

## REPORT ON MACHINERY.

No. 25124

Received at London Office

FRI JUN. 21. 1912

Date of writing Report 12-6-12

When handed in at Local Office

12-6-12 Port of Hull

No. in Survey held at  
Reg. Book.

Hull &amp; Goole

Date, First Survey Dec. 1<sup>st</sup>

Last Survey 7-6-12 1912

(Number of Visits 37)

on the Machinery of S.S. Teign I

Master

Built at

Goole

By whom built

Goole L.B. &amp; Repairs

When built 1912-6

Engines made at

Hull

By whom made

Earle's Co. Ltd

when made 1912-6

Boilers made at

Hull

By whom made

Earle's Co. Ltd

when made 1912-6

Registered Horse Power

Owners

E. P. Hutchinson

Port belonging to Hull

Nom. Horse Power as per Section 28

78

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

## ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders three

No. of Cranks 3

Dia. of Cylinders 13'-2 1/2"-35"

Length of Stroke 24"

Revs. per minute 110

Dia. of Screw shaft

as per rule 7.9"

Material of screw shaft iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

no liners

Is the after end of the liner made water tight

in the propeller boss

✓

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

✓

If two

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

✓

Length of stern bush 37"

Dia. of Tunnel shaft

as per rule 6.49"

Dia. of Crank shaft journals

as per rule 6.81"

Dia. of Crank pin 7"

Size of Crank webs 13 1/2" x 4 1/2"

Dia. of thrust shaft under

collars 7"

Dia. of screw 9'-9"

Pitch of Screw 11'-0"

No. of Blades 4

State whether moveable

no

Total surface 30 1/2"

No. of Feed pumps two

Diameter of ditto 2 1/4"

Stroke 12"

Can one be overhauled while the other is at work yes

No. of Bilge pumps two

Diameter of ditto 2 1/4"

Stroke 12"

Can one be overhauled while the other is at work yes

No. of Donkey Engines two

Sizes of Pumps 6" x 6" &amp; 2 1/2" x 5 1/2"

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

In Engine Room two 2 1/2"

2 1/2" x 5 1/2" &amp; 2 1/2" x 5 1/2"

In Holds, &amp;c. two for 2 1/2" x 5 1/2"

No. of Bilge Injections one

size 3 1/2"

Connected to condenser, or to circulating pump yes

Is a separate Donkey Suction fitted in Engine room &amp; 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

✓

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

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

17-4-12

of Stern Tube 17-4-12

Screw shaft and Propeller 30-3-12

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

deck

## BOILERS, &amp;c.—(Letter for record 5)

Manufacturers of Steel Phoenix A.L. &amp; Co. Hord.

Total Heating Surface of Boilers 1373 1/2

Is Forced Draft fitted

no

No. and Description of Boilers one single ended

Working Pressure 180

Tested by hydraulic pressure to 360

Date of test 9-5-12

No. of Certificate 1897

Can each boiler be worked separately

✓

Area of fire grate in each boiler 40 1/2

No. and Description of Safety Valves to

each boiler two spring loaded

Area of each valve 4.9

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

9' 6" 1/2

dia. of boilers 150"

Length 10'-3"

Material of shell plates steel

Thickness 1 1/8"

Range of tensile strength 28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams double

long. seams 7 R. &amp; B. 1

Diameter of rivet holes in long. seams 1 3/8"

Pitch of rivets 7 1/2"

Lap of plates or width of butt straps 16"

Per centages of strength of longitudinal joint

rivets 90.5

plate 85.4

Working pressure of shell by rules 181 lbs

Size of manhole in end 12" x 16"

Size of compensating ring

plate flanged

No. and Description of Furnaces in each boiler 3 plain

Material steel

Outside diameter 38 1/4"

Length of plain part

top 78

Thickness of plates

crown 7 1/4"

Description of longitudinal joint welded

No. of strengthening rings

✓

Working pressure of furnace by the rules 181

Combustion chamber plates: Material steel

Thickness: Sides 1 1/16"

Back 10 1/16"

Top 10 1/16"

Bottom 1 1/16"

Pitch of stays to ditto: Sides 8 1/2" x 7 1/4"

Back 9" x 7 1/2"

Top 8 1/2" x 7 1/4"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 203

Material of stays steel

Diameter at smallest part 2.07

Area supported by each stay 93.375

Working pressure by rules 199

End plates in steam space:

Material steel

Thickness 1 1/32"

Pitch of stays 15" x 17"

How are stays secured

8. 7.

