

REPORT ON MACHINERY.

Port of Hull

Received at London Office

FRI. 9 NOV 1906

No. in Survey held at Hull

Date, first Survey July 27th

Last Survey 5th Nov

(Number of Visits 22)

Reg. Book.

71 on the Steel Se. L. Spider

Gross 271

Net 96

Master

Built at Hull

By whom built Earles & Co. Ltd

When built 1906

Engines made at Hull

By whom made Earles & Co. Ltd

when made 1906

Boilers made at Hull

By whom made Earles & Co. Ltd

when made 1906

Registered Horse Power

Owners British S. Y. Co. Ltd

Port belonging to Hull

Nom. Horse Power as per Section 28 77.6

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 12 3/4" ~ 22" ~ 36"

Length of Stroke 24

Revs. per minute 112

Dia. of Screw shaft

as per rule 7.44

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 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 34 1/2"

Dia. of Funnel shaft

as per rule 6.73

Dia. of Crank shaft journals

as per rule 7.85

Dia. of Crank pin 7 1/2"

Size of Crank webs 14" x 4 1/2"

Dia. of thrust shaft under collars 7 1/2"

Dia. of screw 9'-0"

Pitch of Screw 11'-0"

to 12'-0"

No. of Blades 4

State whether moveable No

Total surface 27 sq ft

No. of Feed pumps 1

Diameter of ditto 3"

Stroke 12"

Can one be overhauled while the other is at work —

No. of Bilge pumps 1

Diameter of ditto 3"

Stroke 12"

Can one be overhauled while the other is at work —

No. of Donkey Engines Two

Sizes of Pumps 6" x 6" x 6"

and 6" x 3" x 6"

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

In Engine Room (Three) one 2", One 3", One 3 1/2"

In Holds, &c. One 2" to each slush well, + one

2" to fore compartment. Ejector suction from E. R. + holds

No. of Bilge Injections 1

sizes 3 1/2"

Connected to condenser, or to circulating pump 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 0

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 Slush well 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 31-10-06

of Stern Tube 31-10-06

Screw shaft and Propeller 31-10-06

Is the Screw Shaft Tunnel watertight No

Is it fitted with a watertight door —

worked from —

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel Hoerder & Co. Germany

Total Heating Surface of Boilers 1260 sq ft

Is Forced Draft fitted No

No. and Description of Boilers One cyl. Muelser

Working Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test 20-10-06

No. of Certificate 1516

Can each boiler be worked separately —

Area of fire grate in each boiler 40 sq ft

No. and Description of Safety Valves to

each boiler Two Spring

Area of each valve 4.91 sq in

Pressure to which they are adjusted 205 lbs

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 6 1/2"

Mean dia. of boilers 13'-0"

Length 10'-6"

Material of shell plates Steel

Thickness 1 3/16"

Range of tensile strength 28-32

Are the shell plates welded or flanged No

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

long. seams D. B. S. Y. R.

Diameter of rivet holes in long. seams 1 3/16"

Pitch of rivets 7 7/8"

Lap of plates or width of butt straps 17 1/2"

Per centages of strength of longitudinal joint

rivets 90.1

plate 84.55

Working pressure of shell by rules 200 lbs

Size of manhole in shell 16" x 12"

Size of compensating ring 40 x 30 x 1 3/8"

No. and Description of Furnaces in each boiler 3 plain

Material Steel

Outside diameter 37"

Length of plain part

top 5'-7"

Thickness of plates

bottom 3/4"

Description of longitudinal joint Welded

No. of strengthening rings 0

Working pressure of furnace by the rules 213 lbs

Combustion chamber plates: Material Steel Thickness: Sides 1/16" Back 5/8" Top 1/16" Bottom 1/16"

Pitch of stays to ditto: Sides 9 1/2" x 8"

Back 8" x 7 1/2"

Top 8" x 7 1/2"

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 212 lbs

Material of stays Steel

Diameter at smallest part 1 5/8"

Area supported by each stay 76 sq in

Working pressure by rules 245 lbs

End plates in steam space:

