

REPORT ON MACHINERY.

No. 15397

Received at London Office SAT 15 SEP 1917

of writing Report 30th August, 1917. When handed in at Local Office 10th Sept 1917. Port of West Hartlepoolin Survey held at W. Hartlepool Date, First Survey 13th July 1916. Last Survey 29th Aug 1917

g. Book. on the Steel Screw Steamer (R.F.A.) "Rapidol" (W. Gray & Co's S.S. No. 886)

Master J. N. Ashworth Built at W. Hartlepool By whom built W. Gray & Co., Ltd.

Engines made at W. Hartlepool By whom made Central Marine Engine Works when made 1917

Milers made at W. Hartlepool By whom made Central Marine Engine Works when made 1917

Registered Horse Power 545 Owners Admiralty Port belonging to London

m. Horse Power as per Section 28 545 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

GINES, & Co.—Description of Engines Triple Expansion No. of Cylinders three (3) No. of Cranks 3

a. of Cylinders 26", 42", 70" Length of Stroke 45" Revs. per minute 94 Dia. of Screw shaft 13.88" Material of screw shaft Scrap Iron

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

screws are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 62"

a. of Tunnel shaft as per rule 13.18 Dia. of Crank shaft journals as per rule 13.84 Dia. of Crank pin 14 3/8" Size of Crank webs 2 1/2" x 8 1/2" Dia. of thrust shaft under

bars 14 3/8" Dia. of screw 15-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 77 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes Independent (main) feed pump

No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 28" Can one be overhauled while the other is at work Yes Each 10 1/2" x 8" x 24"

No. of Donkey Engines 3 Sizes of Pumps 2 Singles 13 1/2" cph, 10 pump, 24" stroke No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 3, 3 1/2" in Stokehold 2, 3 1/2" in tunnel (after) 1 in Hold, 4 in after peak tank one, 4" connected to for ballast

No. of Bilge Injections 2 sizes 14" in Engine room Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size Yes 3 1/2"

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 Below

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 Yes

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

Date of examination of completion of fitting of Sea Connections 11/7/17 of Stern Tube 9/7/17 Screw shaft and Propeller 9/7/17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Yes

MILERS, & Co.—(Letter for record S) Manufacturers of Steel John Spencer & Sons, Ltd.

Total Heating Surface of Boilers 8466 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers three (3); Single-ended

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 24/1/17 No. of Certificate 3448

Can each boiler be worked separately Yes Area of fire grate in each boiler oil fuel—no plates fitted No. and Description of Safety Valves to

each boiler 2, double spring Area of each valve 12.56 sq. in. Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers 15-9" Length 11-9" Material of shell plates Steel

Thickness 1/2" Range of tensile strength 27/30 tons Are the shell plates welded or flanged both Descrip. of riveting: cir. seams 3/16, lap

eng. seams 3/16, dble strap Diameter of rivet holes in long. seams 1/2" Pitch of rivets 10 1/4" Lap of plates or width of butt straps 22"

Per centages of strength of longitudinal joint rivets 85.3 Working pressure of shell by rules 210 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 36 1/2" x 32 1/2" x 1 1/2" No. and Description of Furnaces in each boiler 3, Deighton's Material Steel Outside diameter 49 1/8"

Length of plain part top Thickness of plates crown 10/16" Description of longitudinal joint welded No. of strengthening rings Corrugated

Working pressure of furnace by the rules 205 lbs. Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1"

Pitch of stays to ditto: Sides 8 3/4" x 9" Back 10" x 7 3/4" Top 8 3/4" x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 204 lbs.

Material of stays Steel Diameter at smallest part 1.633" Area supported by each stay 9" x 8 3/4" Working pressure by rules 239 lbs. End plates in steam space:

Material Steel Thickness 1 5/16" Pitch of stays 21" x 19" How are stays secured dble nuts Working pressure by rules 203 lbs. Material of stays Steel

Diameter at smallest part 3.16" Area supported by each stay 21" x 19" Working pressure by rules 204 lbs. Material of Front plates at bottom Steel

Thickness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 16 1/2" x 7 3/4" Working pressure of plate by rules 208 lbs.

