

# REPORT ON MACHINERY.

No. 27087

Received at London Office WED. 7-NOV. 1917

Date of writing Report 19<sup>th</sup> Oct. 1917 When handed in at Local Office 24<sup>th</sup> Oct. 1917 Port of SUNDERLAND.

No. in Survey held at SUNDERLAND. Date, First Survey 29 Jan. 17 Last Survey 19<sup>th</sup> October 1917

Reg. Book. 607 on the Machinery of the P.S. Venterden

Master Buckley Built at Sunderland By whom built J. L. Thompson & Sons Tons Gross 4127 Net 2589

Engines made at Sunderland By whom made J. Dickinson & Sons Ltd when made 1917

Boilers made at " By whom made " when made 1917

Registered Horse Power Owners Norfolk & North American Cold Port belonging to London

Nom. Horse Power as per Section 28 365 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes (Report herewith)

ENGINES, &c.—Description of Engines Triple No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 25", 42", 68" Length of Stroke 48" Revs. per minute 70 Dia. of Screw shaft 14 3/4" 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

in 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

liners are fitted, is the shaft lapped or protected between the liners Yes Length of stern bush 5'-0"

Dia. of Tunnel shaft 12 7/8" as per rule 13 Dia. of Crank shaft journals 13 3/4" as per rule 13 3/4" Dia. of Crank pin 13 1/2" Size of Crank webs Patent Dia. of thrust shaft under

collars 13 1/2" Dia. of screw 17-6" Pitch of Screw 16-6" No. of Blades 4 State whether moveable No Total surface 96 5/8"

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 1/2" Stroke 24" Can one be overhauled while the other is at work Yes

No. of Donkey Engines 2 Sizes of Pumps 8" x 10" x 10" & 7 1/2" x 5 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 3 1/2" In Holds, &c. 2 of 3 1/2" in each hold &

1 of 2 1/2" in tunnel well.

No. of Bilge Injections 1 sizes 5 1/2" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 Above

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 none 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

Dates of examination of completion of fitting of Sea Connections 3/5/17 of Stern Tube 26/9/17 Screw shaft and Propeller 26/9/17

Is the Screw Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from Top platform.

OILERS, &c.—(Letter for record 15) Manufacturers of Steel J. Thompson & Sons

Total Heating Surface of Boilers 5869 Is Forced Draft fitted no No. and Description of Boilers 2 Single-ended

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 11/8/17 No. of Certificate 3418

Can each boiler be worked separately Yes Area of fire grate in each boiler 43.5 sq ft No. and Description of Safety Valves to

each boiler 2 direct spring Area of each valve 8.3 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 18" Mean dia. of boilers 17'-0" Length 11'-10 1/2" Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 28.8-32 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams d.t. laps

long. seams d.t. & c. Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 9 1/2" Lap of plates or width of butt straps 20 7/8"

Per centages of strength of longitudinal joint rivets 88.5 Working pressure of shell by rules 181 lbs Size of manhole in shell 16" x 12"

Size of compensating ring 8 3/4" x 1 5/16" No. and Description of Furnaces in each boiler 4 Deighton's Material Steel Outside diameter 47"

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

Working pressure of furnace by the rules 187 lbs Combustion chamber plates: Material Steel Thickness: Sides 1 1/16" Back 1 1/16" Top 1 1/16" Bottom 1 7/8"

Pitch of stays to ditto: Sides 9" x 10" Back 9" x 10" Top 9" x 10" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180.5 lbs

Material of stays Steel Diameter at smallest part 2.031 Area supported by each stay 90 Working pressure by rules 203 lbs End plates in steam space

Material Steel Thickness 1 1/4" Pitch of stays 22" x 18" How are stays secured d.n.g.w. Working pressure by rules 183 lbs Material of stays Steel

Diameter at smallest part 7.22 Area supported by each stay 396 Working pressure by rules 190 lbs Material of Front plates at bottom Steel

Thickness 7/8" Material of Lower back plate Steel Thickness 2 1/2" Greatest pitch of stays 13 1/2" x 9 1/2" Working pressure of plate by rules 181 lbs

Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates Steel Thickness: Front 1 1/4" x 7/8" Back 7/8" Mean pitch of stays 9" x 9"

Pitch across wide water spaces 13 1/4" Working pressures by rules 287 lbs Girders to Chamber tops: Material Steel Depth and

thickness of girder at centre 8 3/4" x 2 1/2" Length as per rule 38 3/2" Distance apart 10" Number and pitch of stays in each 3 of 9"

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 Yes Diameter Yes Length Yes Thickness of shell plates Yes Material Yes Description of longitudinal joint Yes Diam. of rivet

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

If stiffened with rings Yes Distance between rings Yes Working pressure by rules Yes End plates: Thickness Yes How stayed Yes

Working pressure of end plates Yes Area of safety valves to superheater Yes Are they fitted with easing gear Yes



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied :-

Two top & 2 bottom end bolts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of fuel & bilge pump valves, a quantity of assorted bolts nuts & iron, propeller shaft, propeller & minor details.

The foregoing is a correct description,

John Dickenson & Sons, Limited

Manufacturer.

Dates of Survey while building { During progress of work in shops - 1917 Jan 22 Feb 1 Mar 27 Apr 20 30 May 3 7 17 18 22 26 30 Jun 2 4 13 18 21 Jul 4 9 16 21 25 Aug 11 27 31 Sep 17 20 26 27 Oct 3 6 11 15 14 (35) During erection on board vessel - - - - - Total No. of visits - - - - - (35) Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts - Cylinders 30/5/17 Slides 30/5/17 Covers 2/6/17 Pistons 30/4/17 Rods 17/5/17 Connecting rods 13/6/17 Crank shaft 30/4/17 Thrust shaft 21/6/17 Tunnel shafts 16/7/17 Screw shaft 27/8/17 Propeller 19/7/17 Stern tube 9/7/17 Steam pipes tested 6/9 & 3/10/17 Engine and boiler seatings 3/5/17 Engines holding down bolts 3/10/17 Completion of pumping arrangements 15/10/17 Boilers fixed 3/10/17 Engines tried under steam 6/10/17 Main boiler safety valves adjusted 6/10/17 Thickness of adjusting washers P.A. 1 3/32" F. 5/16" S.A. 3/8" F. 3/32"

Material of Crank shaft Steel Identification Mark on Do. 6/9/17 lb. Material of Thrust shaft Steel Identification Mark on Do. 6/9/17 lb. Material of Tunnel shafts Steel Identification Marks on Do. 6/9/17 lb. Material of Screw shafts Iron Identification Marks on Do. 6/9/17 lb. Material of Steam Pipes Lap welded iron Test pressure 540 lbs.

Is an installation fitted for burning oil fuel No 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.)

The machinery of this vessel has been built under special survey, the materials used are good, and the workmanship is satisfactory, it has been properly fitted on board and secured, and the engines have been tried under full power. In my opinion this vessel is eligible for the record of L.M.C. 10.17.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.17

The amount of Entry Fee ... £ 3 : : When applied for, Special ... £ 38 : 5 : - 6 NOV 1917 Donkey Boiler Fee ... £ 2 : 8 : : When received, Travelling Expenses (if any) £ 9.11.1917

Committee's Minute TUE NOV 13 1917

Assigned + L.M.C. 10.17

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



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