

REPORT ON MACHINERY.

No. 21461

Received at London Office FRI. 23 III. 1909

Date of writing Report

19

When handed in at Local Office

22/7/10 Port of Hull

No. in Survey held at
Reg. Book.

Hull

Date, First Survey

Sep. 28/08

Last Survey

12th July

1909

1930 or the

Sc. Log

Sun 111

(Number of Visits 4150)

Master

Built at

Hull

By whom built

Messrs Charles C. L.

Tons

Gross

199

Net

34

When built

1909

Engines made at

Hull

By whom made

Messrs

when made

1909

Boilers made at

Hull

By whom made

Charles C. L.

when made

1909

Registered Horse Power

Owners

W. H. J. Alexander

Port belonging to

London

Nom. Horse Power as per Section 28

98.69

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

15" - 24" - 40"

Length of Stroke

27"

Revs. per minute

115

Dia. of Screw shaft

as per rule 8.66

Material of

Steel

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

If the liner is in more than one length are the joints burned No liners 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 —

Dia. of Tunnel shaft

as per rule 7.29"

Dia. of Crank shaft journals

as per rule 7.76"

Dia. of Crank pin

7 1/2"

Size of Crank webs

15 x 5 1/2"

Dia. of thrust shaft under

collars

7 1/4"

Dia. of screw

10' - 0"

Pitch of Screw

12' - 0"

No. of Blades

3

State whether moveable

No

Total surface

36 sq

No. of Feed pumps

2

Diameter of ditto

2 1/4"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

2 1/4"

Stroke

18"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

One

Sizes of Pumps

6" x 4" x 6"

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

In Engine Room

Two 2", one 2" under boiler

In Holds, &c.

One each 2", top each, after cabin,

four cabin, four peak, after peak.

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

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

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

17.5.09

of Stern Tube

17.5.09

Screw shaft and Propeller

12.7.09

Is the Screw Shaft Tunnel watertight

No

Is it fitted with a watertight door

Yes

worked from

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel Thomas A. L. Ges. fur Berg. Huetten.

Total Heating Surface of Boilers

1636

Is Forced Draft fitted

No

No. and Description of Boilers

One Cyl. Single End Multi

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

5.5.09

No. of Certificate

1702

Can each boiler be worked separately

—

Area of fire grate in each boiler

50 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

6"

Mean dia. of boilers

13' - 0"

Length

11' - 0"

Material of shell plates

Steel

Thickness

1 1/2"

Range of tensile strength

tons

28.22

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.O.

long. seams

D. A. S. Y. R.

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 1/2"

Per centages of strength of longitudinal joint

rivets

86.6

plate

95.6

Working pressure of shell by rules

181 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

28" x 31" x 1 1/2"

No. and Description of Furnaces in each boiler

2

Duplons

Material

Steel

Outside diameter

4' - 2 1/2"

Length of plain part

top

bottom

Thickness of plates

crown

19"

bottom

32"

Description of longitudinal joint

welded

No. of strengthening rings

—

Working pressure of furnace by the rules

187 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

3/32"

Back

3/32"

Top

7/16"

Bottom

3/32"

Pitch of stays to ditto: Sides

8" x 9 1/2"

Back

8 1/2" x 9 1/2"

Top

9 1/2" x 9 1/2"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

188 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

46.30

Working pressure by rules

185 lbs

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

18" x 17"

How are stays secured

D. Nuts

Working pressure by rules

185 lbs

Material of stays

Steel

Diameter at smallest part

2 3/16"

Area supported by each stay

306.0

Working pressure by rules

211 lbs

Material of Front plates at bottom

Steel

Thickness

3/32"

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

14 1/4" x 8 1/2"

Working pressure of plate by rules

185 lbs

Diameter of tubes

3 3/4"

Pitch of tubes

5' - 5"

Material of tube plates

Steel

Thickness: Front

3/32"

Back

3/16"

Mean pitch of stays

10"

Pitch across wide water spaces

14 3/4"

Working pressures by rules

187 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/2" x 13 1/4"

Length as per rule

2' - 6 1/2"

Distance apart

9 1/2"

Number and pitch of stays in each

2 - 9 1/2"

Working pressure by rules

217 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

011877-011883-0131

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 and nuts, one set each feed and bilge pump valves, and a quantity of assorted bolts nuts etc

The foregoing is a correct description,

Manufacturer.

J. L. M. C. 7.09

| | | |
|--------------------------------|-----------------------------------|--|
| Dates of Survey while building | During progress of work in shops— | 1908:—Sep. 28. Nov. 20. 25. Dec. 4. 7. 9. 16. 17. 22. 23. 1909:—Jan. 8. 11. 19. 22. 29. 30. Feb. 3. 9. 13. 15. 24. 25. |
| | During erection on board vessel— | Mar. 3. 12. 19. 26. 27. 31. Apr. 5. 14. 21. 27. May 1. 5. 11. 17. Jun. 4. 9. 10. 11. 16. 17. 21. 30. Jul. 7. 8. 9. 12. |
| Total No. of visits | | 48.50 |

Is the approved plan of main boiler forwarded herewith ☒ No, it was sent with Hull Rpt 8.2.364

| | | | | | | | | | |
|---|---------|----------------------------|---------|-----------------------------|---------|------------------------------------|--------------------|--------------------------------|---------|
| Dates of Examination of principal parts—Cylinders | 27.3.09 | Slides | 30.1.09 | Covers | 16.6.09 | Pistons | 30.1.09 | Rods | 14.4.09 |
| Connecting rods | 31.3.09 | Crank shaft | 19.3.09 | Thrust shaft | 1.5.09 | Tunnel shafts | 1.5.09 | Screw shaft | 1.5.09 |
| Propeller | 7.7.09 | Stern tube | 21.4.09 | Steam pipes tested | 11.6.09 | Engine and boiler seatings | 17.5.09 | Engines holding down bolts | 1.7.09 |
| Completion of pumping arrangements | 12.7.09 | Boilers fixed | 1.7.09 | Engines tried under steam | 12.7.09 | Main boiler safety valves adjusted | 12.7.09 | Thickness of adjusting washers | 3/8 3/8 |
| Material of Crank shaft | Steel | Identification Mark on Do. | 2107 | Material of Thrust shaft | Steel | Identification Mark on Do. | 3016 | Material of Tunnel shafts | Steel |
| Identification Marks on Do. | 4364 | Material of Screw shafts | Steel | Identification Marks on Do. | 3014 | Material of Steam Pipes | Solid drawn Copper | Test pressure | 400 lbs |

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been constructed under special survey in general conformity with the Rules. The boiler built in accordance with the approved plan, and the Secretary's letter of the 23.10.08. The material and workmanship are sound and good. The boiler tested by hydraulic pressure found satisfactory and with the engines secured on board and tried 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. 7.09** in the Register Book

The above machinery is similar to that fitted on the Sun II Hull Report 8.2.364.

| | | | |
|------------------------------|-----------|-------------------|-----------|
| The amount of Entry Fee | £ 1 : | When applied for, | 20/7/1909 |
| Special | £ 14.17 : | When received, | 24/7/09 |
| Donkey Boiler Fee | £ : | | |
| Travelling Expenses (if any) | £ : | | |

Committee's Minute

Assigned

TUES. 27 JUL 1909

Home 7.09

MACHINERY CERTIFICATE WRITTEN.

It is submitted that this vessel is eligible for THE REDD. + L.M.C. 7.09.

J.W.D. J.R.R. 20/7/09. James Barclay Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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