

## REPORT ON MACHINERY.

No. 76776

Received at London Office

TUE. JUN. 5 1923

Date of writing Report

19

When handed in at Local Office

30/5/23 Port of

NEWCASTLE-ON-TYNE

No. in  
Reg. Book.

Survey held at

South Shields

Date, First Survey

11 Oct. 1923

Last Survey

16 May 1923

(Number of Visits)

on the

S. S. Steelville

Master

Built at

South Shields

By whom built

John Readhead &amp; Sons Ltd.

When built

1923

Engines made at

South Shields

By whom made

John Readhead &amp; Sons, Ltd.

when made

1923

Boilers made at

South Shields

By whom made

John Readhead &amp; Sons Ltd.

when made

1923

Registered Horse Power

✓

Owners

George Henry Stanfield

Port belonging to

Newcastle-on-Tyne

Nom. Horse Power as per Section 28

328

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

24½ x 44 x 66

Length of Stroke

45

Revs. per minute

70

Dia. of Screw shaft

as per rule

13.5

Material of

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

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

✓

Length of stern bush

4' 7"

Dia. of Tunnel shaft

as per rule 12.2

Dia. of Crank shaft journals

as per rule 12.8

Dia. of Crank pin

13"

Size of Crank webs

23½ x 17½

Dia. of thrust shaft under

collars

Dia. of screw

16' 6"

Pitch of Screw

16' 6"

No. of Blades

4

State whether moveable

No

Total surface

78.5 sq

No. of Feed pumps

2

Diameter of ditto

3½"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4½"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

Ballast 3 x 8 x 8  
Feed 6 x 4 x 6  
6 x 4 x 6

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

In Engine Room

3 - 2½"

1 - 2½" in tunnel well.

In Holds, &amp;c.

2 - 3" in each hold.

No. of Bilge Injections

1

sizes

5½"

Connected to condenser, or to circulating pump

C.P.

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

Yes. 4½"

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

✓

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

below

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

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from

T.P. Eng. Room.

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

Manufacturers of Steel

J. Spence &amp; Sons Ltd.

Total Heating Surface of Boilers

5173 sq

Is Forced Draft fitted

No

No. and Description of Boilers

2 Cyl. Multi. Single End.

Working Pressure

180 lb/sq

Tested by hydraulic pressure to

320 lb/sq

Date of test

26.3.23

No. of Certificate

9747.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60.15 sq

No. and Description of Safety Valves to

each boiler

2 Spring loaded

Area of each valve

8.29 sq

Pressure to which they are adjusted

184 lb/sq

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

24"

EXT.

Mean dia. of boilers

16' 6"

Length

10' 9"

Material of shell plates

Steel

Thickness

1½"

Range of tensile strength

28.32 lb/sq

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

L.A.D.R.

long. seams

D.B.S. T.R.

Diameter of rivet holes in long. seams

1½"

Pitch of rivets

9½"

Lap of plates or width of butt straps

20"

Per centages of strength of longitudinal joint

rivets 85.04

plate 85.61

Working pressure of shell by rules

181 lb/sq

Size of manhole in shell

16" x 12"

Size of compensating ring

32" x 28" x 1½"

No. and Description of Furnaces in each boiler

3 Deighton

Material

steel

Outside diameter

44½"

Length of plain part

top 1' 2½"

Thickness of plates

crown 9½"

bottom 9½"

Description of longitudinal joint

weld.

No. of strengthening rings

✓

Working pressure of furnace by the rules

203 lb

Combustion chamber plates: Material

steel

Thickness: Sides

1½"

Back

1½"

Top

1½"

Bottom

7/8"

Pitch of stays to ditto: Sides

9½" x 9"

Back

9½" x 9"

Top

10" x 9"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

183 lb/sq

Material of stays

Iron

Area at smallest part

2.36 sq

Area supported by each stay

900"

Working pressure by rules

237 lb/sq

End plates in steam space:

Material

steel

Thickness

1 7/16"

Pitch of stays

27" x 19½"

How are stays secured

D.N. + W.

