

REPORT ON MACHINERY.

No. 2327

FRI. 15 APR 1904

Port of

WEST HARTLEPOOL

Received at London Office

19

No. in Survey held at
Reg. Book.

Hartlepool

Date, first Survey 3rd Nov. 1903 Last Survey 27th March 1904(Number of Visits 84)

Built on the

Steel S.S. "Majestic"

Master E. N. PeckBuilt at Hartlepool

By whom built

Irvin & Sons Ltd

Gross 3024Net 1920When built 1904

Engines made at

Hartlepool

By whom made

Richardsons, Westgarth & Co. Ltd

when made

1904

Boilers made at

do

By whom made

do

when made

1904

Registered Horse Power

275

Owners

N. H. Gockerline & Co.

Port belonging to

Hull

Nom. Horse Power as per Section 28

277

Is Refrigerating Machinery fitted

No

Is Electric Light fitted

No

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

three

No. of Cranks

three

Dia. of Cylinders

24" 38" 64"

Length of Stroke

42"

Revs. per minute

61

Dia. of Screw shaft

13 1/4"

Material of

screw shaft scrap 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✓

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

Length of stern bush

4" - 4 1/4"

Dia. of Tunnel shaft

as per rule 11 1/2"

Dia. of Crank shaft journals

as per rule 11 1/8"

Dia. of Crank pin

12"

Size of Crank webs

7" x 17 1/2"

Dia. of thrust shaft under

collars

12 1/2"

Dia. of screw

16" - 0"

Pitch of screw

16" - 6"

No. of blades

4

State whether moveable

no

Total surface

41 sq. ft.

No. of Feed pumps

2

Diameter of ditto

2 1/4"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/4"

Stroke

24"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

Feed 4" x 6" duplex 8 1/2" x 4"

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

In Holds, &c. Eight - Two 3" dia. to each

In Engine Room

Three 3" diahold, One 2 1/2" dia to fore peak andOne 2 1/2" dia to aft peak & tunnel well.

No. of bilge injections

one

sizes

5"

Connected to condenser, or to circulating pump

yes

Is a separate donkey suction fitted in Engine room & size

yes 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

yes

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

29. 3. 04

Is the screw shaft tunnel watertight

yes

Is it fitted with a watertight door

yesworked from upper platform.

BOILERS, &c.—

(Letter for record S.)

Total Heating Surface of Boilers

4329 sq. ft.

Is forced draft fitted

no

No. and Description of Boilers

2 single ended. byl. mult.

Working Pressure

160 lbs.

Tested by hydraulic pressure to

320 lbs.

Date of test

9-3-04

Can each boiler be worked separately

yes

Area of fire grate in each boiler

50.06 sq. ft.

No. and Description of safety valves to

each boiler

no spring direct

Area of each valve

7.06 sq. in.

Pressure to which they are adjusted

165 lbs.

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

22"

Mean dia. of boilers

15'-6"

Length

10'-0"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

29-32

Are they welded or flanged

no

Descrip. of riveting: cir. seams

double

long. seams

treble

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

4 1/4"

Lap of plates or width of butt straps

14 1/2"

Per centages of strength of longitudinal joint

85%

Working pressure of shell by rules

161.4 lbs.

Size of manhole in shell

Size of compensating ring

29 x 30 x 1 1/2"

No. and Description of Furnaces in each boiler

3 Morrison

Material

steel

Outside diameter

48 1/2"

Length of furnace

7' 3"

Thickness of plates

1 1/2"

Working pressure of furnace by the rules

168 lbs.

Combustion chamber plates: Material

steel

Thickness: Sides

9"

Back

9"

Top

9"

Bottom

3"

Pitch of stays to ditto: Sides

8" x 8 1/2"

Back

8 1/2" x 8 1/2"

Top

8 1/2" x 8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

160 lbs.

Material of stays

steel

Diameter at smallest part

1 1/2"

Area supported by each stay

68 sq. in.

Working pressure by rules

175 lbs.

End plates in steam space:

Material

steel

Thickness

1 1/2"

Pitch of stays

16" x 16"

How are stays secured

6 N x 11"

Working pressure by rules

160.4 lbs.

