

REPORT ON MACHINERY.

No. 23003

Received at London Office WED 28 SEP 1910

Date of writing Report

19

When handed in at Local Office

26th Sept 1910 Port of HullNo. in Survey held at
Reg. Book.Date, First Survey Dec 7/1909 Last Survey 24th Sept 191028th Sept on the

Steel Se. Apar

(Number of Visits 64)

Gross 91
Net
When built 1910

Master

Built at

Selby

By whom built

Cochrane & Sons

Engines made at

By whom made

Messrs

when made 1910

Boilers made at

Hull

By whom made

Earle's & Co Ltd

when made 1910

Registered Horse Power

Owners

J Constant

Port belonging to

London

Nom. Horse Power as per Section 28

59

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" - 18" - 31"

Length of Stroke 21"

Revs. per minute

120

Dia. of Screw shaft

as per rule 7"

Material of

S

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

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

no liners

Length of stern bush

30 1/2"

Dia. of Tunnel shaft

as per rule 6"

as fitted 6 1/2"

Dia. of Crank shaft journals

as per rule 6.3"

as fitted 6.5"

Dia. of Crank pin

6.5

Size of Crank webs

12 5/8" x 4 1/2"

Dia. of thrust shaft under

collars 6 1/2"

Dia. of screw 8" - 0"

Pitch of Screw 10" - 6"

No. of Blades 3

State whether moveable

No

Total surface

27 sq ft

No. of Feed pumps

1

Diameter of ditto

2 1/2"

Stroke 10"

Can one be overhauled while the other is at work

No. of Bilge pumps

1

Diameter of ditto

2 1/2"

Stroke 10"

Can one be overhauled while the other is at work

No. of Donkey Engines

One

Sizes of Pumps

5 1/2" x 3 1/2" x 5"

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

In Engine Room Two 2", one 2" in Ble room

In Holds, &c. One each 2", in fore peak,

No. of Bilge Injections

1

sizes 3"

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

8.9.10

of Stern Tube

8.9.10

Screw shaft and Propeller

8.9.10

Is the Screw Shaft Tunnel watertight

None

Is it fitted with a watertight door

—

worked from

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

South Durham & Co Ltd.

Total Heating Surface of Boilers

1060 sq ft

Is Forced Draft fitted

No

No. and Description of Boilers

One Cyl. Mult. S. Ended.

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

31.8.10

No. of Certificate

1768

Can each boiler be worked separately

—

Area of fire grate in each boiler

35.8 sq ft

No. and Description of Safety Valves to

each boiler Two Spring

Area of each valve

3.94 sq ft

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

18"

Mean dia. of boilers

11" - 4 1/2"

Length 10' - 0"

Material of shell plates

S

Thickness

15"

Range of tensile strength

28 - 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.D.

long. seams D.B.S.Y.B.

Diameter of rivet holes in long. seams

1 1/8"

Pitch of rivets

7 1/2"

Lap of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets 92%
plate 86%

Working pressure of shell by rules

180 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 15"

No. and Description of Furnaces in each boiler

Two plain

Material

S

Outside diameter

40"

Length of plain part

top 6' - 8 1/2"
bottom 6' - 8 1/2"

Thickness of plates

crown 4 1/2"
bottom 6 1/4"

Description of longitudinal joint

Welded

No. of strengthening rings

0

Working pressure of furnace by the rules

186 lbs

Combustion chamber plates: Material

S

Thickness: Sides

5"

Back

2 1/2"

Top

5"

Bottom

5"

Pitch of stays to ditto: Sides 8 3/4" x 8 1/2" Back 9 1/4" x 8" Top 8 1/2" x 8"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

181 lbs

Material of stays

S

Diameter at smallest part

1 1/2"

Area supported by each stay

74.375 sq in

Working pressure by rules

190 lbs

End plates in steam space:

Material

S

Thickness

1"

Pitch of stays 15" x 16"

How are stays secured

By W.

Working pressure by rules

186 lbs

Material of stays

S

Diameter at smallest part

2 5/16"

Area supported by each stay

240 sq in

Working pressure by rules

182 lbs

Material of Front plates at bottom

S

Thickness

15"

Material of Lower back plate

S

Thickness

7/8"

Greatest pitch of stays

14 1/2" x 8"

Working pressure of plate by rules

193 lbs

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4" x 4 3/4"

Material of tube plates

S

Thickness: Front

15"

Back

13"

Mean pitch of stays

9 1/2"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182 lbs

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

7 1/4" x 1 1/2"

Length as per rule

2' - 4"

Distance apart

8"

Number and pitch of stays in each

Two

8 1/2"

Working pressure by rules

192 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

W1372-0055

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 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 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 -- 1909:— Dec 7. 16. 21. 22. 30. 1910:— Jan 5. 8. 20. 27. Feb 7. 17. 23. 25. 26. Mar 2. 7. 9. 16. 21. Apr 1. 4. 7. 8. 16. 22. 26. During erection on board vessel -- Apr 27. May 10. 23. 28. Jun 2. 6. 9. 16. July 5. 21. 25. Aug 3. 5. 6. 8. 10. 13. 17. 20. 22. 25. 29. 30. 31. Sep 1. 3. 5. 6. 7. 8. Sep 9. 13. 15. 16. 19. 20. 21. 24. Total No. of visits 64

Is the approved plan of main boiler forwarded herewith Yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 21. 7. 10 Slides 22. 8. 10 Covers 9. 6. 10 Pistons 22. 8. 10 Rods 9. 6. 10 Connecting rods 9. 6. 10 Crank shaft 29. 8. 10 Thrust shaft 29. 8. 10 Tunnel shafts 29. 8. 10 Screw shaft 29. 8. 10 Propeller 6. 9. 10 Stern tube 22. 8. 10 Steam pipes tested 22. 8. 10 Engine and boiler seatings 1. 9. 10 Engines holding down bolts 15. 9. 10 Completion of pumping arrangements 21. 9. 10 Boilers fixed 15. 9. 10 Engines tried under steam 21. 9. 10 Main boiler safety valves adjusted 16. 9. 10 Thickness of adjusting washers 5/16" - 3/8"

Material of Crank shaft 6 Identification Mark on Do. 608 J.B. Material of Thrust shaft 5 Identification Mark on Do. 2583 Y.D.H.

Material of Tunnel shafts 5 Identification Marks on Do. 2583 Y.D.H. Material of Screw shafts 5 Identification Marks on Do. 2583 Y.D.H.

Material of Steam Pipes Solid drawn Copper Test pressure 400 lbs D

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 Society's Rules. The material and workmanship are good. The boiler tested by hydraulic pressure, and with the engines secured 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. 6. 9. 10 in the Register Book

It is submitted that this vessel is eligible for THE RECORD.

4 L M. 6. 9. 10

The amount of Entry Fee .. £ 1 : : When applied for, 27. 9. 10

Special .. £ 8 : : 14

Donkey Boiler Fee .. £ : : When received, 5. 10. 10

Travelling Expenses (if any) £ : : 8 : 2

Committee's Minute

Assigned

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



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OCT 4 1910

+ L M. 6. 9. 10

MACHINERY CERTIFICATE

WRITTEN.