Material Steel

Thickness 1 3/16"

Pitch of stays 15 1/4" x 17 1/2"

How are stays secured D. Nuts

Working pressure by rules 231 lbs

Material of stays steel

Diameter at smallest part 2 1/16"

Area supported by each stay 270.68 sq in

Working pressure by rules 229 lbs

Material of Front plates at bottom Steel

Thickness 1"

Material of Lower back plate Steel

Thickness 1"

Greatest pitch of stays 14 1/2"

Working pressure of plate by rules 213 lbs

Diameter of tubes 3 1/4"

Pitch of tubes 4 3/4"

Material of tube plates Steel

Thickness: Front 1"

Back 3/8"

Mean pitch of stays 9 1/2"

Pitch across wide water spaces 14"

Working pressures by rules 208 lbs

Girders to Chamber tops: Material Steel

Depth and

thickness of girder at centre 9 1/2" x 1 3/4"

Length as per rule 2'-11"

Distance apart 7 5/8"

Number and pitch of stays in each Three 8"

Working pressure by rules 216 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

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

—

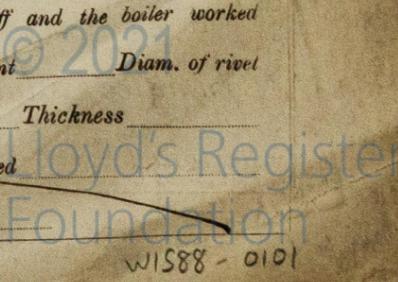
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If not, state whether, and when, one will be sent? Is a Report also sent on the hull of the ship?



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
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
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
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 and nuts, two main bearing bolts and nuts, one set coupling bolts and nuts, one set each feed and bilge pump valves, and a quantity of assorted bolts nuts etc
 The foregoing is a correct description,

FOR EARLE'S SHIPBUILDING & ENGINEERING CO. LIMITED
 Manufacturer.

F. J. Palethorpe
 Dates of Survey while building
 During progress of work in shops - 1906 - July 27, Aug 13, 23, Sep 10, 14, 19, 20, 27, Oct 1, 3, 5, 15, 17, 20, 22, 24, 26, 29, 30
 During erection on board vessel - Oct 31, Nov 1, 5
 Total No. of visits 22
 Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 8.9.06 Slides 3-10.06 Covers 3-10.06 Pistons 26.9.06 Rods 19.9.06
 Connecting rods 19.9.06 Crank shaft 23-8.06 Thrust shaft 23-8.06 Tunnel shafts — Screw shaft 23-8.06 Propeller 23-8.06
 Stern tube 17.10.06 Steam pipes tested 24-10.06 Engine and boiler seatings 20.10.06 Engines holding down bolts 26.10.06
 Completion of pumping arrangements 1.11.06 Boilers fixed 26-10.06 Engines tried under steam 1.11.06
 Main boiler safety valves adjusted 26.10.06 Thickness of adjusting washers 3/8" 3/8"
 Material of Crank shaft Steel Identification Mark on Do. 1718. ATG Material of Thrust shaft Steel Identification Mark on Do. A63 GAH
 Material of Tunnel shafts — Identification Marks on Do. — Material of Screw shafts Iron Identification Marks on Do. A63 GAH
 Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs per sq inch

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are good. The boiler tested by hydraulic pressure, and with the engines placed 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 L.M.C. 11.06 in the Register Book.

This is a sister vessel to the "North King" Hull Rpt 8° 17965

It is submitted that this vessel is eligible for THE RECORD L.M.C. 11.06.

The amount of Entry Fee... £ 1 : : :
 Special £ 11 : 14 : :
 Donkey Boiler Fee £ - : - : :
 Travelling Expenses (if any) £ - : - : :
 When applied for, 8/11/1906
 When received, 30/11/07

James Barclay
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 6.11.06

Committee's Minute TUES. NOV 13 1906
 Assigned + L.M.C. 11.06

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



MACHINERY CERTIFICATE WRITTEN.