

# REPORT ON MACHINERY.

No. 22197

Port of Glasgow

Received at London Office 19

4.

Survey held at Glasgow & Irvine Date, first Survey 2nd Nov 03 Last Survey 14th Oct 1904

Book. on the S S Bay Fisher. (Number of Visits 40)

Built at Dublin By whom built Dublin Dockyard Co When built 1904

es made at Irvine By whom made Renfrew Bros & Co when made 1904

s made at Glasgow By whom made David Rowan & Co when made 1904

tered Horse Power Owners Fisher & Sons Port belonging to Barrow

Horse Power as per Section 28 100 Is Refrigerating Machinery fitted No. Is Electric Light fitted No.

INES, &c.—Description of Engine Compound Surface Condensing No. of Cylinders Two (No. of Cranks 2)

of Cylinders 20" x 42" Length of Stroke 30" Revs. per minute 92. Dia. of Screw shaft as per rule 9.02 Material of screw shaft Iron

screw shaft fitted with a continuous liner the whole length of the stern tube Yes. Is the after end of the liner made water tight

propeller boss Yes If the liner is in more than one length are the joints burned ✓ If the liner does not fit tightly at the part

in the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓ If two

are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 38 1/2"

Int. as per rule 8.36 Dia. of Crank shaft journals as per rule 8.77 Dia. of Crank pin 9" Size of Crank webs 16 1/2" x 5 1/2" Dia. of thrust shaft under

rs 9" Dia. of screw 10-6" Pitch of screw 13-6" No. of blades 4 State whether moveable Yes Total surface 36 sq ft

of Feed pumps 2 Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work Yes.

of Bilge pumps 2 Diameter of ditto 3" Stroke 15" Can one be overhauled while the other is at work Yes.

of Donkey Engines Three Sizes of Pumps (6x7x8)(6x4x6)(3x2x3) No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room one 2" diameter. In Holds, &c. Two 2" diameter.

of bilge injections 1 sizes 4" Connected to condenser, or to circulating pump Yes Is a separate donkey suction fitted in Engine room & size Yes 2 1/2"

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 ✓

all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks Both.

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

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.

at pipes are carried through the bunkers Ballast fore peak & bilge How are they protected Hood boxing.

all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times Yes.

the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges Yes.

on were stern tube, propeller, screw shaft, and all connections examined Dublin Report No 2302 Aug Sept 1902. Is the screw shaft tunnel watertight None

t fitted with a watertight door ✓ worked from ✓

TERS, &c.— (Letter for record 5) Total Heating Surface of Boilers 1747 sq ft Is forced draft fitted No.

and Description of Boilers One, Single Ended Working Pressure 130 lbs Tested by hydraulic pressure to 260 lbs

of test 21/6/04 Can each boiler be worked separately ✓ Area of fire grate in each boiler 53 1/2 sq ft No. and Description of safety valves to

boiler Two, direct spring Area of each valve 7.06 sq in Pressure to which they are adjusted 135 lbs Are they fitted with easing gear Yes.

allest distance between boilers or uptakes and bunkers or woodwork 6-0" Internal dia. of boilers 14-0" Length 10-0" Material of shell plate Steel

thickness 7/8" Range of tensile strength 28/32 Are they welded or flanged No Descrip. of riveting: cir. seams DR Lap long. seams D.B Straps

meter of rivet holes in long. seams 1 1/16" Pitch of rivets 6 3/4" Lap of plates or width of butt straps 15 1/2"

centages of strength of longitudinal joint rivets 111-0 Working pressure of shell by rules 130 lbs Size of manhole in end 16" x 12"

of compensating ring Flanged No. and Description of Furnaces in each boiler 3, plain Material Steel Outside diameter 40 1/4"

th of plain part top 7.2 Thickness of plates crown 5/8" Description of longitudinal joint Welded No. of strengthening rings None

working pressure of furnace by the rules 134 Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 7/8"

h of stays to ditto: Sides 7/2" x 8/2" Back 9" x 9" Top 7/2" x 9" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 135

erial of stays Steel Diameter at smallest part 1.480 Area supported by each stay 81 sq in Working pressure by rules 148 End plates in steam space:

erial Steel Thickness 1/16" Pitch of stays 20" x 18 3/4" How are stays secured Nuts Working pressure by rules 135 Material of stays Steel

er at smallest part 5.340 Area supported by each stay 375 sq in Working pressure by rules 142 Material of Front plates at bottom Steel

ickness 7/8" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 14 1/4" Working pressure of plate by rules 136