Material of stays

steel

Diameter at smallest part

2 1/2"

Area supported by each stay

260 sq. in.

Working pressure by rules

180 lbs.

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Thickness

3"

Greatest pitch of stays

13"

Working pressure of plate by rules

162 lbs.

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

3"

Mean pitch of stays

9"

Pitch across wide water spaces

14 1/4"

Working pressures by rules

166 lbs.

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

4" - 15"

Length as per rule

29"

Distance apart

8"

Number and pitch of Stays in each

2 - 8 1/2"

Working pressure by rules

173 lbs.

Superheater or Steam chest; how connected to boiler

none

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

✓

DONKEY BOILER— No. *One* Description *Blakes Improved patent*
Made at *Middlesbrough* By whom made *Richardsons Westgarth & Co.* When made *22-1-04* Where fixed *Stoke hold*
Working pressure *90 lbs.* tested by hydraulic pressure to *180 lbs.* No. of Certificate *3140* Fire grate area *240* Description of safety valves *Spring*
No. of safety valves *2* Area of each *6.49 sq. ft.* Pressure to which they are adjusted *93 lbs.* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Dia. of donkey boiler *4' 0"* Length *15' 0"* Material of shell plates *steel* Thickness *1/2"* Range of test strength *17/32* Descrip. of riveting long seams *d.p. lap.* Dia. of rivet holes *5/16"* Whether punched or drilled *drilled* Pitch of rivets *1 1/2"*
Lap of plating *4 5/8"* Per centage of strength of joint Rivets *7/8"* Thickness of shell crown plates *1/2"* Radius of do. *3'-6"* No. of Stays to do. *—*
Dia. of stays *1"* Diameter of furnace Top *3'-3"* Bottom *5'-5 1/2"* Length of furnace *4'-9"* Thickness of furnace plates *5/8"* Description of joint *S.R. lap.* Thickness of furnace crown plates *Com. Ch. top 1/2"* Stayed by *dished to 3'-9" rad* Working pressure of shell by rules *94.6 lbs.*
Working pressure of furnace by rules *99.7 lbs.* Diameter of uptake *2 1/2"* Thickness of uptake plates *3/32"* Thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *2 bon. rod top & 2 bon. rod bottom end bolts & nuts, 2 Main bearing & one set of coupling bolts, one set of feed & bilge pump valves, a quantity of assorted bolts, nuts, and iron. Propeller and propeller shaft.*

The foregoing is a correct description,
Richardsons Westgarth & Co., Limited Manufacturer.

Managing Director,
Dates of Survey { During progress of work in shops— *1903. Nov. 3-5-6-9-12-18-20-23-26-30. Dec. 3-7-8-9-11-12-15-16-19-21-22-23-30-31. 1904. Jan. 4-5-6-7-8-9-11-12.*
while building { During erection on board vessel— *13-14-15-16-18-19-21-22-23-25-26-27-28-29-30. Feb. 1-2-3-4-5-8-9-10-11-12-13-17-18-20-23-24-25-27. Mar. 1-2-3-4-7-8.*
Total No. of visits *9-10-11-12-14-16-17-18-21-22-23-24-29. 84* Is the approved plan of main boiler forwarded herewith *Yes*

General Remarks (State quality of workmanship, opinions as to class, &c.)

The main steam pipes have been tested by hydraulic pressure to 320 lbs. per sq. in. and found tight.

*The engines and boilers of this vessel have been built under Special Survey in accordance with the rule requirements, the materials and workmanship are good and efficient. When completed and fitted on board were tried under steam at moorings with satisfactory results, and eligible in my opinion, to have **L.M.C. 304** marked in the Register Book.*

It is submitted that
this vessel is eligible for
THE RECORD

L.M.C. 304

ms
18.4.04

18.4.04

The amount of Entry Fee.. £ *1* : : When applied for, *14.4.04*
Special .. £ *33* : : *19*
Donkey Boiler Fee .. £ : : When received, *15.4.04*
Travelling Expenses (if any) £ : : *19*

Committee's Minute

TITLE 3919 APR 1904

Assigned

+ June 3, 04

MACHINERY CERTIFICATE
WRITTEN.



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Foundation