

# REPORT ON MACHINERY.

THUR, 17 SEP 1896

Port of Glasgow

Received at London Office \_\_\_\_\_

No. in Survey held at Glasgow

Date, first Survey 20 April

Last Survey 11 Sept 1896

Reg. Book.

(Number of Visits 110)

Gross 286 Tons  
Net 64

on the S.S. Joseph Fisher

Master Thomas Hill Built at Fairley

By whom built S. Fullarton & Co

When built 1896

Engines made at Glasgow By whom made Hall-Town & Co when made 1896

Boilers made at Glasgow By whom made Jes. Anderson & Co when made 1896

Registered Horse Power 45 Owners Henry & Hilke L.P.C. Ltd Port belonging to Newry

Nom. Horse Power as per Section 28 51.64 Is Electric Light fitted No

**ENGINES, &c.**—Description of Engines Compound No. of Cylinders Two No. of Cranks 2 1/2

Diameter of Cylinders 16" & 32" Length of Stroke 24" Revolutions per minute 135 Diameter of Screw shaft 6 1/4" as per rule 6 1/2" as fitted

Diameter of Tunnel shaft 5 1/16" as per rule 6 1/4" as fitted Diameter of Crank shaft journals 6 1/2" Diameter of Crank pin 6 1/2" Size of Crank webs 11 3/4" x 4 3/8"

Diameter of screw 8'-0" Pitch of screw 10'-0" No. of blades 4 State whether moveable Yes Total surface 19 1/4 sq ft

No. of Feed pumps one Diameter of ditto 2 7/8" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Bilge pumps one Diameter of ditto 2 7/8" Stroke 12" Can one be overhauled while the other is at work ✓

No. of Donkey Engines one Sizes of Pumps 5 cu ft 5 Stroke x 2 1/2 in No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three 2", 2", and 3 1/2" In Holds, &c. Three, one 2" to fore peak, one 2" to main hold starboard, and one 2" to main hold port.

No. of bilge injections one sizes 3 1/2" Connected to condenser, or to circulating pump 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, except the donkey suction which is on circulation chest. 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 Three help pipes to hold & peak How are they protected Hood, & iron plates.

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 Previous to launching Is the screw shaft tunnel watertight None

Is it fitted with a watertight door None worked from ✓

**BOILERS, &c.**— (Letter for record S), Total Heating Surface of Boilers 933 sq ft Is forced draft fitted No

No. and Description of Boilers One multitubular Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs

Date of test 24/6/96 Can each boiler be worked separately ✓ Area of fire grate in each boiler 35 sq ft No. and Description of safety valves to each boiler Two direct spring Area of each valve 4.9 sq in Pressure to which they are adjusted 125 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4 inches Length of boilers 9'-6"

Diameter of shell plates Steel Thickness 3/32" Description of riveting: circum. seams Lap Single long. seams Double riveted butt straps

Diameter of rivet holes in long. seams 1 1/16" Pitch of rivets 4 3/8" Lap of plates or width of butt straps 11"

Per centages of strength of longitudinal joint rivets 110% plate 46% Working pressure of shell by rules 122 lbs Size of manhole in shell 16" x 12"

Size of compensating ring None No. and Description of Furnaces in each boiler 2 plain Material Steel Outside diameter 3'-6"

Length of plain part top 6'-6" bottom 8'-9" Thickness of plates crown 19/32" bottom 19/32" Description of longitudinal joint Welded No. of strengthening rings Half ring

Working pressure of furnace by the rules 132 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"

Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 4 1/2" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 124 lbs

Material of stays Steel Diameter at smallest part 1" Area supported by each stay 64 lbs Working pressure by rules 124 lbs and plates in steam space: Material Steel Thickness 29/32" Pitch of stays 15" x 14 1/4" How are stays secured Donk nuts & washers Working pressure by rules 128 lbs Material of stays Steel

Diameter of smallest part (5" Area) supported by each stay 228" Working pressure by rules 125 lbs Material of Front plates at bottom Steel

Thickness 1 1/16" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 135 lbs

Diameter of tubes 3 3/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 29/32" Back 29/32" Mean pitch of stays 12 7/8"

Pitch across wide water spaces 13 3/4" Working pressures by rules 124 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 6 1/2" x 10 1/16" Length as per rule 2'-3" Distance apart 4 1/2" x 8" Number and pitch of Stays in each 2 (8")

Working pressure by rules 126 lbs Superheater or Steam chest; how connected to boiler None 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 ✓



**DONKEY BOILER—**

Description *gone.*

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 \_\_\_\_\_ 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 rules. also one set of air, a one set of circulating pump valves. and two propeller blades.*

The foregoing is a correct description,

Manufacturer. *Wm. Burn Butterley & Co.*

Dates of Survey while building  
 During progress of work in shops— *1896—April 20, 24, May 4, 11, 15, 16, 18, 21, 22, 23, 26, 28, 29, June 1, 9, 10, 14, 19, 20, 22, 24, 26, 30, July 2, 8, 11, 15, 24, 28, August 5, 7, 12, 12, 21, 28, 31, Sept 2, 3, 4, 8, 10, 11, —*  
 During erection on board vessel —  
 Total No. of visits

General Remarks (State quality of workmanship, opinion as to class, &c.) *The machinery of this vessel has been built under conditions of special survey. The material and workmanship being of good quality, and a satisfactory full speed trial of machinery has been run. This vessel is now in our opinion eligible for the record of L.M.C. 9.96 in register book.*

*Boiler tracing, engine room plan, two pumping plan and two forging reports were forwarded.*

It is submitted that this vessel is eligible for **THE RECORD + L.M.C. 9.96**

*A.S.*  
*17.9.96*

The amount of Entry Fee. . . £ 1 : " : " When applied for.  
 Special . . . . . £ 8 : " : " *12/9/96*  
 Donkey Boiler Fee . . . . £ " : " : " When received.  
 Travelling Expenses (if any) £ " : " : " *15/9/96*

*Geo. Murdoch James Hollison*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. 18 SEP 1896*  
 Assigned *+ L.M.C. 9.96*



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Vertical text on the left edge: 'Certificate (if required) to be sent to...'