

## REPORT ON MACHINERY.

No. 17362

Received at London Office

WGB 23007 1918

Date of writing Report 4 Oct 1918 When handed in at Local Office 12 Oct 1918 Port of Greenwich

No. in Survey held at Greenwich & Hambleton Date, First Survey 1st April, 1918; Last Survey 8 Oct 1918  
Reg. Book.

on the Steel Steam War Clyde

(Number of Visits 53.)

Tons { Gross

Net

When built 1918

Master Built at Hambleton By whom built A. L. Millman Am

Engines made at Greenwich By whom made Rankin &amp; Macdonald Ltd when made 1918

Boilers made at Greenwich By whom made Rankin &amp; Macdonald Ltd when made 1918

Registered Horse Power Owners Port belonging to

Nom. Horse Power as per Section 28 172 Is Refrigerating Machinery fitted for cargo purposes In Is Electric Light fitted In

## ENGINES, &amp;c.—Description of Engines Triple compound No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 18" - 30" - 50" Length of Stroke 33" Revs. per minute 90 Dia. of Screw shaft as per rule 10.45" Material of screw shaft as fitted 10.4" Steel

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

in the propeller boss In If the liner is in more than one length are the joints burned In 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 In If two

liners are fitted, is the shaft lapped or protected between the liners In Length of stern bush 43 1/2"

Dia. of Tunnel shaft as per rule 9.01" Dia. of Crank shaft journals as per rule 9.48" Dia. of Crank pin 9 1/4" Size of Crank webs 18.6" Dia. of thrust shaft under

collars 9 1/4" Dia. of screw 13.3" Pitch of Screw 14.6" No. of Blades 4 State whether moveable In Total surface 60 sq ft

No. of Feed pumps 1 1/2 Diameter of ditto 2 1/2" Stroke 18" Can one be overhauled while the other is at work In

No. of Bilge pumps 1 1/2 Diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work In

No. of Donkey Engines 1 1/2 Sizes of Pumps 8" &amp; 8" &amp; 5" &amp; 12" all No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 2 1/2 2 1/2 In Holds, &amp;c. 2 1/2 2 1/2 2 1/2

The main all pump is fitted controlled and can be used as main feed pump.

No. of Bilge Injection 1 size 7" Connected to condenser, or to circulating pump In Is a separate Donkey Suction fitted in Engine room &amp; size 2 1/2"

Are all the bilge suction pipes fitted with roses In Are the roses in Engine room always accessible In Are the sluices on Engine room bulkheads always accessible In

Are all connections with the sea direct on the skin of the ship In Are they Valves or Cocks In

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates In Are the Discharge Pipes above or below the deep water line In

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel In Are the Blow Off Cocks fitted with a spigot and brass covering plate In

What pipes are carried through the bunkers In How are they protected In

Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times In

Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges In

Is the Screw Shaft Tunnel watertight In Is it fitted with a watertight door In worked from 1st Stowage

## BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel Steam. Smith &amp; Wainwright

Total Heating Surface of Boilers 2886 sq ft Is Forced Draft fitted In No. and Description of Boilers 1 1/2 Single Ended

Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 7/8/18 No. of Certificate 1357

Can each boiler be worked separately In Area of fire grate in each boiler 48.56 sq ft No. and Description of Safety Valves to

each boiler 1 1/2 Working Area of each valve 4.91" Pressure to which they are adjusted 185 lb Are they fitted with easing gear In

Smallest distance between boilers or uptakes and bunkers or woodwork 60" Mean dia. of boilers 18.0" Length 10.6" Material of shell plates Steel

Thickness 1 1/16" Range of tensile strength 28-32 Are the shell plates welded or flanged In Descrip. of riveting: cir. seams In

long. seams 1 1/16" Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 8" Lap of plates or width of butt straps 16 1/2"

Per centages of strength of longitudinal joint rivets 86.98 plate 15.93 Working pressure of shell by rules 182 lb Size of manhole in shell 16" x 12"

Size of compensating ring 1 1/16" No. and Description of Furnaces in each boiler 1 Single Ended Material Steel Outside diameter 41 1/2"

Length of plain part top bottom Thickness of plates crown bottom 9 1/16" Description of longitudinal joint welded No. of strengthening rings 1

