

Rpt. 4.

## REPORT ON MACHINERY.

No. 67897  
MON. AUG. 30. 1915

Date of writing Report 17th August 1915 When handed in at Local Office

AUG 28 1915

Received at London Office

No. in Survey held at S. Shields

Port of NEWCASTLE-ON-TYNE

Reg. Book.

Date, First Survey 7th Oct. 1914 Last Survey 17th August 1915  
(Number of Visits 50)

on the S. S. "Steelville"

Master

Built at

S. Shields

By whom built

John Readhead &amp; Sons Ltd.

Tons

Gross 3649

Net 2342

Engines made at

S. Shields

By whom made

John Readhead &amp; Sons Ltd.

When built 1915

Boilers made at

S.

By whom made

S.

when made 1915

Registered Horse Power

332

Owners

Balls &amp; Stansfield

Port belonging to

N. Shields

Nom. Horse Power as per Section 28

324

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

No

ENGINES, &amp;c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

24 1/2" - 41" - 66"

Length of Stroke

45"

Revs. per minute

62

Dia. of Screw shaft

as per rule 13.67"

Material of

Isopium

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

Yes

in the propeller boss

Yes

If the liner does not fit tightly at the part

If two

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

Yes

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

Yes

Dia. of Tunnel shaft

as per rule 12.28"

as fitted 12 1/2"

Dia. of Crank shaft journals

as per rule 12.9"

as fitted 13"

Dia. of Crank pin

13"

Size of Crank webs

17 1/2" x 9"

Dia. of thrust shaft under

collars

13"

Dia. of screw

16" - 6"

Pitch of Screw

16" - 0"

No. of Blades

4

State whether moveable

No

Total surface

78.5 sq

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4 3/8"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

8" x 8" x 8", 6" x 4" x 6", 4" x 2" x 4"

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

In Holds, &amp;c. Two in each hold 3 1/2", one in

In Engine Room

Three 3 1/2"

tunnel well 2 1/2"

No. of Bilge Injections

1

sizes

5 1/2"

Connected to condenser or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room &amp; 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

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

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

28-6-15

of Stern Tube

28-6-15

Screw shaft and Propeller

8-7-15

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

Top platform

BOILERS, &amp;c.—(Letter for record R.)

Manufacturers of Steel

J. Spence &amp; Sons

Total Heating Surface of Boilers

5100 sq

Is Forced Draft fitted

No

No. and Description of Boilers

Two, single-ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

17-8-15

No. of Certificate

8789

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60 sq

No. and Description of Safety Valves to

each boiler

Two, spring

Area of each valve

7.07 sq

Pressure to which they are adjusted

185 lbs

Smallest distance between boilers or uptakes and bunkers or woodwork

2'-6"

Mean dia. of boilers

16'-4 1/2"

Length

10'-9"

Material of shell plates

Steel

Thickness

1 5/16"

Range of tensile strength

28-30

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

S. Lap

long. seams

SBS 7 Rivet

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

9 5/8"

Lap of plates or width of butt straps

1'-9 3/4"

Per centages of strength of longitudinal joint

rivets 87.4

plate 85.7

Working pressure of shell by rules

182 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring

7" x 1 5/16"

No. and Description of Furnaces in each boiler

3- Sights

Material

Steel

Outside diameter

4'-0"

Length of plain part

top

bottom

Thickness of plates

crown

5/8"

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

209 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

1/16"

Back

1/16"

Top

1/16"

Bottom

Pitch of stays to ditto: Sides

10" x 9"

Back

9 1/2" x 9 1/4"

Top

10" x 9"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

181 lbs

Material of stays

Iron

Diameter at smallest part

2.31"

Area supported by each stay

90 sq

Working pressure by rules

192 lbs

End plates in steam space:

Material

Steel

Thickness

1 7/16"

Pitch of stays

Material

Steel

Diameter at smallest part

2.82"

Area supported by each stay

519 sq

Working pressure by rules

194 lbs

Material of Front plates at bottom

Steel

Thickness

7/8"

Greatest pitch of stays

13"

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4"

