

REPORT ON MACHINERY.

No. 8094.

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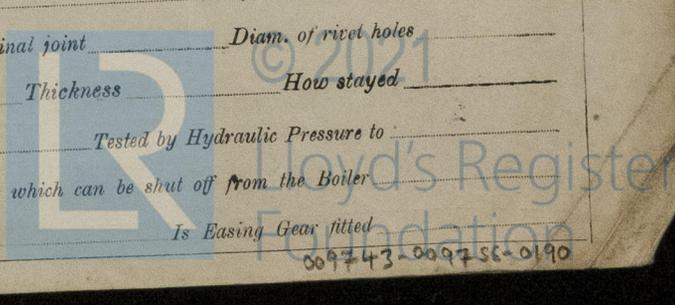
4. Writing Report 29. 8. 1918 When handed in at Local Office 3. 9. 18 19 Port of DUNDEE.
 in Survey held at Tayport & Dundee Date, First Survey Nov 22nd 1914. Last Survey August 28th 1918.
 Book. on the Iron bifter "FLAME" Tons ^{Gross} _{Net}
 ter Built at Sandhaven By whom built J. G. Forbes. When built
 ines made at Tayport By whom made D. R. B. Scott (No. D. 85). when made 1918
 lers made at Dockton By whom made Riley Bros. Ltd (No. 5114) when made
 istered Horse Power Owners The Admiralty Port belonging to
 2. Horse Power as per Section 28 43 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no.

ENGINES, &c.—Description of Engines Triple expansion, surface condensing No. of Cylinders 3 No. of Cranks 3
 of Cylinders 9 1/2 15 1/2 26 Length of Stroke 18 Revs. per minute 140 Dia. of Screw shaft 5 1/4 as per rule 5 1/4 Material of screw shaft Steel
 Is the after end of the liner made water tight 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 Length of stern bush 2-1
 Dia. of Tunnel shaft 4.496 as per rule 5.036 Dia. of Crank shaft journals 5 1/4 as per rule 5 1/4 Dia. of Crank pin 5 1/4 Size of Crank webs 6 x 3 1/2 Dia. of thrust shaft under
 Dia. of screw 6-9 Pitch of Screw 8-6 No. of Blades 4 State whether moveable no Total surface 18 sq. ft.
 of Feed pumps one Diameter of ditto 2 1/2 Stroke 9 Can one be overhauled while the other is at work Yes
 of Bilge pumps one Diameter of ditto 2 Stroke 9 Can one be overhauled while the other is at work Yes
 of Donkey Engines one Sizes of Pumps 5 1/2 x 3 1/2 x 5 & 2 No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room one In Holds, &c. one forward 2" dia. one aft, 2" dia.
 of Bilge Injections one sizes 2 1/2 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes, 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 Yes
 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 none How are they protected
 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
 the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from

BOILERS, &c.—(Letter for record) Manufacturers of Steel
 Heating Surface of Boilers 814 sq ft Is Forced Draft fitted no No. and Description of Boilers one Single ended
 Working Pressure 180 lb Tested by hydraulic pressure to Date of test No. of Certificate
 in each boiler be worked separately Area of fire grate in each boiler 30.5 sq ft No. and Description of Safety Valves to
 in boiler 2 Spring loaded Area of each valve 3.98 sq in Pressure to which they are adjusted 185 lb Are they fitted with easing gear Yes
 smallest distance between boilers on uptakes and bunkers or woodwork 1/2 Mean dia. of boilers Length Material of shell plates
 Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: circ. seams
 g. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width 10/16 butt straps
 Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell
 of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter
 Length of plain part Thickness of plates 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 Area 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
 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

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10/9/18



IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end bolts - nuts, 2 Bottom end bolts - nuts, 2 main bearing bolts - nuts, one set coupling bolts - nuts, one set for air, circulating, feed & bilge pumps, 6 condenser tubes - ferrules, 6 cylinder cover studs - nuts, 6 junk ring bolts - nuts, 24 access bolts - nuts.

The foregoing is a correct description,

D. & R. Roberts

FOR COOPER & GREIG LIMITED

Manufacturer.

John Cooper { *Director* } *Director*

Dates of Survey while building { During progress of work in shops - - - } ¹⁹¹⁴ Nov. 22. 29. DEC. 13. 19. 20. 24. ¹⁹¹⁸ JAN. 4. 18. 30. FEB. 11. 15. 21. MAR. 6. 13. 20. APR. 10. 14. { During erection on board vessel - - - } MAY 1. 8. 16. 23. JUNE 6. 13. 20. 24. JULY 2. 18. 24. { Total No. of visits } 32.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6.6.18 Slides 20.6.18 Covers 6.6.18 Pistons 20.6.18 Rods 13.6.18 Connecting rods 20.6.18 Crank shaft 1.5.18 Thrust shaft 20.6.18 Tunnel shafts ✓ Screw shaft 20.6.18 Propeller 20.6.18 Stern tube 20.6.18 Steam pipes tested 22.8.18 Engine and boiler seatings 16.8.18 Engines holding down bolts 16.8.18 Completion of pumping arrangements 28.8.18 Boilers fixed 16.8.18 Engines tried under steam 28.8.18 Completion of fitting sea connections Aberdeen Stern tube Aberdeen Screw shaft and propeller Aberdeen Main boiler safety valves adjusted 28.8.18 Thickness of adjusting washers S. 7/16 P. 7/16 Material of Crank shaft Steel Identification Mark on Do. 796 J.H.M. Material of Thrust shaft Steel Identification Mark on Do. 796 Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Scrap Iron Identification Marks on Do. 796 Material of Steam Pipes S.D. Copper, 2 3/4 Bore x 9 W.G. Test pressure 360 lbs per sq. in. 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 *Yes* If so, state name of vessel *'FIERY CROSS' (London Rpt. 809)*

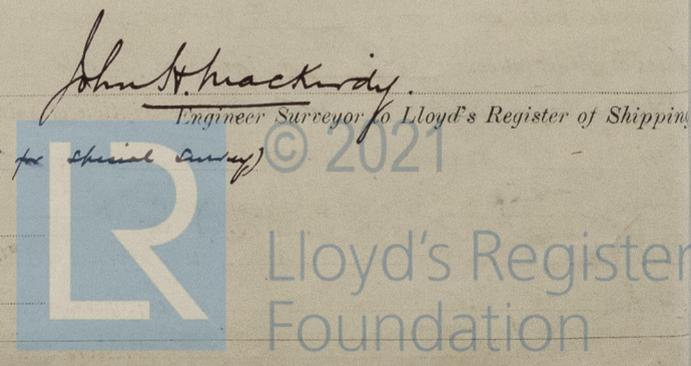
General Remarks (State quality of workmanship, opinions as to class, &c. *The engines for this vessel have been built under special survey, & in accordance with the specification. The materials & workmanship are sound & good. The engines & boilers have been satisfactorily completed on board; the shafts checked and the pumping arrangements found in order. The machinery worked well under full working conditions, and is slight in my opinion to have record of L.M.C. 8.18*

It is submitted that this vessel is eligible for THE RECORD. + LMC 8.

John S. Mackenzie
10/9/18.

The amount of Entry Fee ... £ : : When applied for, as agreed Special with Admiralty £ 9 : 0 : 29. 8. 1918. Donkey Boiler Fee £ 2 : 10 : When received, Travelling Expenses (if any) £ 2 : 0 : 30/8/ 1918. (S.A.S. Vote for special survey)

Committee's Minute FRI. NOV. 15. 1918 Assigned *L.M.C. 8.18*



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