

REPORT ON MACHINERY.

No. 22659

MUN. 27 JUN 1910

Port of Hull

Received at London Office

No. in Survey held at Hull
Reg. Book.

Date, first Survey Sep. 1/09

Last Survey June 10th 1910

(Number of Visits 82)

35 Supp. on the

Steel Se. Sr. Dewsbury

Gross Tons 1631

Net Tons 878

Master

Built at Hull

By whom built Messrs Earles & Co Ltd

When built 1910

Engines made at

By whom made

Messrs

when made 1910

Boilers made at

Hull

By whom made

Earles & Co Ltd

when made 1910

Registered Horse Power

Owners Great Central Railway

Port belonging to Grimsby

Nom. Horse Power as per Section 28 309

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 22" - 35" - 60"

Length of Stroke 42"

Revs. per minute 90

Dia. of Screw shaft

as per rule 12"

Material of screw shaft 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 One length 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'-0"

Dia. of Tunnel shaft

as per rule 11.1

Dia. of Crank shaft journals

as per rule 11.65

Dia. of Crank pin 12.5

Size of Crank webs 18 1/2" x 6"

Dia. of thrust shaft under collars 12.125

No. of Feed pumps 2

Diameter of ditto 4"

Stroke 21"

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2

Diameter of ditto 4 1/2"

Stroke 21"

Can one be overhauled while the other is at work Yes

No. of Donkey Engines Four

Sizes of Pumps 2 Worthington 9x6x10

2 Sulzer 7x4

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

In Engine Room Three 2 1/2" One 3" Pulsonometer 7x4 In Holds, &c. One 2 1/2" in fore peak, One 5 1/2" in 2nd tank, Two 2 1/2" in 1st tank, Two 4 1/2" in 2nd tank, Two 2 1/2" in 2nd tank, Two 2 1/2" in 2nd tank, Three 2 1/2" in 2nd tank, One 2 1/2" tunnel well, One 7 1/2" in aft peak tank

No. of Bilge Injections 1

sizes 1/2"

Connected to condenser, or to circulating pump —

Is a separate Donkey Suction fitted in Engine room & size Yes 3"

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 tank hold suction How are they protected wood casing

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 10.6.10 of Stern Tube 10.6.10 Screw shaft and Propeller 10.6.10

Is the Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from top platform

BOILERS, &c.—(Letter for record (a))

Manufacturers of Steel Messrs W. Beardmore & Co

Total Heating Surface of Boilers 5540 sq ft

Is Forced Draft fitted No

No. and Description of Boilers Two cyl. Mult. Single Ended

Working Pressure 180 lbs

Tested by hydraulic pressure to 360 lbs

Date of test 14.3.1910

No. of Certificate 1735

Can each boiler be worked separately Yes

Area of fire grate in each boiler 72 sq ft

No. and Description of Safety Valves to each boiler Two Spring

Area of each valve 14.19 sq in

Pressure to which they are adjusted 180 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 12"

Mean dia. of boilers 16'-0"

Length 11'-8 1/2"

Material of shell plates Steel

Thickness 1 1/4"

Range of tensile strength 29.32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams L.D.

long. seams D.S.S.R.

Diameter of rivet holes in long. seams 1 1/2"

Pitch of rivets 9 1/2"

Lap of plates or width of butt straps 2 1/2"

Per centages of strength of longitudinal joint

rivets 92.5

Working pressure of shell by rules 211 lbs

Size of manhole in shell 20" x 15 1/2"

Size of compensating ring 7" x 1 1/2"

No. and Description of Furnaces in each boiler 3 Johnson's

Material Steel

Outside diameter 4'-4"

Length of plain part

top —

bottom —

Thickness of plates

top 9 1/2"

bottom 32

Description of longitudinal joint Welded

No. of strengthening rings —

Working pressure of furnace by the rules 205 lbs

Combustion chamber plates: Material Steel Thickness: Sides 1/8" Back 1/8" Top 1/8" Bottom 1/8"

Pitch of stays to ditto: Sides 8" x 8"

Back 7" x 8 1/2"

Top 7 1/2" x 8"

If stays are fitted with nuts or riveted heads 7 nuts

Working pressure by rules 255 lbs

Material of stays Iron

Diameter at smallest part 1 1/2"

Area supported by each stay 78.95 sq in

Working pressure by rules 197 lbs

End plates in steam space:

Material Steel

Thickness 1 1/2"

Pitch of stays 15" x 15"

