

REPORT ON MACHINERY.

No. 9761.

WED. 6 - JUN 1917

Received at London Office

Date of writing Report

19

When handed in at Local Office

5.6.17

Port of

Middlesbrough

No. in Survey held at Reg. Book.

Stockton-on-Tees

Date, First Survey

25th May/16

Last Survey

25th May 1917

see works M&L 8/6/17

on the

Steel Screw Steamer "FARNWORTH"

(S.S. No. 651)

Tons

Gross 5896.47
Net 3691.09

Master J. J. Cronin

Built at

Stockton

By whom built

Richardson Duck & Co

When built 1917

Engines made at

Stockton

By whom made

Messrs Blair & Co Lim (No. 1838)

when made 1917

Boilers made at

Stockton

By whom made

Messrs Blair & Co Lim

when made 1917

Registered Horse Power

440

Owners

The Dalgleish & Co Shipping

Port belonging to

Newcastle

Nom. Horse Power as per Section 28

425

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

27-44 1/2-74"

Length of Stroke

48

Revs. per minute

63

Dia. of Screw shaft

as per rule 14.9
as fitted 11 5/8"

Material of

Ing 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 burned in one 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

5'-6"

Dia. of Tunnel shaft

as per rule 13.37
as fitted 14"

Dia. of Crank shaft journals

as per rule 14.04
as fitted 14 1/2"

Dia. of Crank pin

15"

Size of Crank webs

28 3/4" x 9 3/4"

Dia. of thrust shaft under

collars

15"

No. of Feed pumps

2

Diameter of ditto

3 1/2"

Stroke

34"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

5"

Stroke

34"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

3

Sizes of Pumps

Ballast 4 1/2" x 8 1/2"
11" x 10" 2" x 4 1/2" x 8"

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

In Engine Room 3 @ 3 1/2" + one @ 3 1/2" in space under Boilers In Holds, &c. 2 @ 3 1/2" in each hold; Tunnel well one @ 3 1/2"

No. of Bilge Injections

1

sizes

7"

Connected to condensers, or to circulating pump

yes

Is a separate Donkey Suction fitted in Engine room & size

yes - 4"

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

suctions to forward holds

How are they protected

wood ceiling

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

see hull Rpt

Is it fitted with a watertight door

yes

worked from

top platform

BOILERS, &c.—(Letter for record (S))

Manufacturers of Steel

Messrs John Spencer & Sons

Total Heating Surface of Boilers

7171

Is Forced Draft fitted

no

No. and Description of Boilers

3 single ended

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

7.12.16

No. of Certificate

5717

Can each boiler be worked separately

yes

Area of fire grate in each boiler

64.1

No. and Description of Safety Valves to each boiler

2 direct spring

Area of each valve

8.29

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"

Mean dia. of boilers

15'-6"

Length

11'-6"

Material of shell plates

steel

Thickness

1 3/16"

Range of tensile strength

29 3/4 - 33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2-R. lap

long. seams

2B-3 Riv

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

19 5/8" x 1 1/2"

Per centages of strength of longitudinal joint

5" Rivets per pitch

rivets

94.2

Working pressure of shell by rules

186

Size of manhole in shell

16" x 12"

Size of compensating ring

7 5/8" x 1 3/16"

No. and Description of Furnaces in each boiler

3 Deighton

Material

steel

Outside diameter

46 3/8"

Length of plain part

top

Thickness of plates

9"

Description of longitudinal joint

weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

189

Combustion chamber plates: Material

steel

Thickness: Sides

1/16"

Back

1/16"

Top

1/16"

Bottom

27/32"

Pitch of stays to ditto: Sides

8 3/8" x 10 1/4"

Back

9 3/8" x 9 3/8"

Top

9 3/4" x 9

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

185

Material of stays

steel

Area at smallest part

1.99

Area supported by each stay

87.89

Working pressure by rules

204

End plates in steam space:

Material

steel

Thickness

1 1/4"

Pitch of stays

20" / 19 3/8"

How are stays secured

nuts & washers

Working pressure by rules

197

Material of stays

steel

Area at smallest part

7.24

Area supported by each stay

392

Working pressure by rules

192

Material of Front plates at bottom

steel

Thickness

1 1/16"

Material of Lower back plate

steel

Thickness

1 1/16"