Working pressure by rules

194 lb/sq

Material of stays

steel

Area at smallest part

8.48 sq

Area supported by each stay

519.70"

Working pressure by rules

208 lb/sq

Material of Front plates at bottom

steel

Thickness

7/8"

Material of Lower back plate

steel

Thickness

7/8"

Greatest pitch of stays

14" x 9½"

Working pressure of plate by rules

218 lb/sq

Diameter of tubes

3½"

Pitch of tubes

4¾" x 4¾"

Material of tube plates

steel

Thickness: Front

7/8" + 1/16"

Back

13/16"

Mean pitch of stays

10.94"

Pitch across wide water spaces

14" x 9½"

Working pressures by rules

B. 198 lb/sq

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7½" x 15"

Length as per rule

27½"

Distance apart

10"

Number and pitch of stays in each

2 at 9"

Working pressure by rules

230 lb/sq

Steam dome: description of joint to shell

None

% of strength of joint

✓

Diameter

✓

Thickness of shell plates

✓

Material

✓

Description of longitudinal joint

✓

Diam. of rivet holes

✓

Pitch of rivets

✓

Working pressure of shell by rules

✓

Crown plates

✓

Thickness

✓

How stayed

✓

## SUPERHEATER.

Type

None

Date of Approval of Plan

✓

Tested by Hydraulic Pressure to

Date of Test

✓

Is a Safety Valve fitted to each Section of the Superheater which can be shut off



IS A DONKEY BOILER FITTED? *Yes.*

If so, is a report now forwarded? *Yes.*

SPARE GEAR. State the articles supplied:— 2 Piston Rod top end bolts & nuts, 2 Conn. Rod bottom end bolts & nuts, 2 main Bearing bolts & nuts, 1 set shaft coupling bolts & nuts, 1 set feed pump valves, 1 set bilge pump valves, 1 set air pump valves, 1 set circ<sup>d</sup> pump valves, 1 main boiler check valve, 1 propeller, 1 propeller shaft, 3 main Boiler tubes, 5 main Cond<sup>r</sup> tubes, 50 main Condenser ferrules, 75 fine kern for main boiler, 2 safety valve springs, 6 piston bolts. A quantity of assorted bolts and nuts, Iron of various sizes.

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

*To P. H. Wray, Eng<sup>r</sup> Manager.*

Manufacturer.

1922 Oct. 11. 13. 17. Dec. 8. 18. 1923 Jan. 4. 11. 16. 22. 23. 25. Feb. 1. 6. 13. 15.  
Dates of Survey while building { During progress of work in shops - - 21.2.23, 26.2.23, 1.3.23, 7.3.23, 20.3.23, 29.3.23, 5.4.23, 10.4.23.  
During erection on board vessel - - 20.4.23, 24.4.23, 26.4.23, 27.4.23, 30.4.23, 1.5.23, 3.5.23, 4.5.23, 10.5.23, 16.5.23.  
Total No. of visits *34.*

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

Dates of Examination of principal parts—Cylinders *H.P. 23.1.23, M.P. 11.1.23, L.P. 16.1.23.* Slides 21.2.23 Covers 21.2.23 Pistons 21.2.23 Rods 6.2.23

Connecting rods 6.2.23 Crank shaft 21.2.23 Thrust shaft 21.2.23 Tunnel shafts 10.4.23 Screw shaft 10.4.23 Propeller 7.3.23

Stern tube 10.4.23 Steam pipes tested *Length 20.4.23, 26.4.23.* Engine and boiler seatings 11.4.23 Engines holding down bolts 1.5.23

Completion of pumping arrangements 16.5.23 Boilers fixed 1.5.23 Engines tried under steam 3.5.23

Completion of fitting sea connections 11.4.23 Stern tube 11.4.23 Screw shaft and propeller 20.4.23

Main boiler safety valves adjusted 3.5.23 Thickness of adjusting washers *all 7/16" (4 in No.)*

Material of Crank shaft *Steel* Identification Mark on Do. *6418* Material of Thrust shaft *Steel* Identification Mark on Do. *4157.D.*

Material of Tunnel shafts *Steel* Identification Marks on Do. *4157D* Material of Screw shafts *Steel* Identification Marks on Do. *4157D.*

Material of Steam Pipes *Solid drawn Copper.* Test pressure *360 lbs/sq. in.*

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 *No.* If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines and boilers*

*of this vessel, were built under special survey, and the materials and workmanship are good. After putting in place on board they were examined under steam, and found to work satisfactorily. The machinery throughout is now in good and efficient condition and is eligible in our opinion to have a record + L.M.C. marked in the Society's Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD. + LMC 5.23. CL.

*SWD*  
*8/6/23*

The amount of Entry Fee ... £ 5 : 0 :  
Special ... £ 74 : 4 :  
Donkey Boiler Fee ... £ : :  
Travelling Expenses (if any) £ : :  
When applied for. *1/6/23.*  
When received. *1/6/23.*

*V. Lockney. C. N. Stuart*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE 12 JUN 1923

Assigned *+ LMC 5.23*  
*C.L.*



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Foundation