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

h across wide water spaces 14 1/4" Working pressures by rules 135-lb Girders to Chamber tops: Material Steel Depth and

ness of girder at centre 7 1/2" x 13/8" Length as per rule 30 1/2" Distance apart 9" Number and pitch of Stays in each Three, 7 1/2"

working pressure by rules 150 lbs Superheater or Steam chest; how connected to boiler None Can the superheater be shut off and the boiler worked

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

iffened with rings Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

working pressure of end plates 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

Lloyd's Register  
Foundation

DONKEY BOILER— No. *One* Description *Cochran's Patent.*  
 Made at *Amman* By whom made *Cochran & Co.* When made *1904* Where fixed *Stokehold*  
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *6579* Fire grate area *9 3/4 sq ft* Description of safety valves *Direct spring*  
 No. of safety valves *one* Area of each *4.9 sq ft* Pressure to which they are adjusted *85 lbs* If fitted with easing gear *yes*. If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *4-6"* Length *10-0"* Material of shell plates *Steel* Thickness *13/32"* Range of tensile strength *27/32* Descrip. of riveting long. seams *Double* Dia. of rivet holes *25/32"* Whether punched or drilled *Drilled* Pitch of rivets *2 1/2"*  
 Lap of plating *3 7/8"* Per centage of strength of joint Rivets *50-3* Plates *68-7* Thickness of shell crown plates *3/8"* Radius of do. *2-3"* No. of Stays to do. *None*  
 Dia. of stays. *✓* *Radius* Diameter of furnace Top *1-10 1/2"* Bottom *✓* Length of furnace *✓* Thickness of furnace plates *7/16"* Description of joint *Riveted* Thickness of furnace crown plates *7/16"* Stayed by *Not stayed* Working pressure of shell by rules *111 lbs*  
 Working pressure of furnace by rules *116 lbs* Diameter of <sup>tubes</sup> uptake *2 1/2"* Thickness of uptake plates *1/2" + 19/32"* Thickness of <sup>stay</sup> tubes *1/4"*

SPARE GEAR. State the articles supplied: *Two top and two bottom end bolts & nuts, two main bearing bolts and nuts, one set of coupling bolts & nuts, one set of feed and bilge pump valves, assorted bolts & nuts & a few bars of iron, two propeller blades, 3 boiler tubes, five bars for main & donkey boiler, condenser tubes, ferrules etc.*  
 The foregoing is a correct description,  
*Reufred Ross & Co.* Manufacturer.

Dates of Survey while building  
 During progress of work in shops - *1902 Nov 3, 6, 12, 18. Dec 3, 12, 16, 23, 26. 1904 Jan 11, 14, 19, 27. Feb 18, 24. Mar 4, 11. Apr 1, 25, 26*  
 During erection on board vessel - *May 6, 16, 26, 30. June 10, 23, 27. July 4, 13, 23. Aug 2, 4, 22. Sep 6, 16, 20, 27. Oct 2, 6, 14.*  
 Total No. of visits *40.* Is the approved plan of main boiler forwarded herewith *yes*  
 " " donkey " " *no.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been built under special survey, the materials and workmanship are of good quality, it has been securely fitted on board and satisfactorily tested under steam.*

*In our opinion the machinery of this vessel is now eligible for record of L.M.C 10.04 (in red) in register book.*

*Boiler plan and two forging reports now sent.*

It is submitted that this vessel is eligible for THE RECORD L.M.C 10 04

*Wm. S. 21. 10. 04*  
*Ed. 21. 10. 04*

The amount of Entry Fee... £ 2 : : : When applied for,  
 Special ... .. £ 15 : : : ..... 19  
 Donkey Boiler Fee ... .. £ : : : When received,  
 Travelling Expenses (if any) £ 4 : 17 : 9 ..... 25 10 19

*George Spurdock + J.W. Dimmock*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute  
 Assigned  
 FRI. 21 OCT 1904  
 L.M.C. 10.04

MACHINERY CERTIFICATE WRITTEN.



Certificate (if required) to be sent to  
 (The Surveyors are requested not to write on or between the pages for Committee's Minute.)