Material of tube plates

Steel

Thickness: Front

7/8"

Back

7/8"

Mean pitch of stays

11 1/8"

Pitch across wide water spaces

14"

Working pressures by rules

187 lbs

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

7 1/2" x 1 3/4"

Length as per rule

27 7/16"

Distance apart

Working pressure by rules

180 lbs

Superheater or Steam chest; how connected to boiler

None

Can the superheater be shut off and the boiler worked

separately

Yes

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

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

Yes

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W 757-0066



IS A DONKEY BOILER FITTED? *yes*If so, is a report now forwarded? *yes*

SPARE GEAR. State the articles supplied:— *Two top-end, two bottom-end & two main-bearing bolts & nuts, one set of coupling bolts, one set of feed & bilge pump valves, a quantity of assorted bolts nuts & iron, a screw shaft & a propeller.*

The foregoing is a correct description,  
For JOHN READHEAD & SONS, LIMITED.

*John Readhead*  
DIRECTOR

Manufacturer.

Dates of Survey while building  
 During progress of work in shops -- 1914 Oct 7, 13, 17, Nov 30, Dec 2, 7, 18, Jan 6, 18, 22, Feb 2, 8, 10, 15, 17, 23, Mar 4, 5, 16, 23, 25, 26, 31  
 During erection on board vessel -- Apr 12, 13, 23, 28, May 3, 10, 11, 13, 14, 18, 20, 28, Jun 4, 8, 15, 17, 28, 29, Jul 2, 8, 12, 16, 20, 27, Aug 4, 12, 16, 27  
 Total No. of visits 50

Is the approved plan of main boiler forwarded herewith *yes*" " " donkey " " " *yes*

Dates of Examination of principal parts—Cylinders 6-1-15 Slides 23-4-15 Covers 12-4-15 Pistons 12-4-15 Rods 13-4-15  
 Connecting rods 13-4-15 Crank shaft 17-3-15 Thrust shaft 16-7-15 Tunnel shafts 23-3-15 Screw shaft 28-6-15 Propeller 30-6-15  
 Stern tube 18-6-15 Steam pipes tested 16-7-15 Engine and boiler seatings 16-7-15 Engines holding down bolts 20-7-15  
 Completion of pumping arrangements 27-7-15 Boilers fixed 4-8-15 Engines tried under steam 27-7-15  
 Main boiler safety valves adjusted 27-7-15 Thickness of adjusting washers P.B.  $P\frac{1}{4}$ " S  $\frac{5}{16}$ " S.B.  $P\frac{3}{8}$ " S  $\frac{5}{16}$ " S.B.  $F\frac{3}{8}$ " A  $\frac{3}{8}$ "  
 Material of Crank shaft *Steel* Identification Mark on Do. *J. A. H. 3-15* Material of Thrust shaft *Steel* Identification Mark on Do. *J. A. 7-15*  
 Material of Tunnel shafts *Steel* Identification Marks on Do. *J. A. 3-15* Material of Screw shafts *Steel* Identification Marks on Do. *J. A. 6-15*  
 Material of Steam Pipes *Copper* Test pressure 360 lbs  
 Is an installation fitted for burning oil fuel *no* Is the flash point of the oil to be used over 150°F. *✓*

Have the requirements of Section 49 of the Rules been complied with. *✓*Is this machinery duplicate of a previous case *yes* If so, state name of vessel *S. S. "Headcliffe"*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engines & boilers of this vessel have been constructed under special survey & the materials & workmanship are found to be good. The engines have been tried under steam & the safety valves of main & donkey boilers adjusted. The machinery is now in good & safe working condition & eligible in my opinion to have the notation of + LMC 8-15.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 8. 15.

The amount of Entry Fee ... £ 3 : 0 : 0 } When applied for,  
 Special ... £ 36 : 4 : 0 } AUG 27 1915  
 Donkey Boiler Fee ... £ 2 : 2 : 0 }  
 Travelling Expenses (if any) £ : : : 31/8/15 1915 9/15

Committee's Minute TUE. AUG. 31. 1915

Assigned

+ LMC 8. 15

*Thomas Field*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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