

REPORT ON MACHINERY.

No. 71221.

Received at London Office

MON. SEP. - 9. 1918

Date of writing Report 10th August 1918 When handed in at Local Office

19 Port of

NEWCASTLE-ON-TYNE.

No. in Survey held at Newcastle-on-Tyne

Date, First Survey 2nd Aug 17 Last Survey 12th Aug 1918

Reg. Book.

(Number of Visits 55)

Gross 5562

Net 3472

on the SCREW STEAMER "WAR RAJPUT."

Master

Built at Newcastle-on-Tyne By whom built L. & S. Armstrong Whitworth & Co. When built 1918

Engines made at Newcastle-on-Tyne

By whom made R. W. Hawthorn Leslie & Co. Ltd when made 1918

Boilers made at Newcastle-on-Tyne

By whom made R. W. Hawthorn Leslie & Co. Ltd when made 1918

Registered Horse Power

Owners Shipping Controller

Port belonging to London

Nom. Horse Power as per Section 28

517

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders 24"-44"-73" Length of Stroke 48" Revs. per minute 80 Dia. of Screw shaft as per rule 14.7" Material of screw shaft as fitted 15.5" steel

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 one length 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 5' 0"

Dia. of Tunnel shaft as per rule 13.3" Dia. of Crank shaft journals as per rule 14" Dia. of Crank pin 14 1/2" Size of Crank webs 9 x 2 1/2" Dia. of thrust shaft under collars 14 1/2" Dia. of screw 17' 6" Pitch of Screw 16' 6" No. of Blades 4 State whether moveable No Total surface 102.5 sq. ft.

No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 3 Sizes of Pumps 9 x 18, 9 x 18, 10 x 24 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 1/2" dia. In Hold 2 1/2" dia. In Holds, &c. Fore Hold. One 3 1/2" dia.

No. of Bilge Injections 1 sizes 1/3" Connected to condenser, or to circulating pump C. P. 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

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

What pipes are carried through the bunkers How are they protected

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 6/6/18 of Stern Tube 6/6/18 Screw shaft and Propeller 6/6/18

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door No worked from Entered by Transitway from Deck.

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel J. Spencer & Sons Ltd

3 S.E.

Total Heating Surface of Boilers 4668 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 3: Cylindrical, Single.

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 3/5/18 No. of Certificate 9086 & 9087

Can each boiler be worked separately Yes Area of fire grate in each boiler 63.3 sq. ft. No. and Description of Safety Valves to each boiler 2: Spring Loaded Area of each valve 9.62" Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork About 18" Mean dia. of boilers 15' 6" Length 11' 6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 28/32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double

long. seams 2: Strap, Triple Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9 1/8" 4 1/2" Lap of plates or width of butt straps 19 1/2"

Per centages of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 182 lbs Size of manhole in shell 16" x 12"

Size of compensating ring Plate Flanged No. and Description of Furnaces in each boiler 3: Doughton's Material Steel Outside diameter 50 3/16"

Length of plain part top 4' 6 1/2" Thickness of plates crown 1 1/4" bottom 3/4" Description of longitudinal joint Weld No. of strengthening rings none

Working pressure of furnace by the rules 189 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 1/16" Top 3/32" Bottom 3/32"

Pitch of stays ditto: Sides 9 1/4" x 10 5/8" Back 10 1/2" x 8 1/2" Top 10 1/2" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 183 lbs

Material of stays Steel Diameter at smallest part 2.39" Area supported by each stay 98" Working pressure by rules 219 lbs End plates in steam space:

Material Steel Thickness 1 1/2" Pitch of stays 2 1/2" x 2 1/2" 19. How are stays secured Bolted Working pressure by rules 184 lbs Material of stays Steel

Diameter at smallest part 5.48" Area supported by each stay 460" Working pressure by rules 184 lbs Material of Front plates at bottom Steel

Thickness 3/32" Material of Lower back plate Steel Thickness 5/8" Greatest pitch of stays 14 5/8" Working pressure of plate by rules 183 lbs

Diameter of tubes 2 1/4" Pitch of tubes 4" x 3 1/2" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9 1/8"

Pitch across wide water spaces 13 5/8" Working pressures by rules 181 lbs 209 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 10" x 1 1/2" Length as per rule 36 9/16" Distance apart 10 5/8" Number and pitch of stays in each 3: 9 1/4"

