

REPORT ON MACHINERY.

No. 19398

Port of Hull

Received at London Office MON. 16 SEP 1907

No. in Survey held at Hull
Reg. Book.

Date, first Survey

Last Survey

19

on the

Steel S. K. Lord Roberts

(Number of Visits)

Master

Built at

Hull

By whom built

Earles & Co. Ltd

Tons

Gross

Net

When built

1907

Engines made at

Hull

By whom made

Earles & Co. Ltd

when made

1907

Boilers made at

Hull

By whom made

Earles & Co. Ltd

when made

1907

Registered Horse Power

Owners

Port belonging to

Hull

Nom. Horse Power as per Section 28

86.5

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

13" - 22 1/2" - 37"

Length of Stroke

24"

Revs. per minute

118

Dia. of Screw shaft

as per rule 7.5"

as fitted 8"

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 changed with a plastic material insoluble in water and non-corrosive

No

If two

liners are fitted, is the shaft lapped or protected between the liners

plain part

as per rule 6.82"

Dia. of Crank shaft journals

as per rule 7.16"

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 movable

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

5" Centrifugal

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

In Engine Room

One 3", and one 2"

In Holds, &c.

One 2" to each, the slush

well, fish room, and fore compartment

No. of Bilge Injections

1 size 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

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

21-8-07

of Stern Tube

21-8-07

Screw shaft and Propeller

21-8-07

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

worked from

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel

Barnardmore & Co.

Total Heating Surface of Boilers

1463 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

One Cyl. Multi

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

30-7-07

No. of Certificate

1578

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

41 sq ft

No. and Description of Safety Valves to

each boiler

Two Spring

Area of each valve

49 sq in

Smallest distance between boilers or uptakes and bunkers or woodwork

5 1/2"

Mean dia. of boilers

13' - 3 1/2"

Length

10' - 3"

Material of shell plates

Steel

Thickness

1 3/8"

Range of tensile strength

28-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.O.

long. seams

0.8.5.1.6

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18 1/2"

Per centages of strength of longitudinal joint

rivets 88.4

plate 85.6

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

3' - 2"

Length of plain part

top 6' - 4"

Thickness of plates

crown 14.9"

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

201 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

32"

Back

32"

Top 5/8"

Bottom 3/32"

Pitch of stays to ditto: Sides

9 1/2" x 8"

Back

10" x 8 1/2"

Top

7 1/2" x 8 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

207 lbs

Material of stays

Steel

Diameter at smallest part

1 3/4"

Area supported by each stay

102 sq in

Working pressure by rules

211 lbs

End plates in steam space:

Material

Steel

Thickness

1 3/8"

Pitch of stays

18" x 17"

How are stays secured

double nuts

Working pressure by rules

206 lbs

Diameter at smallest part

2 1/8"

Area supported by each stay

306 sq in

Working pressure by rules

211 lbs

Material of Front plates at bottom

Steel

Thickness

3/32"

Material of Lower back plate

Steel

Thickness

1 5/8"

Greatest pitch of stays

14" x 8 1/2"

Working pressure of plate by rules

226 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

3/32"

Back

7/8"

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 1/4"

Length as per rule

2' - 9 1/2"

Distance apart

8 1/2"

Number and pitch of stays in each

Three

7 1/2"

Working pressure by rules

227 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

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

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

W826-0028

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 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 and nuts, two main bearing bolts and nuts, one set coupling bolts, and nuts, one set each, air, feed and bilge pump valves, and a quantity of assorted bolts nuts etc.*

The foregoing is a correct description.

F. J. Palethorpe Manufacturer.

Dates of Survey while building { During progress of work in shops - - - SECRETARY 1907 Mar 27, Apr 6, 9, 12, 23, May 2, 4, 9, 10, 13, 29, June 5, 4, 12, 17, 19
During erection on board vessel - - - June 22, 26, 29, July 1, 8, 17, 19, 23, 24, 30, Aug 9, 13, 14, 17, 20, 21, 26
Total No. of visits 33. Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 5-6-07 Slides 5-6-07 Covers 23-7-07 Pistons 23-7-07 Rods 8-7-07
Connecting rods 23-7-07 Crank shaft 19-6-07 Thrust shaft 19-6-07 Tunnel shafts _____ Screw shaft 23-7-07 Propeller 23-7-07
Stern tube 19-7-07 Steam pipes tested 14-8-07 Engine and boiler seatings 30-7-07 Engines holding down bolts 13-8-07
Completion of pumping arrangements 17-8-07 Boilers fixed 13-8-07 Engines tried under steam 17-8-07
Main boiler safety valves adjusted 17-8-07 Thickness of adjusting washers 3/8" Stn, 1/2" port
Material of Crank shaft Steel Identification Mark on Do. 1895 Material of Thrust shaft Steel Identification Mark on Do. 1895
Material of Tunnel shafts _____ Identification Marks on Do. _____ Material of Screw shafts Iron Identification Marks on Do. 1895
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. These engines and boiler have been constructed under special survey in accordance with the Society's Rules. The materials and workmanship are sound and 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. 8.07. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. *L.M.C. 8.07.

(See Rules under 20-11-07)

21.11.07.

21.11.07

The amount of Entry Fee.. £ 1 : : : When applied for, _____
Special £ 13 : 1 : : _____
Donkey Boiler Fee £ : : : When received, _____
Travelling Expenses (if any) £ : : : 12/11/07

Committee's Minute £14 : 1 FRI. 18 OCT 1907

Assigned

Deferred

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

FRI. 22 NOV 1907

+ L.M.C. 8.07

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MACHINER
TIFICATE
WRITTEN