

REPORT ON MACHINERY.

No. 25665

MON. APR. 23. 1913

Date of writing Report

19

When handed in at Local Office

26. 4. 1913 Port of SunderlandNo. in Survey held at Sunderland

Date, First Survey

25 Oct 1912 Last Survey 23 April 1913

Reg. Book.

on the M/S "Harewood."

(Number of Visits)

29

Gross 4150

Net 2370

When built 1913

Master CourtneyBuilt at S. landBy whom built J. L. Thompson & Sons Ltd

when made 1913

Engines made at S. landBy whom made J. L. Thompson & Sons Ltd

when made 1913

Boilers made at "By whom made "

when made 1913

Registered Horse Power

Owners

Harris & Dixon Ltd

Port belonging to

LondonNom. Horse Power as per Section 28 350Is Refrigerating Machinery fitted for cargo purposes noIs Electric Light fitted yes

ENGINES, &c.—Description of Engines

Twin C.P.D.No. of Cylinders 3No. of Cranks 3Dia. of Cylinders 25 42 68Length of Stroke 48Revs. per minute 70

Dia. of Screw shaft

as per rule 14.34Material of 2.8Is 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 no

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 yesLength of stern bush 5 ft

Dia. of Tunnel shaft

as per rule 12.43

Dia. of Crank shaft journals

as per rule 13.34Dia. of Crank pin 13 3/8Size of Crank webs plate Dia. of thrust shaft undercollars 13 3/8Dia. of screw 17 6Pitch of Screw 16 1/2No. of Blades 4State whether moveable noTotal surface 68 1/2 sqNo. of Feed pumps 2Diameter of ditto 4Stroke 24Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4 1/2Stroke 24Can one be overhauled while the other is at work yesNo. of Donkey Engines 2Sizes of Pumps 10, 10, 5, 6 dupli

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 4 of 32In Holds, &c. 2 of 32 in eachNo. of Bilge Injections 4 sizes 4Connected to condenser, or to circulating pump C.P.Is a separate Donkey Suction fitted in Engine room & size yes 4Are 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 yesAre all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks bothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the Discharge Pipes above or below the deep water line aboveAre they each fitted with a Discharge Valve always accessible on the plating of the vessel yesAre the Blow Off Cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected yesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre 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. 2. 13. of Stern Tube14. 2. 13Screw shaft and Propeller 10. 3. 13Is the Screw Shaft Tunnel watertight yesIs it fitted with a watertight door yesworked from top platformBOILERS, &c.—(Letter for record 2)Manufacturers of Steel J. L. Spencer & Sons LtdTotal Heating Surface of Boilers 5415 sq Is Forced Draft fitted no No. and Description of Boilers two marine type S.E.Working Pressure 180 lbsTested by hydraulic pressure to 360 lbsDate of test 26. 2. 13No. of Certificate 3089Can each boiler be worked separately yesArea of fire grate in each boiler 68 sq

No. and Description of Safety Valves to

each boiler 2 SpringArea of each valve 8.3Pressure to which they are adjusted 185 lbsAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or woodwork 1' 6"Mean dia. of boilers 16' 6"Length 11' 6"Material of shell plates 8Thickness 19/32Range of tensile strength 28 1/2 - 32Are the shell plates welded or flanged noDescrip. of riveting: cir. seams 2. r. laplong. seams R. D. buttDiameter of rivet holes in long. seams 1 3/8Pitch of rivets 4 5/16Lap of plates or width of butt straps 1' 8 1/8"

Per centages of strength of longitudinal joint

rivets 92.63plate 85.23Working pressure of shell by rules 181 lbsSize of manhole in shell 16 x 12"Size of compensating ring 8 3/419/32No. and Description of Furnaces in each boiler 3 corrugatedMaterial 8Outside diameter 4' 4"

Length of plain part

top 3' 9"

Thickness of plates

crown 19/32bottom 19/32Description of longitudinal joint weldNo. of strengthening rings yesWorking pressure of furnace by the rules 181Combustion chamber plates: Material 8Thickness: Sides 1/8Back 1/8Top 1/8Bottom 1/8Working pressure by rules 181Pitch of stays to ditto: Sides 9", 10"Back 4 x 9 1/2"Top 9", 10"If stays are fitted with nuts or riveted heads nutsWorking pressure by rules 181Material of stays 8Diameter at smallest part 1' 6"Area supported by each stay 90Working pressure by rules 204

