

Rpt. 4.

## REPORT ON MACHINERY.

No. 23070

Date of writing Report

10

When handed in at Local Office 26<sup>th</sup> Oct 1910

Received at London Office

SAT. 29 OCT 1910

No. in Survey held at

Reg. Book.

726 on the

Hull

Date, First Survey

Port of Hull

Feb. 23<sup>rd</sup>

Last Survey

21<sup>st</sup> Oct

1910

Master

Built at

Hull

By whom built

Messrs Charles C<sup>o</sup> Ltd

Tons

Gross 1634

Net 879

When built

1910

Engines made at

By whom made

Messrs

Boilers made at

Hull

By whom made

Charles C<sup>o</sup> Ltd

when made

1910

Registered Horse Power

Owners

Great Central Railway

when made

1910

Nom. Horse Power as per Section 28

309

Is Refrigerating Machinery fitted for cargo purposes

No

Port belonging to

Grimsby

ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

Is Electric Light fitted

Yes

Dia. of Cylinders

22" ~ 35" ~ 60"

Length of Stroke

42"

Revs. per minute

90

Dia. of Screw shaft

as per rule 12"

No. of Cranks

3

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

Yes

Dia. of Screw shaft

as fitted 12"

Material of

Iron

Is the after end of the liner made water tight

Yes

Is the after end of the liner made water tight

Yes

Material of

Iron

If the liner is in more than one length are the joints burned one length

Yes

Is the after end of the liner made water tight

Yes

Material of

Iron

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

Is the after end of the liner made water tight

Yes

Material of

Iron

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

Yes

Is the after end of the liner made water tight

Yes

Material of

Iron

Dia. of Tunnel shaft

as per rule 11.1"

as fitted 11.25"

Dia. of Crank shaft journals

as per rule 11.65"

as fitted 12.125"

Dia. of Crank pin

12.5"

Size of Crank webs

18 1/2" x 8"

Dia. of thrust shaft under

collars 12.125"

Dia. of screw

14" ~ 6"

Pitch of Screw

16" ~ 9"

No. of Blades

4

State whether moveable

Yes

Total surface

62 sq

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

21"

Can one be overhauled while the other is at work

Yes

Total surface

62 sq

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

21"

Can one be overhauled while the other is at work

Yes

Total surface

62 sq

No. of Donkey Engines

4

Sizes of Pumps

2 weirs 9 1/2" x 7" x 21"

1 worth 9" x 6" x 10"

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

In Holds, &amp;c. One each 2 1/2" to aft hold, Port Starboard

Starboard

Two 7 1/2" to 2 tank

Two 7 1/2" to 2 tank

Two 7 1/2" to 2 tank

Two 7 1/2" to 2 tank

In Engine Room

Three 2 1/2", One 3"

No. of Bilge Injections

1 sizes 7 1/2"

Connected to condenser, or to circulating pump

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

Yes 3 1/2" to 7 1/4 tank

Yes 3 1/2" to 7 1/4 tank

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Yes 3 1/2" to 7 1/4 tank

Yes 3 1/2" to 7 1/4 tank

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 the sluices on Engine room bulkheads always accessible

None

Are the sluices on Engine room bulkheads always accessible

None

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 Valves or Cocks

both

Are they Valves or Cocks

both

Are they Valves or Cocks

both

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 the Discharge Pipes above or below the deep water line

above

Are the Discharge Pipes above or below the deep water line

above

Are the Discharge Pipes above or below the deep water line

above

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

Are the Blow Off Cocks fitted with a spigot and brass covering plate

Yes

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Yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

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

How are they protected

wood casing

How are they protected

wood casing

How are they protected

wood casing

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

Dates of examination of completion of fitting of Sea Connections

18.10.10

of Stern Tube

18.10.10

Screw shaft and Propeller

18.10.10

Screw shaft and Propeller

18.10.10

Screw shaft and Propeller

18.10.10

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

Is it fitted with a watertight door

Yes

Is it fitted with a watertight door

Yes

Is it fitted with a watertight door

Yes

Is it fitted with a watertight door

Yes

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

(a)