Greatest pitch of stays

14 3/4" x 9 3/8"

Working pressure of plate by rules

192

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4" x 4 3/8"

Material of tube plates

steel

Thickness: Front

1 1/16"

Back

1 3/16"

Mean pitch of stays

11 1/8"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

191

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

8 1/4" x 1 3/8"

Length as per rule

32"

Distance apart

9 3/4"

IS A DONKEY BOILER FITTED? *no* ✓

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— *Two each of connecting top-end, bottom-end and main bearing bolts and nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; assorted bolts & nuts; iron of various sizes; one propeller one tail end shaft and minor gear.*

Note:— *The spare tail end shaft has two liners* ✓

The foregoing is a correct description,

FOR BLAIR & CO., LIMITED.

Gro Nettleship

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1910. May 25, 29, June 2, 21, July 7, 11, 14, 17, 21, 26, 28, Aug 3, 7, 8, 9, 15, 17, 22, 23, 24, 29, Sep 1, 11, 19, 20, Oct 2, 5, 10, 12, 14, 17, 19, 23, 26, 30, Nov 1, 3, 7, 8, 9, 13, 15, 17, 20, 22, 23, 27, 28, 30, Dec 4, 6, 7, 13, 15, 20, 27, 28, 1911, Jan 4, 8, 10, 11, 15, 17, 18, 23, 25, 29, 30, Feb 1, 6, 12, 14, 16, 19, 21, 26, 28, Mar 5, 8, 30, April 12, 17, 19, 20, 24, May 1, 3, 10, 15, 18, 23, 25. Total No. of visits *92.*

Is the approved plan of main boiler forwarded herewith *yes* ✓
Return for duplicate *yes* ✓
" " " donkey " " " *none*

Dates of Examination of principal parts—Cylinders *18.1.17* Slides *18.1.17* Covers *18.1.17* Pistons *23.1.17* Rods *23.1.17*
Connecting rods *30.1.17* Crank shaft *15.1.17* Thrust shaft *8.1.17* Tunnel shafts *20.12.16* Screw shaft *19.2.17* Propeller *16.2.17*
Stern tube *14.2.17* Steam pipes tested *gls 2.1.17* Engine and boiler seatings *26.2.17* Engines holding down bolts *24.4.17*
Completion of pumping arrangements *15.5.17* Boilers fixed *15.5.17* Engines tried under steam *15.5.17*
Completion of fitting sea connections *8.3.17* Stern tube *26.2.17* Screw shaft and propeller *17.4.17*
Main boiler safety valves adjusted *15.5.17* Thickness of adjusting washers *P Bhs - 1/2; Cent B s - 5/16; SB s - 1/32*
Material of Crank shaft *Eng Steel* Identification Mark on Do. *7077* Material of Thrust shaft *Eng Steel* Identification Mark on Do. *1655, N*
Material of Tunnel shafts *Eng Steel* Identification Marks on Do. *1655, N* Material of Screw shafts *Eng Steel* Identification Marks on Do. *7077*
Material of Steam Pipes *Lap welded steel & lap welded iron* ✓ Test pressure *540 lb, see gls Report*

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 machinery of this vessel has been built under special survey. The materials and workmanship are sound and good. The boilers were tested by hydraulic pressure and the engines and boilers examined under steam and all found satisfactory.

*The machinery is now in a good and safe working condition and renders the vessel eligible in my opinion to have the notation of **⊕ LMC-6.17** in the Register Book*

This vessel is fitted with Electric Light and "Wireless"

It is submitted that this vessel is eligible for THE RECORD. + LMC *5.17* ✓ *see Mldburre 8/6/17* *JWD*

The amount of Entry Fee ... £ *3 : 0 : 0*
Special ... £ *42 : 0 : 0*
Donkey Boiler Fee ... £ ✓
Travelling Expenses (if any) £ ✓

When applied for, *5/6/17*
When received, *9/6/17*

Wm Morrison
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute Assigned

FRI. 8 JUN 1917

+ LMC 6.17

MACHINERY CERTIFICATE WRITTEN



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Lloyd's Register Foundation

MIDDLESBRO

Certificate (if required) to be sent to

The Surveyors are requested not to write on or below the space for Committee's Minute.

Plan Returned 8/6/17