

REPORT ON MACHINERY.

No. 9761.

WED. 6 - JUN 1917

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

on the

Steel Screw Steamer

FARNWORTH

(S.S. No. 651)

Tons

Gross 5896.47

Net

3691.09

Master

J. J. Cronk

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"-44½"-74"

Length of Stroke

48

Revs. per minute

63

Dia. of Screw shaft

as per rule 14.9

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

Length of stern bush 5'-6"

Dia. of Tunnel shaft

as per rule 13.37

Dia. of Crank shaft journals

as per rule 14.04

Dia. of Crank pin

15"

Size of Crank webs

28½" x 9½"

Dia. of thrust shaft under

collars 15"

Dia. of screw

18'-0"

Pitch of Screw

17'-6"

No. of Blades

4

State whether moveable

no

Total surface

104 sq

No. of Feed pumps

2

Diameter of ditto

3½"

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 4½" x 8" 4½" x 8"

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

In Engine Room 3 @ 3½" + one @ 3½" in space under Boilers In Holds, &c. 2 @ 3½" in each hold; Tunnel well one @ 3½"

No. of Bilge Injections

1

sizes 7"

Connected to condenser, 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

main below other

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 suction 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 sq

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

8.29 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"

Mean dia. of boilers

15'-6"

Length

11'-6"

Material of shell plates steel

Thickness

1½"

Range of tensile strength

29½ - 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

1½"

Pitch of rivets

9½"

Lap of plates or width of butt straps 19½ x 1½

Per centages of strength of longitudinal joint

rivets 94.2

plate 85.62

Working pressure of shell by rules

186

Size of manhole in shell

16" x 12"

Size of compensating ring

7½ x 1½"

No. and Description of Furnaces in each boiler

3 Deighton

Material steel

Outside diameter 46½"

Length of plain part

top

Thickness of plates

crown 9"

bottom 7"

Description of longitudinal joint

Weld

No. of strengthening rings

27

Working pressure of furnace by the rules

189

Combustion chamber plates: Material

steel

Thickness: Sides

¾"

Back

¾"

Top

¾"

Bottom ¾"

Pitch of stays to ditto: Sides

8½ x 10½"

Back

9½ x 9½"

Top

9½ 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

1½"

Pitch of stays

20" 19½"

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

1½"

Material of Lower back plate

steel

Thickness

1½"

Greatest pitch of stays

14½ x 9½"

Working pressure of plate by rules 192

Diameter of tubes

3½"

Pitch of tubes

4½ x 4½"

Material of tube plates

steel

Thickness: Front

1½"

Back

1½"

Mean pitch of stays 11½"

Pitch across wide water spaces

14½"

Working pressures by rules

191

Girders to Chamber tops: Material steel

Depth and

thickness of girder at centre

8½ x 1½"

Length as per rule

32"

Distance apart

9½"

Number and pitch of stays in each 2 @ 9"

Working pressure by rules

189

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

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 from the Boiler

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Lloyd's Register

W387-0177

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 Netthship

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1916 May 25, 29 June 2, 25 July 7, 11, 14, 17, 21, 26, 28 Aug 3, 7, 9, 15, 17, 22, 23, 24, 29 Sep 1, 11, 19, 20 Oct 2, 5, 10, 12, 14, 17, 19
During erection on board vessel -- 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, 1917 Jan 4, 8, 10, 11, 15, 17, 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, 27.12.16, 4.1.17 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 $\frac{1}{2}$; Cent B $\frac{5}{16}$; S B $\frac{11}{32}$
Material of Crank shaft *Eng Steel* Identification Mark on Do. 7077 Material of Thrust shaft *Eng Steel* Identification Mark on Do. 1655N
Material of Tunnel shafts *Eng Steel* Identification Marks on Do. 1655N 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 6/6/17

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