

# REPORT ON MACHINERY.

No. 13026

11557

Port of Glasgow

Received at London Office

JUL 1894

No. in Survey held at Reg. Book.

Glasgow

Date, first Survey 3 August 1893 Last Survey 11 June 1894

(Number of Visits 66)

on the S. S. Strathcarron

Tons } Gross 3203  
Net 2050

Master W. F. Splatt Built at Port Glasgow By whom built A. Rodger & Co.

When built 1894

Engines made at Govan By whom made Dunsmuir & Jackson when made 1894

Boilers made at Govan By whom made Dunsmuir & Jackson when made 1894

Registered Horse Power 302 Owners Burrell & Son Port belonging to Glasgow

Nom. Horse Power as per Section 28 303

**ENGINES, &c.**— Description of Engines Triple expansion inverted direct acting No. of Cylinders Three

Diameter of Cylinders 24, 39, 64 1/4 Length of Stroke 45 Revolutions per minute \_\_\_\_\_ Diameter of Screw shaft 11.9  
as per rule \_\_\_\_\_ as fitted 12.5

Diameter of Tunnel shaft \_\_\_\_\_ Diameter of Crank shaft journals 12 1/2 Diameter of Crank pin 12 1/2 Size of Crank webs 8 1/2 x 23  
as fitted 12

Diameter of screw 16' 6" Pitch of screw 17 1/2 No. of blades four State whether moveable yes Total surface 70

No. of Feed pumps two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps two Diameter of ditto 4" Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines three Sizes of Pumps 6 1/2 x 4 x 6 duplex No. and size of Suctions connected to both Bilge and Donkey pumps  
4 x 3 1/2 9 x 10 x 1 1/2 In Holds, &c. sea 3"

In Engine Room two 3" and 3 1/2" all bilge and ballast suction are connected to the ballast and circulating pumps

No. of bilge injections one sizes 6" Connected to condenser, or to circulating pump circ. Is a separate donkey suction fitted in Engine room & size yes 3"

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 Ballast & ballast How are they protected Placed under ceiling

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 Is the screw shaft tunnel watertight apparently

Is it fitted with a watertight door yes worked from upper platform

**BOILERS, &c.**— (Letter for record 5) Total Heating Surface of Boilers 4942

No. and Description of Boilers two return tubular single ended Working Pressure 170 Tested by hydraulic pressure to 350

Date of test 29 3.94 Can each boiler be worked separately yes Area of fire grate in each boiler 47 No. and Description of safety valves to each boiler two spring Area of each valve 7.07 Pressure to which they are adjusted 175 Are they fitted with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork stand clear Mean diameter of boilers 178

Length 4' 6" Material of shell plates Steel Thickness 1 1/4 Description of riveting: circum. seams lap 2 knots long. seams D-knot 5k.

Diameter of rivet holes in long. seams 17/16 Pitch of rivets 9 1/8" Lap of plates or width of butt straps \_\_\_\_\_

Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 173 Size of manhole in shell 12 x 16  
plate 85.6

Size of compensating ring M. Nails No. and Description of Furnaces in each boiler Three ribbed Material Steel Outside diameter 42 1/4

Length of plain part top 5 1/2 Thickness of plates bottom 7/32 Description of longitudinal joint welded No. of strengthening rings tubed

Working pressure of furnace by the rules 178 Combustion chamber plates: Material Steel Thickness: Sides 9/16 Back 9/16 Top 9/16 Bottom 7/16

Pitch of stays to ditto: Sides 8 Back 8 Top 8 If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 171

Material of stays Steel Diameter at smallest part 1.48 Area supported by each stay 64 Working pressure by rules 189 End plates in steam space: Material Steel Thickness 1" Pitch of stays 16 How are stays secured D. Nuts Working pressure by rules 175 Material of stays Steel

Diameter at smallest part 5.27 Area supported by each stay 256 Working pressure by rules 179 Material of Front plates at bottom Steel

Thickness 7/8 Material of Lower back plate Steel Thickness 3/4 Greatest pitch of stays 14" Working pressure of plate by rules 199

Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/8 Material of tube plates Steel Thickness: Front 7/8 Back 13/16 Mean pitch of stays 9 1/4

Pitch across wide water spaces 13 1/2 Working pressures by rules 238, 277 Girders to Chamber tops: Material Iron Depth and thickness of girder at centre 8" x 2 x 1" Length as per rule 29" Distance apart 8" Number and pitch of Stays in each two 8"

Working pressure by rules 235 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately \_\_\_\_\_

holes \_\_\_\_\_ 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 \_\_\_\_\_

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 \_\_\_\_\_

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the ship? [42]-L.R.P.H.-5,000-Form No. 8.-4-2-82.-Copyrighted Ink.]

Lloyd's Register Foundation

GRh328-665

**DONKEY BOILER**— Description *Cylindrical return tubular. See attached report*  
 Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
 Working pressure tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
 No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with casing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
 Description of riveting long seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
 Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
 Dia. of stays. \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of joint \_\_\_\_\_  
 Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *As required by the rules also 1/3 built crank shaft, one tailshaft, 2 propeller blades and bottom end brasses.*

The foregoing is a correct description,  
 Manufacturer. *Wm. Smith & Co.*

**General Remarks** (State quality of workmanship, opinions as to class, &c.) *The main boilers are fitted with Howdens system of forced draught. These engines and boilers have been built under the conditions of Special Survey and have been securely fitted on board and <sup>satisfactorily</sup> tested under steam. The material and workmanship are good. The sluice valves as fitted could not be worked from above the load waterline, but they are now being altered to suit the rules. It is submitted that this vessel will be eligible for the record + L.M.C. 6.94 when the sluice valves have been so arranged that they can be worked from above the load water line.*

*It is submitted that this vessel is eligible for THE RECORD + L.M.C. 6.94*  
*W. A. 4-7-94*

Certificate (if required) to be sent to \_\_\_\_\_  
 The amount of Entry Fee.. £ 3 : " : " When applied for, \_\_\_\_\_  
 Special .. .. . £ 35 : 3 : " 19/6 94  
 Donkey Boiler Fee .. .. . £ " : " : " When received, \_\_\_\_\_  
 Travelling Expenses (if any) £ " : " : " 21.6.94 at Glasgow 7.10.

*C. J. Stromeyer*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned  
 FRI 6 JUL 1894  
 + L.M.C. 6.94



The Surveyors are requested not to write on or below the space for Committee's Minute.

If not, state whether, and when, one will be sent? In a Report also sent on the Hull of the ship. L.R.P.H.—5,000—Form No. 8—1/92—Copyright Int.