Manufacturers of Steel

Messrs W. J. Spencer

B<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> NewburnB<sup>o</sup> Newburn

Total Heating Surface of Boilers

5540 sq

Is Forced Draft fitted

No

No. and Description of Boilers

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Two Cyl. Multi Single End

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

23-8-1910

No. of Certificate

1765

No. of Certificate

1765

No. of Certificate

1765

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

72 sq

No. and Description of Safety Valves to

Are they fitted with easing gear

Yes

Are they fitted with easing gear

Yes

Are they fitted with easing gear

Yes

Are they fitted with easing gear

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

S

Material of shell plates

S

Material of shell plates

S

Thickness

1 7/8"

Range of tensile strength

29.32

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.

Descrip. of riveting: cir. seams

L.D.

Descrip. of riveting: cir. seams

L.D.

long. seams

D.B.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

21 5/8"

Lap of plates or width of butt straps

21 5/8"

Lap of plates or width of butt straps

21 5/8"

Per centages of strength of longitudinal joint

rivets 92.5

plate 84.8



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. \_\_\_\_\_ Description \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_

Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ Date of test \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_

Valves \_\_\_\_\_ No. of Safety Valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of Safety \_\_\_\_\_

If fitted with easing gear \_\_\_\_\_ If steam from main boilers can enter the donkey boiler \_\_\_\_\_ Date of adjustment \_\_\_\_\_

Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_

Dia. of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_

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 each top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, one set coupling bolts + nuts, one set each air (circulating pump shaft) feed and bilge pump valves, a quantity of assorted bolts and nuts, valve spindles, piston packing rings, etc.

The foregoing is a correct description,

F. J. Palethorpe Manufacturer.

SECRETARY: 1910: Feb 23, Mar 14, 16, 21, 23, Apr 4, 7, 8, 14, 21, 22, 26, 27, May 4, 10, 23, 28, 31, Jun 5, 6, 7, 13, 19, 26, 27, 28, 29, Oct 3, 6, 13, 14, 18, 19, 21.

Dates of Examination of principal parts—Cylinders 21. 7. 10 Slides 25. 7. 10 Covers 22. 8. 10 Pistons 22. 8. 10 Rods 20. 7. 10

Connecting rods 13. 9. 10 Crank shaft 4. 7. 10 Thrust shaft 13. 9. 10 Tunnel shafts 13. 9. 10 Screw shaft 6. 9. 10 Propeller 18. 10. 10

Stern tube 22. 8. 10 Steam pipes tested 28. 9. 10 Engine and boiler seatings 7. 9. 10 Engines holding down bolts 3. 10. 10

Completion of pumping arrangements 21. 10. 10 Boilers fixed 3. 10. 10 Engines tried under steam 21. 10. 10

Main boiler safety valves adjusted 3. 10. 10 Thickness of adjusting washers S.F. 5/16 SA 5/16 P.F. 5/16 PA 3/8

Material of Crank shaft S Identification Mark on Do. 342 FC Material of Thrust shaft S Identification Mark on Do. 343 FC

Material of Tunnel shafts S Identification Marks on Do. 342 FC Material of Screw shafts S Identification Marks on Do. 342 FC

Material of Steam Pipes Steel ✓ Test pressure 540 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 + workmanship are sound and good, the boilers tested by hydraulic pressure and with engines secured on board tested under steam, they are now in good order and safe working condition + respectfully submitted as being eligible in my opinion to be classed with the notation of L.M.C. 10.10 in the Register Book

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 10.10.

J.W.D. 1/11/10

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

The amount of Entry Fee £ 3 : - : -

Special .. £ 35 : 9 : -

Donkey Boiler Fee .. £ - : - : -

Travelling Expenses (if any) £ - : 2 : 9

Committee's Minute

TUE. 1 NOV 1910

Assigned

+ L.M.C. 10.10

MACHINERY CERTIFICATE WRITTEN.



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