How are stays secured 0. 7 nuts

Working pressure by rules 267 lbs

Material of stays Iron

Diameter at smallest part 2 1/4"

Area supported by each stay 225 sq in

Working pressure by rules 207 lbs

Material of Front plates at bottom Steel

Thickness 1"

Material of Lower back plate Steel

Thickness 3/8"

Greatest pitch of stays 15" x 12"

Working pressure of plate by rules 186 lbs

Diameter of tubes 3 1/2"

Pitch of tubes 4 1/2" x 4 1/2"

Material of tube plates Steel

Thickness: Front 1"

Back 3/8"

Mean pitch of stays 9"

Pitch across wide water spaces 14 1/2"

Working pressures by rules 201 lbs

Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 10 1/2" x 1 3/4"

Length as per rule 2'-11"

Distance apart 7 1/2"

Number and pitch of stays in each Three 8"

Working pressure by rules 290 lbs

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off 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

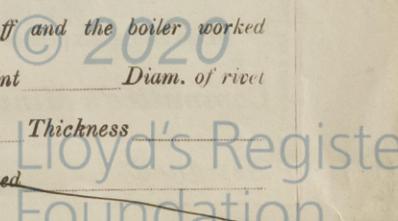
End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description *See separate report for the donkey boiler.*

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 _____

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 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 _____

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 _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— *Two each top and bottom end connecting rod bolts nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each air feed belge pump valves, a quantity of assorted Bolts nuts etc. one single crank shaft, one screw shaft, ^{one pair} top end brasses, one pair bottom end brasses, etc etc.*

FOR EARLE'S SHIPBUILDING & ENGINEERING CO. LIMITED.
The foregoing is a correct description,
F. J. Salethorpe Manufacturer.
SECRETARY.

Dates of Survey while building	During progress of work in shops -	1909: Sep. 1, 9, 14, 15, 16, 22, 29, Oct. 7, 9, 16, 21, 22, 28, 30, Nov. 2, 5, 12, 15, 17, 19, 23, 25, Dec. 1, 4, 7, 11, 14, 16, 22, 24, 30, 1910:
	During erection on board vessel -	Jan. 5, 8, 14, 18, 20, 25, 27, Feb. 3, 7, 8, 10, 14, 16, 17, 22, 23, 28, Mar. 2, 7, 9, 14, 16, 21, Apr. 4, 7, 8, 13, 14, 18, 20, 21, 22, 25, 27, Apr. 27, 28, 29, May 4, 6, 9, 10, 11, 12, 25, 26, 30, Jun. 2, 4, 6, 9, 10
	Total No. of visits	82

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

“ “ “ *donkey* “ “ “

Dates of Examination of principal parts— Cylinders *15 11 09* Slides *28 10 09* Covers *30 10 09* Pistons *15 11 09* Rods *22 10 09*

Connecting rods *12 11 09* Crank shaft *25 11 09* Thrust shaft *4 4 10* Tunnel shafts *21 4 10* Screw shaft *16 3 10* Propeller *4 4 10*

Stern tube *4 4 10* Steam pipes tested *4 5 10* Engine and boiler seatings *18 4 10* Engines holding down bolts *12 5 10*

Completion of pumping arrangements *10 6 10* Boilers fixed *12 5 10* Engines tried under steam *10 6 10*

Main boiler safety valves adjusted *12 5 10* Thickness of adjusting washers *3/8" - 13/32" - 10/32" - 10/32"*

Material of Crank shaft *Steel* Identification Mark on Do. *153 D. FC* Material of Thrust shaft *Steel* Identification Mark on Do. *163 D. FC*

Material of Tunnel shafts *Steel* Identification Marks on Do. *153 D. FC* Material of Screw shafts *Steel* Identification Marks on Do. *153 D. FC*

Material of Steam Pipes *Steel* Test pressure *360 lbs per sq inch*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines and boilers of this vessel have been constructed under special survey in accordance with the Rules, the materials and workmanship are good the boilers tested by hydraulic pressure, and with the engines secured on board and tested under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of $\frac{1}{2}$ L.M.C. 6.10 in the Register Book*

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

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.10.

The amount of Entry Fee..	£ 3 : - : -	When applied for,	15-6-1910
Special ..	£ 35 : 9 : -	When received,	4/7/10
Donkey Boiler Fee ..	£ - : - : -		
Travelling Expenses (if any) £	- : - : -		

James Barclay
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **10th. 28 JUN 1910**
Assigned *+ hmc 6.10*

