

REPORT ON MACHINERY.

No. 15713

Received at London Office

FRI. 23 JAN. 1920

Date of writing Report 19th July 1920 When handed in at Local Office 21/1/20 Port of West Hartlepool
 No. in Survey held at West Hartlepool Date, First Survey 18th Oct. 1918 Last Survey 14th Jan. 1920
 Reg. Book. on the steel screw steamer "PATENTON" "NOTTON" (Number of Plates)

Master Built at Ryth By whom built The Ryth S.S. Co. Ltd. (209) When built 1920
 Gross 3066
 Net 1868

Engines made at Hartlepool By whom made Richardson, Westgarth & Co. Ltd. (2603) when made 1920
 Boilers made at Hartlepool By whom made Richardson, Westgarth & Co. Ltd. when made 1920

Registered Horse Power Owners Messrs H. J. Tatham Ltd. Port belonging to London
 Atlantic Shipping & Trading Co. Ltd.

Nom. Horse Power as per Section 28 368 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion (Inverted) No. of Cylinders Three No. of Cranks Three

Dia. of Cylinders 25, 41, 68 Length of Stroke 45 Revs. per minute 65 Dia. of Screw shaft as per rule 13.58 Material of screw shafts 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 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 Length of stern bush 5-0

Dia. of Tunnel shaft as per rule 12.42 Dia. of Crank shaft journals as per rule 13.04 Dia. of Crank pin 13.4 Size of Crank webs 8 1/2 x 26 1/2 Dia. of thrust shaft under

collars 13 1/4 Dia. of screw 16-0 Pitch of Screw 16-3 No. of Blades four State whether moveable no Total surface 75 1/2

No. of Feed pumps two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes

No. of Bilge pumps two Diameter of ditto 3 1/2 Stroke 24 Can one be overhauled while the other is at work yes

No. of Donkey Engines two Sizes of Pumps (near) 7 x 18 (Hall) 12 1/2 x 21 No. and size of Suctions connected to both Bilge and Donkey pumps

in Engine Room two Port 3 one Star 3 Two standard 3, tunnel with one 3 1/2 In Holds, &c. No. 1 Hold two 3, Main Hold four 3, After Main two 3

aftermost Hold two 2 1/2 No. of Bilge Injection pipes size 1 1/2 Connected to condenser, or to circulating pump no 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 stowhold plates yes Are the Discharge Pipes above or below the deep water line (none)

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

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 3/11/19 of Stern Tube 12/14/19 Screw shaft and Propeller 23/12/19

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from top platform

MILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs Spencer & Co. Ltd & Deighton & Co. Ltd.

Total Heating Surface of Boilers 6090 Is Forced Draft fitted No No. and Description of Boilers 3 single Endless Cylindrical

Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 25/9/19 No. of Certificate 3545

Can each boiler be worked separately yes Area of fire grate in each boiler 51.7 No. and Description of Safety Valves to

each boiler two direct spring Area of each valve 5.93 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 4 ft. Mean dia. of boilers 14-0 Length 11-6 Material of shell plates steel

Thickness 1 1/2 Range of tensile strength 28 1/2 to 33 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Lap or

butt seams 188-TR Diameter of rivet holes in long. seams 1 1/2 Pitch of rivets 8 1/2 Lap of plates or width of butt straps 18

Percentage of strength of longitudinal joint rivets 86.2 Working pressure of shell by rules 185 lbs Size of manhole in shell End 16 x 12

Area of compensating ring flanged No. and Description of Furnaces in each boiler 3 Deighton Material steel Outside diameter 43

Length of plain part top Thickness of plates crown 1 1/2 Description of longitudinal joint weld No. of strengthening rings

Working pressure of furnace by the rules 190.5 Combustion chamber plates: Material steel Thickness: Sides 1/2 Back 3/4 Top 1/2 Bottom 1/2

Pitch of stays to ditto: Sides 9 x 9 1/2 Back 10 1/2 x 9 Top 9 x 9 1/2 If stays are fitted with nuts or riveted heads nut Working pressure by rules 190.5

Material of stays steel Diameter at smallest part 2 1/2 x 1 1/4 Area supported by each stay 9 3/8 x 9 Working pressure by rules 221 lbs End plates in steam space

Material steel Thickness 1 1/2 Pitch of stays 19 1/2 x 23 1/2 How are stays secured 5 N W Working pressure by rules 181 lbs Material of stays steel

