

REPORT ON MACHINERY.

No. 27456

THU. 20 MAR. 1919

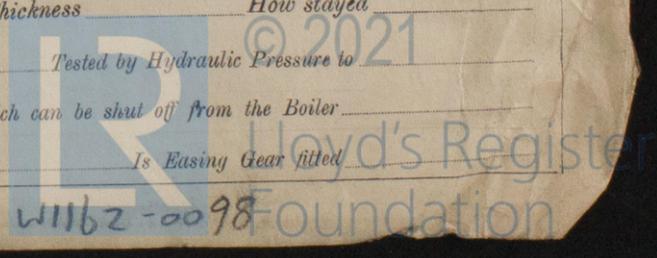
Received at London Office

Date of writing Report 10 When handed in at Local Office 10 MAR 1919 Port of Sunderland
 No. in Survey held at Sunderland Date, First Survey 22nd 10th 18 Last Survey 8th March 1919
 Reg. Book. 566 on the new steel 9/5 "WAR PERIOD?" (Number of Visits 35)
 Master Griffiths Built at Sunderland By whom built J. Thompson & Sons Ltd (No 521) When built 1919
 Engines made at Sunderland By whom made J. Dickinson & Sons Ltd (No 834) when made 1919
 Boilers made at Sunderland By whom made J. Dickinson & Sons Ltd (No 834) when made 1919
 Registered Horse Power - Owners Canadian Pacific Railway Co Port belonging to London
 Nom. Horse Power as per Section 28 620 619 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 27"-45"-45" Length of Stroke 54" Revs. per minute 79 Dia. of Screw shaft as per rule 15.26" Material of screw shaft 9. steel
 as fitted 15 3/4"
 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 - 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'-6"
 Dia. of Tunnel shaft as per rule 13.92" Dia. of Crank shaft journals as per rule 14.64" Dia. of Crank pin 14 7/8" Size of Crank webs 30 1/2" x 9 5/16" Dia. of thrust shaft under
 as fitted 14 1/4" as fitted 14 7/8"
 collars 14 1/8" Dia. of screw 18'-0" Pitch of Screw 16'-6" No. of Blades 4 State whether moveable no Total surface 96 sq ft
 No. of Feed pumps 2 Diameter of ditto 9 Stroke 21" Can one be overhauled while the other is at work yes Weirs. steamers 12"
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work yes
 No. of Donkey Engines 2 Sizes of Pumps 9 1/2" x 7' x 18". 10 1/2" x 14" x 21" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4 @ 3 1/2" In Holds, &c. No 1 hold - 2 @ 3 1/2". No 2 hold - 2 @ 3 1/2".
 No 3 hold - 2 @ 3 1/2". No 4 hold - 2 @ 3 1/2". No 5 hold - 2 @ 3 1/2". Tunnel well - 1 @ 2 1/2".
 No. of Bilge Injections 2 sizes 11" Connected to condenser, or to circulating pump b.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 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
 What pipes are carried through the bunkers forward hold suction How are they protected under lumber boards
 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
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel John Spencer & Sons Ltd. 3.S.B.
 Total Heating Surface of Boilers 95250 sq ft Is Forced Draft fitted yes No. and Description of Boilers Three angle ended marine
 Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 23-1-19 8-2-19 No. of Certificate 3527.3532
 Can each boiler be worked separately yes Area of fire grate in each boiler 73 sq ft No. and Description of Safety Valves to
 each boiler Two, direct spring Area of each valve 12.60" Pressure to which they are adjusted 185 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 2'-3" Mean dia. of boilers 16'-2 5/8" Length 12'-3" Material of shell plates steel
 Thickness 1 5/16" Range of tensile strength 28 3/4 - 33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams A.R.
 long. seams ABS. TR 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 3/8"
 Per centages of strength of longitudinal joint rivets 88.6 Working pressure of shell by rules 191 Size of manhole in shell 16" x 12"
 plate 85.5
 Size of compensating ring flanged No. and Description of Furnaces in each boiler 4, Deighton Material steel Outside diameter 3'-4"
 Length of plain part top 11" Thickness of plates crown 1 1/32" Description of longitudinal joint welded No. of strengthening rings
 bottom 1 1/32"
 Working pressure of furnace by the rules 190 Combustion chamber plates: Material steel Thickness: Sides 2 3/2" Back 3/4" Top 2 3/2" Bottom 1/8"
 Pitch of stays to ditto: Sides 10 5/8" x 8 3/4" Back 9 13/16" x 9 3/8" Top 10 5/8" x 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 198
 Material of stays steel Area at smallest part 2.0350" Area supported by each stay 88.750" Working pressure by rules 205 End plates in steam space:
 Material steel Thickness 1 1/16" Pitch of stays 23 1/2" x 22 1/2" How are stays secured DN&W Working pressure by rules 185 Material of stays steel
 Area at smallest part 9.60" Area supported by each stay 5280" Working pressure by rules 189 Material of Front plates at bottom steel
 Thickness 3 1/2" Material of Lower back plate steel Thickness 1/8" Greatest pitch of stays 13 5/8" x 9 13/16" Working pressure of plate by rules 187
 Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 5/8" Material of tube plates steel Thickness: Front 3 1/2" Back 3/4" Mean pitch of stays 11 1/4" x 7 1/4"
 Pitch across wide water spaces 13 5/8" Working pressures by rules 180 Girders to Chamber tops: Material steel Depth and
 thickness of girder at centre 2 @ 10 1/2" x 1 1/8" Length as per rule 36 1/2" Distance apart 10 1/8" Number and pitch of stays in each 3 @ 8 3/4"
 Working pressure by rules 200 Steam dome: description of joint to shell none % 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



IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Two connecting rod top and bottom end bolts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, iron and bolts of various sizes, one propeller.*

The foregoing is a correct description,

John Dickinson & Sons, Limited.

J. Dickinson

Manufacturer.

Dates of Survey while building { During progress of work in shops -- *1918 Oct. 22, 24, 25, 30 Nov. 1, 4, 20, 25 Dec. 9, 12, 13, 15, 21 Jan. 8, 13, 14, 15, 21, 23, 24 Feb. 4, 6, 8, 12, 17*
During erection on board vessel -- *20, 21, 26, 27, 28 Mar. 3, 4, 5, 7, 8*
Total No. of visits *(35)*

Is the approved plan of main boiler forwarded herewith *yes*
" " " donkey " " "

Dates of Examination of principal parts—Cylinders *18-12-18* Slides *8-1-19* Covers *12-12-18* Pistons *13-1-19* Rods *15-1-19*
Connecting rods *21-12-18* Crank shaft *30-1-19* Thrust shaft *30-1-19* Tunnel shafts *30-1-19* Screw shaft *30-1-19* Propeller *4-2-19*
Stern tube *8-1-19* Steam pipes tested *21-2-19* Engine and boiler seatings *13-12-18* Engines holding down bolts *21-2-19*
Completion of pumping arrangements *3-3-19* Boilers fixed *26-2-19* Engines tried under steam *28-2-19*
Completion of fitting sea connections *13-12-18* Stern tube *13-1-19* Screw shaft and propeller *6-2-19*
Main boiler safety valves adjusted *28-2-19* Thickness of adjusting washer *Port, P 1 1/16, S 3/32; Centre, P 1/16, S 1/16; Starboard, P 1/16, S 1/16.*

Material of Crank shaft *1. Steel* Identification Mark on Do. *2308JP* Material of Thrust shaft *1. Steel* Identification Mark on Do. *2365 J.P.*
Material of Tunnel shafts *1. Steel* Identification Marks on Do. *2310 2331 2332 J* Material of Screw shafts *1. Steel* Identification Marks on Do. *3582N.W.*

Material of Steam Pipes *Lapwelded wrought iron* Test pressure *540 pounds per square inch*

Is an installation fitted for burning oil fuel *no* 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 *Standard "F" type.*

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

*The workmanship and materials are good.
The machinery has been constructed under special survey and is eligible in my opinion for classification and the record + L.M.C. 3, 19.*

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3, 19 F.D.

J. P. R. 2/3/19

Certificate (if required) to be sent to SUNDERLAND.

The amount of Entry Fee ... £ : : When applied for, *Special ... £ 148 - 5 17 3 19 19*
Donkey Boiler Fee ... £ : : When received, *19 3 19 19*
Travelling Expenses (if any) £ : :

S. E. Davis
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 25 MAR. 1919 TUE. 9 MAR. 1920
Assigned *+ L.M.C. 3, 19 J.P.*



MACHINERY CERTIFICATE