

REPORT ON MACHINERY

No. 70521

MON. 17 DEC. 1917

Received at London Office

Date of writing Report

19

When handed in at Local Office

14 DEC 1917

Port of

NEWCASTLE-ON-TYNE

in Survey held at

Newcastle-on-Tyne

Date, First Survey

3rd April 1917

Last Survey

24th Dec 1917

1917

on the

SCREW STEAMER "WAR DAFFODIL"

(Number of Visits

31

Tons

Gross 5199

Net 3216

Master

Built at Low Walker

By whom built

Swain Hunter Wigham Richardson

When built

1917

Engines made at

St. Peters

By whom made

Arthur Hawthorn Leslie & Co. Ltd.

when made

1917

Boilers made at

Low Walker

By whom made

Swain Hunter Wigham Richardson

when made

1917

Registered Horse Power

Owners

(Eg. Pym & Co. Mgrs.)

Port belonging to

London

Nom. Horse Power as per Section 28

518

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

27" 44" 73"

Length of Stroke

48"

Revs. per minute

80

Dia. of Screw shaft

as per rule 14 1/2"

Material of

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

the propeller boss

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

When two liners are fitted, is the shaft lapped or protected between the liners

Dia. of Tunnel shaft as per rule 14 1/2" as fitted 14 1/2" Dia. of Crank shaft journals as per rule 1 1/4" as fitted 1 1/4" Dia. of Crank pin 1 1/4" Size of Crank webs 9 x 28" Dia. of thrust shaft under rollers 1 1/4" 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 Three Sizes of Pumps 9 1/2 x 18" 9 1/2 x 18" 10 1/2 x 14" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Two 3 1/2" dia. In Stokehold Two 3 1/2" dia. In Holds, &c. No. 1 HOLD 2 3 1/2" dia. No. 2 HOLD 2 3 1/2" dia. No. 3 HOLD Two 3 1/2" dia. No. 4 HOLD One 3 1/2" dia. TUNNEL One 3" dia.

No. of Bilge Injections 1 sizes 8" 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 12/9/17 of Stern Tube 12/9/17 Screw shaft and Propeller 12/9/17

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

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

Total Heating Surface of Boilers 7668 sq. ft. Is Forced Draft fitted Yes No. and Description of Boilers 3 Cylinders 4 tubes Single

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 14/9/17 No. of Certificate B.V. Test and Certificate

Can each boiler be worked separately Yes Area of fire grate in each boiler 63 sq. ft. No. and Description of Safety Valves to each boiler 2 Swiss Spring loaded Area of each valve 9.62 sq. in. 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 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Lap Double

Long. seams Butt Strap Tube Diameter of rivet holes in long. seams 1 7/8" Pitch of rivets 9 1/2" 4 1/2" Lap of plates or width of butt straps 19 1/2"

Percentages of strength of longitudinal joint rivets 84.5% plate 85.6% 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 Deighton's Material Steel Outside diameter 50 1/2"

Length of plain part top 4.6" bottom 4.6" Thickness of plates crown 19" bottom 32" Description of longitudinal joint Weld No. of strengthening rings None

Working pressure of furnace by the rules 188 lbs Combustion chamber plates: Material Steel Thickness: Sides 3/32" Back 1/16" Top 3/32" Bottom 3/32"

Pitch of stays to ditto: Sides 9 1/4" x 10 1/8" Back 10 1/4" x 8 1/2" Top 10 1/8" x 9 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 180 lbs

Material of stays Steel Diameter at smallest part 2.36" Area supported by each stay 98 sq. in. Working pressure by rules 215 lbs End plates in steam space:

Material Steel Thickness 1 1/2" Pitch of stays 2 1/4" x 2 1/8" How are stays secured Double nuts Working pressure by rules 184 lbs Material of stays Steel

Diameter at smallest part 8.29" Area supported by each stay 456 sq. in. Working pressure by rules 184 lbs Material of Front plates at bottom Steel

Thickness 3/8" Material of Lower back plate Steel Thickness 27" Greatest pitch of stays 13 1/8" Working pressure of plate by rules 182 lbs

Diameter of tubes 2 3/4" Pitch of tubes 4 1/2" x 3 1/2" Material of tube plates Steel Thickness: Front 3/32" Back 3/4" Mean pitch of stays 9.81"

Pitch across wide water spaces 13 1/8" Working pressures by rules Front Back 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 35 3/8" Distance apart 10 1/2" Number and pitch of stays in each 2 9 1/4"

