7* Thickness of furnace plates *1/2* Descrip-
 joint *lapped* Thickness of furnace crown plates *1/2* Stayed by *4* Working pressure of shell by rules *80*
 Working pressure of furnace by rules *80* Diameter of uptake *4* Thickness of uptake plates *1/2* Thickness of water tubes *1/2*

SPARE GEAR. State the articles supplied:— *As required by the rules & in addition one open propeller shaft*

The foregoing is a correct description,
 Manufacturer. *Hall-Brown Buttery & Co*

Dates of Survey while building
 During progress of work in shops—
 During erection on board vessel—
 Total No. of visits *73*
 Is the approved plan of main boiler forwarded herewith *yes*
 .. donkey .. *no*

General Remarks (State quality of workmanship, opinions as to class, &c.)
*These engines & boilers have been constructed under special survey the materials & workmanship are of good description they have been well fitted on board & look under steam.
 This machinery is in our opinion eligible to have notification **L.M.C. 499** in the Register book*

It is submitted that
 this vessel is eligible for
THE RECORD L.M.C. 499.

A.C.H.
21.4.99
J.S.
21.4.99

Duplicate (required) to be sent to Committee's Minute.

The amount of Entry Fee	£ 2 : 0 : 0	When applied for,	<i>20/12/99</i>
Special	£ 32 : 10 : 0	When received,	<i>22.4.99</i>
Donkey Boiler Fee	£ 2 : 2 : 0		
Travelling Expenses (if any)	£ : : 0		

Committee's Minute
 Assigned
 FRI, 21 APR 1899
 WRITTEN
 + L.M.C. 4.99
 A.M. Reard & H. Gardner
 Engineer Surveyor to Lloyd's Register of British & Foreign Ships

