

REPORT ON MACHINERY.

No. 9657

Received at London Office

14 MAR. 1917

Date of writing Report

10

When handed in at Local Office

10.3.17

Port of

Middlesbrough

No. in Survey held at
Reg. Book.

Stockton-on-Tees

Date, First Survey

27th Sept/15

Last Survey

3rd March 1917

on the

Steel Screw Steamer Beechleaf

(S.S. No 649)

Gross 5861

Master J.M. Housegoe

Built at Stockton

By whom built Richardson Duck & Co

Tons Net 3448

Engines made at

Stockton

By whom made

Messrs Blair & Co Ltd (No 1877)

when made 1917

Boilers made at

Stockton

By whom made

Messrs Blair & Co Ltd

when made 1917

Registered Horse Power

Owners

Lane Macandrew & Co

Port belonging to

London

Nom. Horse Power as per Section 28

395

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Tri-compound

No. of Cylinders

No. of Cranks

Dia. of Cylinders

26-42-70

Length of Stroke

48

Revs. per minute

65

Dia. of Screw shaft

as per rule 14.48

Material of

W. Iron

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

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

tight fit

If two

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

yes

Length of stern bush

5'-4"

Dia. of Tunnel shaft

as per rule 12.27

Dia. of Crank shaft journals

as per rule 13.62

Dia. of Crank pin

14 3/4

Size of Crank webs

28 1/2 x 9 1/2

Dia. of thrust shaft under

collars

14 1/2

Dia. of screw

17'-6"

Pitch of Screw

17'-3"

No. of Blades

4

State whether moveable

no

Total surface

96 sq

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

4

Sizes of Pumps

Blair's 2 x 10

7 x 9 1/2 x 24

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

In Engine Room

4 @ 3 1/2" + one 3"

In Holds, &c.

In Engine Room 4 @ 3 1/2" + one 3"

In Boiler Room

2 @ 3 1/2"

Special pumping arrangement for oil cargo holds

Is a separate Donkey Suction fitted in Engine room & size

yes - 4"

No. of Bilge Injections

1 size

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

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

How are they protected

yes

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

none

Is it fitted with a watertight door

worked from

yes

BOILERS, &c.—(Letter for record (S))

Manufacturers of Steel Messrs John Spencer & Sons Ltd

Total Heating Surface of Boilers

6435

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

24.1.16

No. of Certificate

5609

Can each boiler be worked separately

yes

Area of fire grate in each boiler

oil fuel

No. and Description of Safety Valves to

each boiler

2 direct spring

Area of each valve

7.07

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or pipes and bunkers on deck

1'-8"

Mean dia. of boilers

15'-3"

Length

11'-0"

Material of shell plates

steel

Thickness

1 1/2"

Range of tensile strength

28-32

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

2 R. lap

long. seams

2 R. 3 Riv

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

18 5/8 x 1 1/2

Per centages of strength of longitudinal joint

rivets 85.8

plate 85.6

Working pressure of shell by rules

180

Size of manhole in shell

16" x 12"

Size of compensating ring

7 1/2" x 1 1/2"

No. and Description of Furnaces in each boiler

3 Brighton

Material

steel

Outside diameter

45 1/2"

Length of plain part

top

Thickenss of plates

crown

bottom

Description of longitudinal joint

Weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

192

Combustion chamber plates; Material

steel

Thickness: Sides

1 1/2"

Back

1 1/2"

Top

1 1/2"

Bottom

1 1/2"

Pitch of stays to ditto: Sides

10' x 8 1/2"

Back

9 1/2' x 9"

Top

8 1/2' x 10 1/2"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

183

Material of stays

steel

Area at smallest part

1.99

Area supported by each stay

85.5

Working pressure by rules

209

End plates in steam space:

yes

Material

steel

Thickness

1 1/2"

Pitch of stays

18 1/2" (20 1/2")

How are stays secured

nuts & washers

Working pressure by rules

189

Material of stays

steel

Area at smallest part

7.24

Area supported by each stay

385

Working pressure by rules

195

Material of Front plates at bottom

steel

Thickness

1 1/2"