Area at smallest part 8.48 Area supported by each stay 23 1/4 x 19 1/2 Working pressure by rules 190 lbs Material of Front plates at bottom steel

Thickness 3/2 Material of Lower back plate steel Thickness 27/32 Greatest pitch of stays 13 1/2 x 9 Working pressure of plate by rules 181 lbs

Diameter of tubes 3 1/2 Pitch of tubes 4 1/2 x 4 3/8 Material of tube plates steel Thickness: Front 3/2 Back 3/4 Mean pitch of stays 10

Chamber across wide water spaces 14 Working pressure by rules 212 lbs Girders to Chamber tops: Material steel Depth and

thickness of girder at centre 10 1/2 x 1 1/2 Length as per rule 35 1/2 Distance apart 9 3/8 Number and pitch of stays in each three 9

Working pressure by rules 199 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

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

Stays 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

U212-0260

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top end 2 Bottom end and 2 main bearing bolts and nuts
6 shaft coupling bolts. 1 set of air pump valves. 2 feed & 2 bilge pump. 3 main feed & 3 auxiliary feed check
valve lids. 2 safety valve springs. 1 feed pump escape valve spring. 6 cylinder cover studs. 12 junk ring
bolts & nuts. 6 valve chest cover studs. 10 Condenser tubes. 6 boiler tube stoppers. a quantity of assorted bolts
& nuts. Iron of various sizes. (nuts supplied with cylinder cover and valve chest cover studs and shaft
coupling bolts)

The foregoing is a correct description,

For RICHARDSON, WESTGARTH & Co., Limited

L. S. Knight

ASSISTANT GENERAL MANAGER

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1918. Oct 18. 23. Dec 6. 23. 1919. Jan 9. 13. 15. 22. Feb 4. 5. 10. 19. 20. 21. Mar 11. 19. Apr 14. 30
During erection on board vessel -- May 5. 14. 16. June 4. 23. 24. July 4. 9. 25. 29. Aug 1. 11. 13. 18. 20. 25. 26. 29. Sep 1. 3. 4. 5. 8. 9
Total No. of visits 81

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

" " " donkey " " "

Dates of Examination of principal parts—Cylinders *14/1/19* Slides *13/4/19* Covers *3/9/19* Pistons *1/9/19* Rods *23/1/19*
Connecting rods *10/1/19* Crank shaft *3/1/19* Thrust shaft *11/4/19* Tunnel shafts *31/10/19* Screw shaft *8/10/19* Propeller *24/10/19*
Stern tube *1/10/19* Steam pipes tested *28/10/19* Engine and boiler seatings *23/12/19* Engines holding down bolts *22/12/19*
Completion of pumping arrangements *14/1/20* Boilers fixed *9/1/20* Engines tried under steam *14/1/20*
Main boiler safety valves adjusted *14/1/20* Thickness of adjusting washers *50 2 1/2 50 2 1/2 50 2 1/2*
Material of Crank shaft *steel* Identification Mark on Do. *(6080 5/4/19)* Material of Thrust shaft *steel* Identification Mark on Do. *(6080 11/8/19)*
Material of Tunnel shafts *iron* Identification Marks on Do. *(6080 23/12/19)* Material of Screw shafts *iron* Identification Marks on Do. *(6080 11/8/19)*
Material of Steam Pipes *Lapwelded steel* Test pressure *540 lb*

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 —

Engine 5721 Body 50th Lth 400th

Is this machinery duplicate of a previous case *yes*

If so, state name of vessel *S/S Daybreak 1/2 210*

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

The Engines & Boilers & Auxiliary Machinery of the Vessel have been built under special survey, the material & workmanship sound & good. The Boilers & Steam pipes have been tested by Hydraulic pressure in accordance with the Rules. The whole of the Machinery worked satisfactorily at the mooring & the safety valves of the Main Boilers have been adjusted under steam to their working pressure & casing gear fitted rendering this Vessel eligible in my opinion to have the Notation ** LMC 1/20 180th* in the Register Book when the Survey is complete.

This Vessel has been returned to the Builders to complete.

The machinery survey has now been completed as follows:— main steam pipes covered and auxiliary steam pipes fitted in a satisfactory manner.

The amount of Entry Fee ... £ *3 0 0* When applied for, ...
Special ... £ *38 8 0*
Donkey Boiler Fee ... £ *7 10 0*
Travelling Expenses (if any) £ *7 10 0*

Committee's Minute

Assigned

A. L. D. W. D. D.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



© 2019

Lloyd's Register Foundation