Working pressure by rules 184 lbs Superheater or Steam chest; how connected to boiler None 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

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? *No*

SPARE GEAR. State the articles supplied:— 2 Connects Rod Top End Bolt & Nut 2 Connects Rod Bolt End Bolt & Nut
2 main Bearing Bolt & Nut, 3 Crank shaft Coupling Bolt & Nut, 3 Tunnel shaft Coupling Bolt & Nut.
2 Feed Pump valves 2 Bilge Pump valves 3 main feed Check valves 3 Donkey feed Check valves.
50 Bolt & Nut, 18 Cylinder Steam chest Cover Studs 8 Bars of Iron, 1 Propeller, 1 H.P. Piston valve, 12
Condenser Tubes & 50 Ferrules 100 Tube Packings 6 Air Pump valves, 2 Pump Packing for each
Piston Rod & Valve Spindle, 1 Escape valve spring for Feed pump, 1 Cast White metal, 1 valve gear for
main engine Stop valve, 1 Filler Bucket, 56 lb Coir fibre for filter Spare Gear for Centrifugal pump Engine
1 set Piston & Bucket Pump for feed, General and Ballast donkeys. 12 Boiler Tubes, 72 Gudgeons
The foregoing is a correct description, Pump 200 H.P. Bars 4th

For R. & W. HAWTHORN, LESLIE & CO. LD.

R. B. Armstrong

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1917 Aug 2, Sep 10, 18, 21, 24, 26, 27, Oct 2, 5, 9, 10, 19, 23, 29 Nov 1, 7, 9, 23, 28 Dec 5, 17, 1918 Jan 7, 12, 18, 25 Feb 1, 7, 19, 28
During erection on board vessel -- Mar 7, 25, 26, 30, Apr 1, 3, 9, 10, 16, 25, 30 Jun 2, 6, 12, 18, Jul 3, 13, 18, 23, 31, Aug 6, 8, 9, 12.
Total No. of visits *53*

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *17/12/17* Slides *17/12/17* Covers *23/11/17* Pistons *23/11/17* Rods *17/12/17*
Connecting rods *23/11/17* Crank shaft *1/10/17* Thrust shaft *26/9/17* Tunnel shafts *4/9/17* Screw shaft *26/9/17* Propeller *6/6/18*
Stern tube *19/10/17* Steam pipes tested *23/4/18* Engine and boiler seatings *6/6/18* Engines holding down bolts *23/4/18*
Completion of pumping arrangements *9/8/18* Boilers fixed *23/4/18* Engines tried under steam *17/8/18*
Main boiler safety valves adjusted *9/8/18* Thickness of adjusting washers *Port 13 5/16" 7/16" Centre 13 5/16" 7/16" Starboard 13 5/16" 7/16"*
Material of Crank shaft *Steel* Identification Mark on Do. *1127/1260* Material of Thrust shaft *Steel* Identification Mark on Do. *1373 J.P.*
Material of Tunnel shafts *Steel* Identification Marks on Do. *1305 J.P.* Material of Screw shafts *Steel* Identification Marks on Do. *1238 J.P.*
Material of Steam Pipes *W.S. Lap welded 4 3/8" dia x 5/16" thick* Test pressure *540 lbs*
Is an installation fitted for burning oil fuel *Yes* Is the flash point of the oil to be used over 150°F. *Above*
Have the requirements of Section 49 of the Rules been complied with *Yes*
Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *War Bison*

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

The Engines and Boilers of this vessel were built under special survey and the materials and workmanship are good. On completion they were examined under steam and found to work satisfactorily.

The machinery throughout is now in good and efficient condition and eligible in our opinion to have the records of *L.M.C. 8, 18* marked in the Locity's Register Book, and fitted for oil fuel F.P. above 150°F.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 8, 18 F.D.

FITTED FOR OIL FUEL 8, 18 F.P. ABOVE 150°F.

J. H. 18
10-9-18

The amount of Entry Fee ... £ : : When applied for, 1 AUG 1918
Special ... £ 144 : 14 :
Donkey Boiler Fee ... £ : : When received, 25.9.18
Travelling Expenses (if any) £ : : 27.9.18

Committee's Minute TUE 10 SEP 1918

Assigned + L.M.C. 8, 18

F.D. Fitted for oil fuel 8, 18
F.P. above 150°F.

Wm. Austin & Mr. Lindale
Engineers Surveyors to Lloyd's Register of British & Foreign Shipping.



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