

## REPORT ON MACHINERY.

No. 40230.

Received at London Office

WED. AUG. 4 1920

Date of writing Report July 20<sup>th</sup> 1920 When handed in at Local OfficeJuly 23<sup>rd</sup> 1920. Port of

GLASGOW

No. in Survey held at  
Reg. Book.

Paisley

Date, First Survey 5<sup>th</sup> June, 1919; Last Survey July 16<sup>th</sup> 1920.

(Number of Visits 32)

Gross 362.  
Tons Net 138.

on the

S.S. SAINT AIDAN

Master James Coffey. Built at Bowling By whom built Scott &amp; Sons 286. When built 1920

Engines made at Paisley By whom made Fishers Ltd 224 when made 1920

Boilers made at Glasgow By whom made Forth Shipbuilding &amp; Eng. Coy Ltd 1901 when made 1920.

Registered Horse Power 40 Owners J. A. Gardner &amp; Co Ltd Port belonging to Glasgow.

Nom. Horse Power as per Section 28 40 64. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &amp;c.—Description of Engines Compound Expansion No. of Cylinders Two No. of Cranks Two

Dia. of Cylinders 16" x 34" Length of Stroke 24" Revs. per minute 108 Dia. of Screw shaft as per rule 4.23 as fitted 4.5 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

in the 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

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

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

Dia. of Tunnel shaft as per rule None Dia. of Crank shaft journals as per rule 4.03 as fitted 4.25 Dia. of Crank pin 4.25 Size of Crank webs 13½ x 5¼ Dia. of thrust shaft under

collars 4¼ Dia. of screw 8' 6" Pitch of Screw 10' 9" No. of Blades 4 State whether moveable No Total surface 24.5 sq

No. of Feed pumps One Diameter of ditto 2½ Stroke 12" Can one be overhauled while the other is at work —

No. of Bilge pumps One Diameter of ditto 2½ Stroke 12" Can one be overhauled while the other is at work —

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

In Engine Room Two @ 2" Boiler Room. 2 @ 2" In Holds, &amp;c. Two @ 2" in hold One @ 2" for

One @ 2" 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 &amp; 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

What pipes are carried through the bunkers Forward Suctions 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

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

BOILERS, &amp;c.—(Letter for record S ) Manufacturers of Steel Steel Coy of Scotland

Total Heating Surface of Boilers 1360 sq 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 11-2-20 No. of Certificate 15084

Can each boiler be worked separately — Area of fire grate in each boiler 43 sq No. and Description of Safety Valves to

each boiler Two Spring-loaded Area of each valve 5.9 Pressure to which they are adjusted 135 lbs Are they fitted with easing gear Yes

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

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

Per centages 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 in nuts or riveted heads Working pressure by rules

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

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

Area 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 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 Steam dome: description of joint to shell % of strength of joint

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

Pitch of rivets Working pressure of shell by rules Crown plates Thickness How stayed

SUPERHEATER. Type Date of Approval of Plan Tested by Hydraulic Pressure to

Date of Test Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler

Diameter of Safety Valve Pressure to which each is adjusted Is Easing Gear fitted

005480-005488-0153

005480-005488-0155



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two connecting rod top end bolts, Two connecting rod bottom end bolts  
Two main bearing bolts, One set of coupling bolts. One set of feed and bidge  
pump valves. One set piston rings. A quantity of assorted bolts, nuts and  
Iron of various sizes

The foregoing is a correct description,

FISHERS LIMITED.

At Houston Fisher

DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops -- (1919) June 5. 23. Aug. 5. Sep. 11. 23. Oct. 6. 10. 22. Nov. 18. (1920) Jan. 4. 10. 19. 26. Apr. 7. 9.  
During erection on board vessel --- 20. 28. 30. May 7. 20. 21. 26. June 3. 8. 16. July 7. 13. 14. 16.  
Total No. of visits 32.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 30-6-20 Slides 10-10-19 Covers 30-6-20 Pistons 26-5-20 Rods 26-5-20

Connecting rods 26-5-20 Crank shaft 4-3-20 Thrust shaft 19-3-20 Tunnel shafts None Screw shaft 9-4-20 Propeller 9-4-20

Stern tube 20-4-20 Steam pipes tested { 4-6-20 } Engine and boiler seatings 21-5-20 Engines holding down bolts 14-4-20

Completion of pumping arrangements 13-4-20 Boilers fixed 3-6-20 Engines tried under steam 15-4-20

Completion of fitting sea connections 28-4-20 Stern tube 28-4-20 Screw shaft and propeller 28-4-20

Main boiler safety valves adjusted 16-6-20 Thickness of adjusting washers PV  $\frac{9}{16}$  SV  $\frac{11}{16}$

Material of Crank shaft Steel Identification Mark on Do. JRW Material of Thrust shaft Iron Identification Mark on Do. 224 19-3-20 DCB

Material of Tunnel shafts None Identification Marks on Do. — Material of Screw shafts Iron Identification Marks on Do. 224 9-4-20 DCB

Material of Steam Pipes SD Copper Test pressure 260 lbs.

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery duplicate of a previous case Yes If so, state name of vessel S.S. Balfron.

General Remarks (State quality of workmanship, opinions as to class, &c. The engines have been built

under Special Survey in accordance with the Rules of the Society

The materials and workmanship are of good quality

The engines and boiler have been securely fitted on board the vessel

and tried under steam with satisfactory results

The machinery is now eligible in my opinion to have notification

of + LMC 4-20 in the Register Book.

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC. 7. 20.

Recd  
9/8/20

The amount of Entry Fee ... £ 1 : 0 :  
Special ... £ 5 : 19 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for, 2-8-1920  
When received, 14/8/20

GLASGOW 3-AUG 1920

Committee's Minute

Assigned + LMC 7.20

David C Barr.

Engineer Surveyor to Lloyd's Register of Shipping.



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Foundation