

REPORT ON MACHINERY.

No.

12864

JULY 20 MAR 1906

Port of WEST HARTLEPOOL

Received at London Office

No. in Survey held at WEST HARTLEPOOL

Date, first Survey

29th June 1905

Last Survey

1st March 1906

Reg. Book.

on the L.S. Clan Mathieson

Master

A. H. Bowie

Built at

W. Hartlepool

By whom built

Furness, Withby & Co. Ltd.

Tons

Gross 4774.84

Net 3052.59

When built

1906

Engines made at

Hartlepool

By whom made

Richardson, Westgarth & Co. Ltd.

When made

1906

Boilers made at

By whom made

when made

1906

Registered Horse Power

Owners

Cayzer, Irvine & Co.

Port belonging to

Glasgow

Nom. Horse Power as per Section 28

445

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

26.43.71

Length of Stroke

48"

Revs. per minute

69

Dia. of Screw shaft

as per rule 14.9

Material of screw shaft

as fitted 16.14

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

Yes

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

Yes

If two

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

Yes

Length of stern bush

7'-5"

Dia. of Tunnel shaft

as per rule 13.12

as fitted 14.2

Dia. of Crank shaft journals

as per rule 14.18

as fitted 15.2

Dia. of Crank pin

15

Size of Crank webs

9 3/4 x 29

collars

16"

Dia. of screw

17.9"

Pitch of screw

17.9"

No. of blades

4

State whether moveable

Yes

Total surface

91 sq. ft.

No. of Feed pumps

2

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 1/2"

Stroke

27"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

7 x 2 1/2, 11 x 10 x 11

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

In Engine Room

Four 3" Dia.

In Holds, &c.

Twelve (2) 3 1/2" dia in each

No. of bilge injections

1

sizes

6 1/2"

Connected to condenser, or to circulating pump

Cir

Is a separate donkey suction fitted in Engine room & size

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

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

When were stern tube, propeller, screw shaft, and all connections examined in dry dock

-

Is the screw shaft tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Engine room platform

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers

6028

Is forced draft fitted

Yes

No. and Description of Boilers

2 Single Ended. Cyl. Ind.

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

62.9

No. and Description of safety valves to

each boiler

(2) 3 3/4" dia

Area of each valve

22.06

Pressure to which they are adjusted

205 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-3"

Mean dia. of boilers

16'-2"

Length

11'-9"

Thickness

17/16"

Range of tensile strength

28/32

Are they welded or flanged

No

Descrip. of riveting: cir. seams

T.R.

long. seams

TR

Diameter of rivet holes in long. seams

17/16"

Pitch of rivets

9 3/4"

Tap of plates or width of butt straps

21"

Per centages of strength of longitudinal joint

rivets 86.0%

plate 85.2%

Working pressure of shell by rules

201 lbs

Size of manhole in shell

13' x 16 1/2"

Size of compensating ring

29 x 30 x 17/16"

No. and Description of Furnaces in each boiler

3 Morrison

Material

Steel

Length of plain part

top 7' 11 1/2"

Thickness of plates

crown 4/32"

Description of longitudinal joint

Welded

No. of strengthening rings

-

Working pressure of furnace by the rules

212 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

4/32"

Back

2/32"

Top

4/32"

Pitch of stays to ditto: Sides

9 x 7 3/4"

Back

8 3/4 x 8 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

212 lbs

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

71 sq. in.

Working pressure by rules

202 lbs

Material

Steel

Thickness

1 3/32"

Pitch of stays

16 1/4 x 16 1/4"

How are stays secured

8 N.W.

Working pressure by rule

202 lbs

Diameter at smallest part

2 3/4"

Area supported by each stay

280 sq. in.

Working pressure by rules

206 lbs

Thickness

7/8"

Material of Lower back plate

Steel

Thickness

7/8"

Greatest pitch of stays

13 1/2"

Diameter of tubes

2 1/2"

Pitch of tubes

3 3/4"

Material of tube plates

Steel

Thickness: Front

1"

Back

3/4"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

211 lbs

Girders to Chamber tops: Material

Steel

thickness of girder at centre

8' x 13 3/4"

Length as per rule

20 1/2"

Distance apart

8 1/2"

Number and pitch of Stays in each

(2) 8 1/4"

Working pressure by rules

208 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

Yes

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

-

DONKEY BOILER— No. Description
Made at By whom made When made Where fixed
Working pressure tested by hydraulic pressure to No. of Certificate Fire grate area Description of safety valves
No. of safety valves Area of each Pressure to which they are adjusted 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 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
Thickness of furnace crown plates Stayed by Working pressure of shell by rules
Working pressure of furnace by rules Diameter of uptake Thickness of uptake plates Thickness of water tubes

SPARE GEAR. State the articles supplied:— Propeller Shaft. 2 Propeller blades & Spare gear as per rules

The foregoing is a correct description,
For RICHARDSONS, WESTGARTH & CO., LIMITED
Manufacturer.

Dates { During progress of work in shops— 1905. June 29, July 5, 6, Aug. 22, 24, 30, 31, Sept. 11, 14, 26, Oct. 2, 6, 11, 12, 17, 24, 26, 30, 31, Nov. 2, 6, 7, 8, 9, 10, 13, 14, 15, 16, 17, 20, 21, 22, 23, 24, 27
of Survey { During erection on board vessel— 1906. Jan. 5, 9, 18, 19, 22, 23, 25, 26, Feb. 1, 5, 12, 16, Mar. 5.
while building { Total No. of visits 64
Is the approved plan of main boiler forwarded herewith Yes

General Remarks (State quality of workmanship, opinions as to class, &c.) The engines & boilers of this vessel have been built under special survey & are in accordance with the requirements of the rules. The materials & workmanship are good. The Machinery was tried under steam & found to work well & in my opinion is eligible to have the notation of +LMC 3.06 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD +LMC 3.06 F.D. Elec. Light.

The amount of Entry Fee... £ 3 : :
Special ... £ 42 : 8 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 17. 3. 1906
When received, 20. 3. 06

Shed Shouton.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 20 MAR 1906

Assigned

+LMC 3.06
F.D. Elec. Light

MACHINERY CERTIFICATE
WRITTEN.



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Foundation