End plates in steam space

Material 8Thickness 15/16Pitch of stays 19 1/8 x 22 1/2"How are stays secured 8 tub. 4 1/4"Working pressure by rules 181 lbsMaterial of stays 8Diameter at smallest part 3' 1/6"Area supported by each stay 447Working pressure by rules 182Material of Front plates at bottom 8Thickness 7/8Material of Lower back plate 8Thickness 29/32Greatest pitch of stays 14 3/4 x 9 3/4"Working pressure of plate by rules 182Diameter of tubes 3 1/4"Pitch of tubes 4 1/2, 4 3/8"Material of tube plates 8Thickness: Front 7/8Back 7/8Mean pitch of stays 9"Pitch across wide water spaces 1' 14"Working pressures by rules 287 lbsGirders to Chamber tops: Material 8

Depth and

thickness of girder at centre 8 1/2 x 1 1/8Length as per rule 2' 10 3/2"Distance apart 10"Number and pitch of stays in each 3 @ 9"Working pressure by rules 187Superheater or Steam chest; how connected to boiler yes

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 181

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

Working pressure of end plates

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Working pressure of end plates

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 easing gear _____ If steam from main boiler can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

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 & Shaft. Set of top & bottom end bolts & nuts. Two main bearing bolts & nuts. Set of coupling bolts & nuts. Set of feed and bilge pump valves. Two main & donkey feed valves. Air & br. pump valves. Set of valves for Ballast & Head donkey. Iron bolts & nuts assorted.*

The foregoing is a correct description,

John Dickinson & Sons, Limited.

Manufacturer.

Dates of Survey while building

During progress of work in shops	1912 Oct 25 Nov 21 Dec 31 Jan 9 20 23 30 Feb 5 6 7 12 14 26 27 28
During erection on board vessel	Mar 4 5 10 11 13 14 24 27 31 Apr 1 4 12 15 22
Total No. of visits	(29)

(29) Is the approved plan of main boiler forwarded herewith *yes* ✓

" " " donkey " " " *yes* ✓

Dates of Examination of principal parts—Cylinders *23.1.13* Slides *5.2.13* Covers *5.2.13* Pistons *7.2.13* Rods *7.2.13*

Connecting rods *7.2.13* Crank shaft *5.2.13* Thrust shaft *12.2.13* Tunnel shafts *31.1.13* Screw shaft *12.2.13* Propeller *12.2.13*

Stern tube *12.2.13* Steam pipes tested *11.3.13* Engine and boiler seatings *4.3.13* Engines holding down bolts *27.3.13*

Completion of pumping arrangements *27.3.13* Boilers fixed *27.3.13* Engines tried under steam *4.4.13*

Main boiler safety valves adjusted *4.4.13* Thickness of adjusting washers *P. 1 3/8" S. 1 7/8" 1/2"*

Material of Crank shaft *S* Identification Mark on Do. *2708 AFD* Material of Thrust shaft *S* Identification Mark on Do. *2721 AFD*

Material of Tunnel shafts *S* Identification Marks on Do. *2731 1/2" AFD* Material of Screw shafts *S* Identification Marks on Do. *2722 1/2" 1/2"*

Material of Steam Pipes *C* Test pressure *400*

General Remarks (State quality of workmanship, opinions as to class, &c.) *Machinery and boilers built under special survey. Materials and workmanship good. Engines & boilers examined under steam & found satisfactory. It is submitted that this vessel should be recorded L.M.C. 4-1913 in the Register Book.*

It is submitted that this vessel is eligible for THE RECORD + LMC 4.13.

JWD
28/4/13.

The amount of Entry Fee .. £ *3* : : When applied for. *1/4 1913*

Special .. £ *27* : : When received. *29.4.13*

Donkey Boiler Fee .. £ : : *13*

Travelling Expenses (if any) £ : : *13*

Committee's Minute

Assigned

TUE. APR. 29. 1913

*Home 4.13*MACHINERY CERTIFICATE
WRITTEN.

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Lloyd's Register
Foundation

Survey Fee

Travelling B

Committee's

Assigned

Dates of Survey while building

During work on board

GENERAL

Survey

Examine