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

Pitch across wide water spaces 13 1/2" Working pressures by rules 210 lbs. Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10" x 1 1/2" Length as per rule 34 1/2" Distance apart 8 3/4" Number and pitch of stays in each 3, 8 1/2"

Working pressure by rules 203 lbs. 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

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

If 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

002289-002297-0246

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 1/3" crank shaft; screw shaft; c.i. solid propeller; piston rod with crosshead & shoes complete; H.P. & L.P. slide rods; packing rings for H.P., M.P. & L.P. pistons & for L.P. balance piston; metallic packing for piston & slide rod glands; brasses & bolts for one connecting rod; air pump rod complete; set of metallic valves for air pump; 9 bolts & nuts for one shaft complete; 4 bolts & nuts for main bearings; 6 piston pin & ring bolts & nuts; 6 studs & nuts for cylinder covers, also for valve chest covers, 2 front & 2 back links for bilge & air pumps; 4 tumblers block brasses for link motion; one ahead & one astern eccentric rod & strap with bolts & nuts; 8 thrust shoes complete; cylinder & receiver relief valve springs; bilge & hotwell pump relief valve springs; 2 safety valve springs for boilers; 12 plain & 2 stay tubes for boilers; 36 boiler tube stoppers; half set of short screwed stays for one boiler; 18 protection pieces for furnace fronts; assorted bolts & nuts; Spare gear for all auxiliaries, — donkey pumps, distilling plant, fan engines & oil burning installation.

The foregoing is a correct description,
FOR THE CENTRAL MARINE ENGINE WORKS,
(M. Gray & Co. Ltd.)

John Williams

Manufacturer.

ASSISTANT MANAGER.

Dates of Survey while building: During progress of work in shops — 2.3.4.5.6.9.11.12.13.16.17.18.19.20.23.24.25.26.27.30.31. May 1.2.3.6.10.13.14.16.17.20.21.22.23.24.27.29.30. Dec 1.4.5.7.8.11.12.13.14.15.18.19.20.22.23.24.27.29.30. Rec 1.4.5.7.8.11.12.13.14.15.18.19.20.22.23.24.27.29.30. Feb 1.2.5.7.9.12.13.14.15.16.19.20.21.22.23.26.27.28.29.30.31. Mar 2.5.7.8.9.12.13.16.19.20.22.30. April 2.4.11.16.17.18.20.23.26.27.30. May 1.2.4.7.10.11.14.15.16.17.18.21.23. June 1.5.11.12.14.20.21.22.23.26.27.29. July 2.3.5.6.9.10.11.12.13.16.18.19.20.23.24.25.26.27.30.31. Aug 1.2.3.14.15.16.17.20.21.22.23.24.25.29. Is the approved plan of main boilers forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 29/1/17 Slides 27/2/17 Covers 14/5/17 Pistons 20/2/17 Rods 9/2/17 Connecting rods 14/2/17 Crank shaft 30/1/17 Thrust shaft 30/1/17 Tunnel shafts 30/4/17 Screw shaft 4/5/17 Propeller 19/3/17 Stern tube 19/3/17 Steam pipes tested 10/5 to 27/6/17 Engine and boiler seatings 26/4/17 Engines holding down bolts 17/5/17 Completion of pumping arrangements 2/7/17 Boilers fixed 23/5/17 Engines tried under steam 31/7/17 Main boiler safety valves adjusted 19 & 25/7/17 Thickness of adjusting washers all 1 1/2"

Material of Crank shaft Hot Steel Identification Mark on Do. 5848 Material of Thrust shaft Hot Steel Identification Mark on Do. 5848

Material of Tunnel shafts Hot Steel Identification Marks on Do. 5848 Material of Screw shafts Seap. Iron Identification Marks on Do. 5848

Material of Steam Pipes Steel, welded Test pressure 600 lbs

Is an installation fitted for burning oil fuel Yes Is the flash point of the oil to be used over 150°F. Yes

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

Is this machinery duplicate of a previous case No If so, state name of vessel ✓

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

"C.M.E.W." feed heater & Quiggin's Evaporator & distilling condenser — all duly subjected to the required water-test pressures — have been fitted on board.

Howden's system of Forced Draught & Wallsend-Howden Oil-burning plant have been installed & fitted to the boilers.

The workmanship is good. The Engines & Boilers of this vessel have been constructed under Special Survey & fitted on board in accordance with the Requirements of the Society's Rules. And in addition the requirements of the Specification — placed in the hands of the Engine-builders by the Admiralty — as well as certain alterations and/or modifications approved by the Admiralty — have been carried out.

The Engines & Boilers of this vessel are now, in my opinion, in safe-working condition. And the case is respectfully submitted for the record of LMC 8,17 in the Register Book.

Fitted for oil fuel 8,17 F.P. above 150°F.

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 8.17. F.D.

Fitted for oil fuel 8.17 F.P. above 150°F.

The amount of Entry Fee ... £ :
Special ... £ 60 :
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ :

When applied for.

7/9/1917

When received.

29/9/17

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

Committee's Minute

FRI. SEP. 21 1917.

Assigned

+ LMC 8.17

Fitted for oil fuel 8.17 F.P. above 150°F.

© 2020

Lloyd's Register
Foundation