Working pressure by rules 186

Material of stays steel

Diameter at smallest part 5.18

Area supported by each stay 255

Working pressure by rules 211

Material of Front plates at bottom steel

Thickness 7 1/8"

Material of Lower back plate steel

Thickness 7 1/8"

Greatest pitch of stays 13 1/4" x 9"

Working pressure of plate by rules 206

Diameter of tubes 3 1/4"

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

Material of tube plates steel

Thickness: Front 7 1/8"

Back 7 1/8"

Mean pitch of stays 9"

Pitch across wide water spaces 13 1/4"

Working pressures by rules 184

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre 8" x 1 3/4"

Length as per rule 32"

Distance apart 8 1/2"

Number and pitch of stays in each three 7 1/4"

Working pressure by rules 181

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

✓

✓

✓

✓

✓

✓

✓

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

✓

✓

✓

✓

✓

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✓

✓

✓

✓

✓

✓

✓

W88-0162



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 \_\_\_\_\_ 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:— *Two top end bolts, Two bottom end bolts, Two main bearing bolts. One set of coupling bolts, set of feed valve air and circulating pump valves?*

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

*The foregoing is a correct description, &c.*

*J. V. Paleythorpe*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } 1911: Dec 1, 6, 15, 21, 1912: Jan 4, 6, 16, 19, 22, 25, 29, Feb 5, 8, 16, Mar 5, 8, 18, 21, 27, 30, Apr 3, 4, 1912: Apr 17, 19, May 1, 6, 7, 9, 15, 17, 21, 22, 23, 24, 25, Jun 7  
 { During erection on board vessel --- }  
 Total No. of visits 34

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

" " " donkey " " *136/14*

Dates of Examination of principal parts—Cylinders 25-1-12 Slides 25-1-12 Covers 25-1-12 Pistons 22-1-12 Rods 29-1-12  
 Connecting rods 29-1-12 Crank shaft 18-3-12 Thrust shaft 1-5-12 Tunnel shafts 1-5-12 Screw shaft 30-3-12 Propeller 30-3-12  
 Stern tube 4-4-12 Steam pipes tested 21-5-12 Engine and boiler seatings 17-5-12 Engines holding down bolts 23-5-12  
 Completion of pumping arrangements 25-5-12 Boilers fixed 17-5-12 Engines tried under steam 7-6-12  
 Main boiler safety valves adjusted 24-5-12 Thickness of adjusting washers *Per 1/32" 24-5-12*  
 Material of Crank shaft *Steel* Identification Mark on Do. *292PNDM* Material of Thrust shaft *iron* Identification Mark on Do. *7P6 FLS*  
 Material of Tunnel shafts *iron* Identification Marks on Do. *7P6 FLS* Material of Screw shafts *iron* Identification Marks on Do. *7P9 FL*  
 Material of Steam Pipes *copper* Test pressure *360 lbs.*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this society, the materials & workmanship are good. The Boiler was tested by hydraulic pressure to 360 lbs of found sound tight. The Machinery has been properly fitted on board & on completion was tried under steam & found satisfactory. In my opinion the vessel is eligible for the record + L.M.C. 6, 12*

*It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 6.12*

The amount of Entry Fee .. £ 1 : 0 :  
 Special .. £ 11 : 14 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 20/6/12  
 When received, 24.7.12

*Frank A. Livingston*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute THE JUN 25 1912  
 Assigned + L.M.C. 6.12

