

REPORT ON MACHINERY

SUNDERLAND RPT. No.

26374

No. 8817.

Received at London Office

WED. FEB. 3-1915

Date of writing Report

When handed in at Local Office

Feb. 2, 1915 Port of

MIDDLESBRO'

No. in Survey held at
Reg. Book.

Stockton

Date, First Survey September 10, 1914 Last Survey January 22, 1915

on the

SS. BAY STATE

(Number of Visits)

Tons

Gross

5064

Net

2151

When built

1915

Master

Trinick

Built at

Sunderland

By whom built

S. J. Paine & Co. (Ld.)

Engines made at

Stockton

By whom made

Messrs. Blain & Co. (Ld.) No. 800

when made

1915

Boilers made at

Stockton

By whom made

Messrs. Blain & Co. (Ld.)

when made

1915

Registered Horse Power

696

Owners

Messrs. James Withy & Co. (Ld.)

Port belonging to

Liverpool

Nom. Horse Power as per Section 28

696

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

20, 40, & 80

Length of Stroke

54

Revs. per minute

68

Dia. of Screw shaft

as per rule

16

Material of screw shaft

Eng. Steel

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 turned

Yes

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

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

Length of stern bush

5'-4 3/8"

Dia. of Tunnel shaft

as per rule

14 1/2

Dia. of Crank shaft journals

as per rule

15 1/2

Dia. of Crank pin

16 1/4

Size of Crank webs

3 1/4 x 10 1/2

Dia. of thrust shaft under

collars

15 3/4

Dia. of screw

8-9

Pitch of Screw

10-6

No. of Blades

Four

State whether moveable

No

Total surface

110 sq

No. of Feed pumps

2

Diameter of ditto

9"

Stroke

21"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

36"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

2

Sizes of Pumps

Ball 1 1/2" Feed 6 x 8"

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

In Engine Room

40 3/2" & 20 3/2" in dry tank

In Holds, &c.

20 3/2" ea. hold - tunnel 2 1/2" (2 lines of pipes)

Deep tank abt. ER.

Portable pipes and blank flanges fitted

No. of Bilge Injections

One

size

10"

Connected to condenser, or circulating pump?

Yes

Is a separate Donkey Suction fitted in Engine room & size

Yes - 5"

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

Yes

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

Suctions from fore & hold

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

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

7-12-14

of Stern Tube

16-12-14

Screw shaft and Propeller

16-1-15

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

top platform

BOILERS, &c.—(Letter for record)

5

Manufacturers of Steel

John Spencer & Son

Total Heating Surface of Boilers

10410 sq

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 S.E. Cyl.

Working Pressure

80 lbs.

Tested by hydraulic pressure to

360 lbs.

Date of test

22-12-14

No. of Certificate

5439

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

81.9 sq

No. and Description of Safety Valves to

each boiler

One, Double Spring

Area of each valve

15.9 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

2'-0"

Ext. diam. of boilers

4'-4 1/2"

Length

12'-0"

Material of shell plates

Steel

Thickness

1/32"

Range of tensile strength

20-32-38

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

2-R. laps

long. seams

2B-3R

Diameter of rivet holes in long. seams

1 9/16"

Pitch of rivets

10 1/2"

Lap of plates or width of butt straps

22 1/8" x 1 1/16"

Per centages of strength of longitudinal joint

rivets

89%

plate

85 1/4%

Working pressure of shell by rules

210 lbs.

Size of manhole in shell

16 x 12"

Size of compensating ring

0 x 1/32"

No. and Description of Furnaces in each boiler

4-Hudson

Material

Steel

Outside diameter

46 1/2"

Length of plain part

top

Thickness of plates

crown

5/8"

Description of longitudinal joint

weld

No. of strengthening rings

None

Working pressure of furnace by the rules

200 lbs.

Combustion chamber plates: Material

Steel

Thickness: Sides

11/16"

Back

5/8"

Top

1/8"

Bottom

Pitch of stays to ditto: Sides

4 3/4" x 1/8"

Back

4 7/8" x 1/2"

Top

8" x 1/4"

If stays are fitted with nuts or riveted heads

Tubs

Working pressure by rules

224 lbs.

Material of stays

Steel

Diameter at smallest part

1 1/2"

Area supported by each stay

62 sq

Working pressure by rules

28 lbs.

End plates in steam space:

Material

Steel

Thickness

1/32"

Pitch of stays

1 1/2" x 1/4"

How are stays secured

Tubs

Working pressure by rules

225 lbs.

Material of stays

Steel

Diameter at smallest part

4.84"

Area supported by each stay

344 sq

Working pressure by rules

234 lbs.

Material of Front plates at bottom

Steel

Thickness

1"

Material of Lower back plate

Steel

Thickness

1/32"

Greatest pitch of stays

1 1/2" x 1/4"

Working pressure of plate by rules

216 lbs.

Diameter of tubes

22"

Pitch of tubes

3 3/4" x 3 3/4"

Material of tube plates

Steel

Thickness: Front

1"

Back

2 1/2"

Mean pitch of stays

9 1/8"

Pitch across wide water spaces

13 3/4"

Working pressures by rules

189 lbs.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

8 1/2" x 2"

Length as per rule

34"

Distance apart

8"

Number and pitch of stays in each

3 @ 4 1/2"

Working pressure by rules

201 lbs.

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

Lloyd's Register
Foundation