

# REPORT ON MACHINERY.

No. 39313

Received at London Office

Date of writing Report

When handed in at Local Office 1-11-19 19

Port of Glasgow

1919

in Survey held at Paisley Date, First Survey 4 April 1918 Last Survey 31 Oct. 1919  
on the Coasting Steamer "SAINT BARCHAN" (Number of Visits 39)

Built at Bowling By whom built Messrs. Scott & Sons (283) Tons Gross Net 1919

Names made at Paisley By whom made Fishers Ltd (220) when made 1919

Wheels made at Paisley By whom made A. F. Craig & Co Ltd (646) when made 1919

Registered Horse Power Owners Port belonging to

Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

GINES, &c.—Description of Engines Compound, Surface Condensing No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 16" - 34" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft as per rule 4.23" as fitted 1/2" Material of screw shaft Iron

Is the 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

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

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

shafts are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 30"

Dia. of Tunnel shaft as per rule 6.75" as fitted Dia. of Crank shaft journals as per rule 4.03" as fitted 1/4" Dia. of Crank pin 1/4" Size of Crank webs 13/16" x 5/16" Dia. of thrust shaft under

bars 1/4" Dia. of screw 8-6" Pitch of Screw 10'-9" No. of Blades 4 State whether moveable No Total surface 24 1/2 sq ft

No. of Feed pumps One Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Bilge pumps One Diameter of ditto 2 1/2" Stroke 12" Can one be overhauled while the other is at work Yes

No. of Donkey Engines One Sizes of Pumps 6" x 4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2 @ 2" dia. in Blr. Room, 1 @ 2" in In Holds, &c. 2 @ 2" dia in hold, 1 @ 2" in fore tank

Eng'ns Room. 1 @ 2" in aft peak.

No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump 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 None

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 Forward Suction How are they protected Wood casing.

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.

Dates of examination of completion of fitting of Sea Connections 22. 9. 19. of Stern Tube 22. 9. 19. Screw shaft and Propeller 22. 9. 19.

Is the Screw Shaft Tunnel watertight None Is it fitted with a watertight door Yes worked from Yes

MILNERS, &c.—(Letter for record S) Manufacturers of Steel David Colville & Sons Ltd

Total Heating Surface of Boilers 1388 sq ft Is Forced Draft fitted No No. and Description of Boilers One Single Ended.

Working Pressure 130 Tested by hydraulic pressure to 260 Date of test 26. 9. 19 No. of Certificate 14909

Can each boiler be worked separately Yes Area of fire grate in each boiler 42 sq ft No. and Description of Safety Valves to

each boiler 2 Spring loaded Area of each valve 5.939 sq in Pressure to which they are adjusted 135 Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" Mean dia. of boilers 12'-6" Length 10'-0" Material of shell plates S

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Percentage of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

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

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

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

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces See Working pressures by rules Girders to Chamber tops: Material Depth and

Thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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

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

Are they 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

Attached. Separate report



002101-002108-0246

**VERTICAL DONKEY BOILER—** Manufacturers of Steel

No.	Description	When made	Where fixed
Made at	By whom made		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted
If fitted with easing gear	If steam from main boilers can enter the donkey boiler	Dia. of donkey boiler	Length
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates
Working pressure of furnace by rules	Thickness of furnace crown plates	Radius of do.	Stayed by
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey

**SPARE GEAR.** State the articles supplied:— 2 Connecting Rod bolts and nuts. 2 Piston Rod bolts and nuts. 2 Main Bearing bolts and nuts. One set Coupling bolts and nuts. One Set of Feed and Bilge Pump valves. One Set of H.P. Ramsbottom Kings. Iron of various sizes. A quantity of assorted bolts and nuts.

The foregoing is a correct description,  
 Manufacturer.

**FISHERS LIMITED!**  
 Andrew Fisher MANAGING DIRECTOR

**Str. PIPES.**  
 Dates of Survey while building: During progress of work in shops --- (1917 Dec. 4) 1918 Oct. 4 Sept 2. 20. Dec 12. 16. 20. 1919 Jan 9. 15. 17. 22. July 14. 18. 21. 28. Mar 4. 12. During erection on board vessel --- Apr. 1. 15. 29. May 12. 20. June 5. 23. Aug. 5. Sept 11. 12. 18. 19. 22. Oct. 3. 7. 14. 17. 21. 22. 29. 31. Total No. of visits 39.  
 Is the approved plan of main boiler forwarded herewith Yes

**Dates of Examination of principal parts—** Cylinders 14. 1. 19 Slides 14. 2. 19 Covers 18. 2. 19 Pistons 29. 4. 19 Rods 29. 4. 19  
 Connecting rods 29. 4. 19 Crank shaft 4. 12. 19 Thrust shaft 11. 9. 19 Tunnel shafts ✓ Screw shaft 11. 9. 19 Propeller 11. 9. 19  
 Stern tube 11. 9. 19 Steam pipes tested 21. 10. 19 Engine and boiler seatings 3. 10. 19. Engines holding down bolts 14. 10. 19  
 Completion of pumping arrangements 31. 10. 19. Boilers fixed 14. 10. 19. Engines tried under steam 31. 10. 19.  
 Main boiler safety valves adjusted 29. 10. 19 Thickness of adjusting washers Port Valve 5/16" Start Valve 3/16"  
 Material of Crank shaft Steel Identification Mark on Do. LLOYDS 4815 J.R.W. Material of Thrust shaft Steel Identification Mark on Do.  
 Material of Tunnel shafts none Identification Marks on Do. ✓ Material of Screw shafts Iron Identification Marks on Do. LLOYD 320 11-9-19  
 Material of Steam Pipes S.D. Copper. Test pressure 260 lbs/sq"

**General Remarks** (State quality of workmanship, opinions as to class, &c.) The engines and boilers have been built under Special Survey in accordance with the approved plans and the Rules of the Society.  
 The workmanship and the materials are of good quality.  
 The machinery has been securely fitted on board the vessel and tried under steam with satisfactory results.  
 It is now eligible, in my opinion, to have a notification of LMC 10. 19. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 10.19

The amount of Entry Fee .. £ 1 : 0 :  
 Special .. .. £ 10 : 10 :  
 Donkey Boiler Fee .. .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 11/11/19  
 When received, 15/11/19

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

Committee's Minute GLASGOW  
 Assigned + LMC 10.19  
 11 NOV 1919  
 12/11/19