Working pressure by rules 187 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

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Lloyd's Register Foundation

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VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description Made at By whom made When made Where fixed Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment If fitted with casing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams Rivets Plates Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:— Propeller, 1 H.P. Piston valve, 12 Condenser Tubes, 25 each plain & Capped Con. Tube ferrules, 2 Conn. Rod Bolts, 2 P. Rod Crosshead Bolt Nuts, 2 Main Bearing Bolts, 1st Coupling Bolt, 1st Air pump valves, 1st & 2nd & 1st & 2nd Bilge pump valves, 2 Main Boiler Check valves, 2 Aux. Feed Check valves, 1 Feed pump Escape valve & Spring, 12 Joint Ring Studs, 6 each Cylinder Cover & Steam Chest Studs, 6 Studs of each size fitted to Boilers, 1 Piston for Main Air Stop valve, 1 Piston Ring and Gasket, 2 Rings each Piston Packing for Piston and slide Rods, 1 Cut white metal 5 Bar Rod and 3 Bars Flat Iron. Spare Gear for Centrifugal pump. Spare Piston Ring for each Auxiliary Engine and Spare Ring for each Air pump Piston

The foregoing is a correct description,

Manufacturer: R. & W. HAWTHORN, LESLIE & CO. LD.

Dates of Survey while building During progress of work in shops -- 1917. Apr. 3, Aug. 17, Sep. 4, 6, 10, 12, 14, 24, 26, 28 Oct. 1, 4, 5, 9, 10, 11, 12, 17, 18, 21, 23, Nov. 9, 16, 22, 23. During erection on board vessel --- 26, 28, 30 Dec. 1, 3, 4. Total No. of visits 31 Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 14/8/17 Slides 17/8/17 Covers 16/11/17 Pistons 17/8/17 Rods 17/8/17 Connecting rods 17/8/17 Crank shaft 9/2/17 Thrust shaft 19/6/17 Tunnel shafts 29/6/17 Screw shaft 29/6/17 Propeller 13/9/17 Stern tube 17/8/17 Steam pipes tested 26/9/17 17/10/17 22/10/17 Engine and boiler seatings 13/9/17 Engines holding down bolts 18/10/17 Completion of pumping arrangements 23/11/17 Boilers fixed 3/12/17 Engines tried under steam 16/11/17 Main boiler safety valves adjusted 16/11/17 Thickness of adjusting washers S. 12, 13, 20, 32, 34, C.B. 12, 13, 32, P.B. 12, 13, 32, 34, 36, 37, 38 Material of Crank shaft Steel Identification Mark on Do. 9686 Material of Thrust shaft Steel Identification Mark on Do. 9686 Material of Tunnel shafts Iron Identification Marks on Do. 5926-7-8 Material of Screw shafts Iron Identification Marks on Do. 5927 Material of Steam Pipes Wrought Iron Test pressure 540 lbs.

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

This vessel's engines and boilers were built under the special survey of the Surveyors of the Bureau Veritas. They were originally intended for H. 1059 (a S.V.) vessel. This ship being ready for launching, while its machinery was not ready, the engines and boilers for H. 1038 vessel were transferred to it. The engines & boilers for H. 1059 vessel were fitted on H. 1038 and are herein reported.

After completion on board the machinery and boilers were examined under steam and found to work satisfactorily. They are now in good and efficient condition and eligible in my opinion to have the record of

L.M.C. 12, 17, marked in the Society's Register Book

It is submitted that this vessel is eligible for THE RECORD, LMC 12.17. FD.

The amount of Entry Fee .. £ : : When applied for, 14 DEC 1917 Special .. £ 100 : : Donkey Boiler Fee .. £ : : When received, 21-12-17 Travelling Expenses (if any) £ : : 29-12-17

Committee's Minute FRI. 28 DEC. 1917 FRI. 18 JAN. 1918

Assigned L.M.C. 12.17 J.D.



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

Port of No. in Reg. Book Owners Yard No. DESCRIP One St single of Capacity of Where is Position of Positions If fuses a circuit If vessel is Are the Are all are p Are all Total num A Navigat B Cabin C Engines D Cargo E Diesel 1 2 If arc lig Where a DESCRIP Main cab Branch c Branch c Leads to Cargo lig DESCRIP 600 W direct Armo Joints in Are all pos Are ther How ar & Post