Working pressure of furnace by the rules 184 lb Combustion chamber plates: Material Steel Thickness: Sides 10 1/16" Back 10 1/16" Top 10 1/16" Bottom 11 1/16"

Pitch of stays to ditto: Sides 8 1/4" 8 1/2" Back 8 1/4" 8 1/2" Top 8 1/4" 8 1/2" If stays are fitted with nuts or riveted heads In Working pressure by rules 181 lb

Material of stays Steel Area at smallest part 1.77" Area supported by each stay 74.4" Working pressure by rules 190 lb End plates in steam space:

Material Steel Thickness 1 1/2" Pitch of stays 22 1/2" 17 1/2" How are stays secured In Working pressure by rules 181 lb Material of stays Steel

Area at smallest part 6.9" Area supported by each stay 196" Working pressure by rules 181 lb Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1 1/16" Greatest pitch of stays 18" Working pressure of plate by rules 184 lb

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

Pitch across wide water spaces 1 1/2" Working pressures by rules 183 lb Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 7/8" 14" Length as per rule 30 7/8" Distance apart 8 1/4" Number and pitch of stays in each 1 1/2" 8 1/2"

Working pressure by rules 184 lb Steam dome: description of joint to shell In % 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



IS A DONKEY BOILER FITTED?

None

If so, is a report now forwarded? -

SPARE GEAR. State the articles supplied:-

The top end bell. The bottom end bell. Two main bearing bells. One air coupling bell. One air feed pump valve. One air ridge pump valve. With nuts &c. The main and air donkey check valves. The safety valve springs. The pump escape valve springs &c &c as per specification.

The foregoing is a correct description,

RANKIN & BLACKMORE, LTD.

H. Ferriar

Director.

Manufacturer.

Dates of Survey while building

During progress of work in shops - -  
During erection on board vessel - - -  
Total No. of visits

(1918). Apr. 1. 4. 9. 12. 16. 18. 22. 25. May. 2. 3. 6. 9. 16. 22. 28. 30. June. 3. 6. 11. 13. 17. 19. 20. 26. 28. July. 18. 22. 24. 25. 30. Aug. 1. 2. 7. 8. 19. 20. 26. 27. 29. Sep. 2. 4. 11. 13. 19. 23. 25. 26. 27. 30. Oct. 1. 2. 4. 8. -

Is the approved plan of main boiler forwarded herewith? -

" " " donkey " " " -

Dates of Examination of principal parts—Cylinders 24/6/18 Slides 17/7/18 Covers 26/6/18 Pistons 17/7/18 Rods 17/7/18  
Connecting rods 17/7/18 Crank shaft 24/6/18 Thrust shaft 30/7/18 Tunnel shafts 30/7/18 Screw shaft 30/7/18 Propeller 30/7/18  
Stern tube 1/8/18 Steam pipes tested 30/7/18 1/10/18 Engine and boiler seatings 20/8/18 Engines holding down bolts 27/9/18  
Completion of pumping arrangements 24/10/18 Boilers fixed 27/9/18 Engines tried under steam 9/10/18  
Completion of fitting sea connections 10/8/18 Stern tube 10/8/18 Screw shaft and propeller 10/8/18  
Main boiler safety valves adjusted 2/10/18 Thickness of adjusting washers P 9/32 S 7/16 - P 1/2 S 3/4

Material of Crank shaft Steel Identification Mark on Do. 1951 Material of Thrust shaft Steel Identification Mark on Do. 1953  
Material of Tunnel shafts Steel Identification Marks on Do. 1954-7 Material of Screw shafts Steel Identification Marks on Do. 1952  
Material of Steam Pipes Iron Test pressure 600 lb

Is an installation fitted for burning oil fuel? - 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? - If so, state name of vessel -

General Remarks (State quality of workmanship, opinions as to class, &c. Workmanship good.)

The machinery and boilers of this steamer have been constructed under special survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted for the notification + L.M.C. 10.18 in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.18

APR 24-10-18

24-10-18

The amount of Entry Fee £ 33 : 17 : 9 When applied for 18/10/18  
Special ... £ : : When received 29.10.18  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :

Committee's Minute GLASGOW 22 OCT 1918

Assigned + L.M.C. 10.18

James Jones  
Engineer Surveyor to Lloyd's Register of Shipping.