

REPORT ON MACHINERY.

No. 23281

Received at London Office

SAT. 7 JAN 1911

Date of writing Report 17.12.10 When handed in at Local Office 17.12.10

Port of Hull

No. in Survey held at Reg. Book.

Hull & Goole

Date, First Survey Apr 21stLast Survey Dec 17th 1910.

927 on the

Steel S. S. Trent

(Number of Visits 54)

Gross 530

Tons Net 240

Master

Built at

Goole.

By whom built

Goole S. B. R. Co. Ltd

When built 1910

Engines made at

By whom made

Messrs

when made 1910

Boilers made at

Hull

By whom made

Eccles & Co. Ltd.

when made 1910

Registered Horse Power

Owners

E. S. 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, &c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 13" - 21" - 35"

Length of Stroke 24"

Revs. per minute 112

Dia. of Screw shaft

as per rule 8.25"

Material of screw shaft

Iron

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

No

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

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 6.31"

Dia. of Crank pin

Size of Crank webs

Dia. of thrust shaft under

collars

Dia. of screw

9" - 9"

Pitch of Screw

11" - 0"

No. of Blades 4

State whether moveable

No

Total surface

30 sq

No. of Feed pumps 2

Diameter of ditto 2 1/2"

Stroke 12"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps 2

Diameter of ditto 2 1/2"

Stroke 12"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines Two

Sizes of Pumps 6" x 6" x 6" & 4 1/2" x 2 1/2" x 5"

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

In Engine Room Two 2 1/2", One 3"

In Holds, &c. One 2 1/2" in each, the fore peak tank, fore

hold, fore tank, aft tank, tunnel well, aft peak tank, Two 2 1/2" in aft hold.

No. of Bilge Injections 1

sizes 3 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

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 26.10.10 of Stern Tube 10.10.10 Screw shaft and Propeller 10.10.10

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from top platform

BOILERS, &c.—(Letter for record 5)

Manufacturers of Steel

Phoenix A. K. L. & Co. B. H. Westphalia

Total Heating Surface of Boilers 1373 sq

Is Forced Draft fitted

No

No. and Description of Boilers

One Cyl. Multi S. Ended.

Working Pressure 180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test 16.7.10

No. of Certificate 1759

Can each boiler be worked separately

Area of fire grate in each boiler

40.5 sq

No. and Description of Safety Valves to

each boiler Two Spring

Area of each valve 4.9 sq

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"

Mean dia. of boilers 12" - 6"

Length 10" - 3"

Material of shell plates

S

Thickness 1 1/2"

Range of tensile strength 28 - 32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.

long. seams 0.8.5.8.6

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

7 1/2"

Lap of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets 90%

plate 85.4%

Working pressure of shell by rules

181 lbs

Size of manhole in shell

16" x 12"

End plate flanged

No. and Description of Furnaces in each boiler

3 plain

Material

S

Outside diameter

38 1/2"

Length of plain part

top 4" - 6"

Thickness of plates

crown 4 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

180 lbs

Combustion chamber plates: Material

S

Thickness: Sides

1 1/2"

Back

1 1/2"

Top

1 1/2"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

8 1/2" x 7 1/2"

Back

9" x 7 1/2"

Top

8 1/2" x 7 1/2"

If stays are fitted with nuts or riveted heads

Material of stays

S

Diameter at smallest part

1 1/2"

Area supported by each stay

93.375 sq

Working pressure by rules

205 lbs

End plates in steam space:

Material

S

Thickness

1 1/2"

Pitch of stays

15" x 17"

How are stays secured

D. N.

Working pressure by rules

186 lbs

Material of Front plates at bottom

S

Thickness

1 1/2"

Greatest pitch of stays

13 1/2" x 9"

Working pressure of plate by rules

206 lbs

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

S

Thickness: Front

3/8"

Back

3/8"

Mean pitch of stays

9"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

189 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

8" x 1 1/2"

Length as per rule

2' - 8"

Distance apart

8 1/2"

Number and pitch of stays in each

Three 7 1/2"

Working pressure by rules

181 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

Lloyd's Register Foundation

W744-0049

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, circulating, feed and bilge pump valves, a few boiler and condenser tubes, main feed check valves, & a quantity of assorted bolts nuts etc.*
 The foregoing is a correct description,
F. J. Salethorpe Manufacturer.

Dates of Survey while building { During progress of work in shops - - SECRETARY: 1910: Apr 21. 27. May 4. 10. 23. 30. June 2. 7. 9. 16. July 5. 15. 16. 21. 25. 27. Aug 6. 10. 13. Aug 17. 22. 29. 31. Sep 1. 6. 13. 15. 19. 21. 27. 29 Oct 3. 5. 7. 10. 13. 17. 24. 26. 27. Nov 1. 2. 5. 8. 29 Dec 2. 3. 5. 6. }
 Total No. of visits *54.* Is the approved plan of main boiler forwarded herewith *Yes*

Dates of Examination of principal parts—Cylinders *19.9.10* Slides *13.10.10* Covers *21.9.10* Pistons *13.10.10* Rods *25.7.10*
 Connecting rods *21.4.10* Crank shaft *29.8.10* Thrust shaft *22.8.10* Tunnel shafts *2.12.10* Screw shaft *27.9.10* Propeller *27.9.10*
 Stern tube *29.9.10* Steam pipes tested *5.12.10* Engine and boiler seatings *2.11.10* Engines holding down bolts *7.12.10*
 Completion of pumping arrangements *16.12.10* Boilers fixed *7.12.10* Engines tried under steam *8.12.10*
 Main boiler safety valves adjusted *8.12.10* Thickness of adjusting washers *3/8 3/8"*

Material of Crank shaft *Steel* Identification Mark on Do. *2521 WDH* Material of Thrust shaft *Iron* Identification Mark on Do. *189GH*
 Material of Tunnel shafts *Iron* Identification Marks on Do. *189GH* Material of Screw shafts *Iron* Identification Marks on Do. *189GH*
 Material of Steam Pipes *Solid drawn copper* Test pressure *360 lbs*

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 secured on board, and tested under steam and found satisfactory, 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. 12.10 in the Register Book.*

It is submitted that
 this vessel is eligible for
 THE RECORD. + LMC 12.10.

The amount of Entry Fee .. £ 1 : : : When applied for, 6-1-1911.
 Special .. £ 11 : : :
 Donkey Boiler Fee .. £ : : :
 Travelling Expenses (if any) .. £ 12 : : : When received, 18.3.1911.

Committee's Minute

Assigned

+ L.M.C. 12.10

MACHINERY CERTIFICATE
 WRITTEN.

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



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