Material of Lower back plate

steel

Diameter of tubes

3 1/2"

Pitch of tubes

4 3/4" x 4 3/8"

Material of tube plates

steel

Thickness: Front

1 1/2"

Back

1 1/2"

Mean pitch of stays

10 27/32"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

182

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

7 3/4" x 1 3/4"

Length as per rule

29

Distance apart

10"

Working pressure by rules

191

Steam dome: description of joint to shell

none

% of strength of joint

yes

Diameter

Thickenss 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

yes

Is Elasing Gear fitted

yes

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 Elasing Gear fitted

yes

If not, state whether, and when, it will be sent to the ship?

Is a Report also sent on the Hull of the ship?

W1360-0017

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two each of top end, bottom end and main bearing bolts & nuts; one set of coupling bolts and nuts; one set of feed and bilge pump valves; assorted bolts & nuts; iron of various sizes; One set each of Ramsbottom rings for H.P. & M.P. pistons; one cast iron propeller; one tail end shaft, spares for auxiliaries as per specification and minor gear

The foregoing is a correct description,
FOR BLAIR & Co., LIMITED.

W. Borrie
MANAGING DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1915. Sep 27. Oct 4. 8. 11. 13. 15. 18. 19. 21. 22. 25. 26. 28. 29. Nov 5. 8. 9. 11. 12. 15. 17. 25. 26. 29. Dec 1. 2. 3. 6. 8. 9.
During erection on board vessel -- June 9. 12. 13. 20. 26. 27. 30. July 4. 6. 13. 19. 27. Aug 2. 9. 23. Sep 11. 13. 14. 15. 28. Oct 2. 9. 10. 17. Nov 9. 13. 15. 21. 22.
Total No. of visits 131.

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

Dates of Examination of principal parts—Cylinders 31.12.15 Slides 14.1.16 Covers 31.12.15 Pistons 28.12.15 Rods 28.1.16
Connecting rods 21.2.16 Crank shaft 19.1.16 Thrust shaft 21.2.16 Tunnel shafts none Screw shaft 14.9.16 Working
Stern tube 21.9.16 Steam pipes tested 12.2.17 Engine and boiler seatings 17.10.16 Engines holding down bolts 28.11.16

Completion of pumping arrangements 23.3.17 Boilers fixed 30.1.17 Engines tried under steam 1.3.17

Completion of fitting sea connections 10.10.16 Stern tube 9.11.16 Screw shaft and propeller 9.11.16

Main boiler safety valves adjusted 16.2.17 Thickness of adjusting washers P. Bls $\frac{5}{16}$ S. Bls $\frac{3}{32}$ P. Bls $\frac{5}{16}$ S. Bls $\frac{3}{32}$ For B $\frac{5}{16}$ S $\frac{5}{16}$

Material of Crank shaft by Steel Identification Mark on Do. 7024 Material of Thrust shaft by Steel Identification Mark on Do. 1845 N

Material of Tunnel shafts Identification Marks on Do. ✓ Material of Screw shafts W. iron Identification Marks on Do. 7024

Material of Steam Pipes Wrought iron ✓ Test pressure 540 lbs ✓

Is an installation fitted for burning oil fuel yes ✓ Is the flash point of the oil to be used over 150°F. yes ✓

Have the requirements of Section 49 of the Rules been complied with yes ✓

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 and in accordance with the Rules and the specification approved by the Admiralty. The materials and workmanship are sound and good

The boilers, main and auxiliary engines and pumping installations were tested and all found satisfactory. The oil fuel system (Meyer-Smith) was tested by hydraulic pressure and under full working conditions and found satisfactory

The machinery is now in a good and safe working condition and renders the vessel eligible to have the notations of \star L.M.C. 3.17 & Fitted for oil fuel 3.17, F.P. above 150°F, in the Register Book

It is submitted that
this vessel is eligible for
THE RECORD. + LMC 3.17.

Fitted for oil fuel 3.17, F.P. above 150°F.

The amount of Entry Fee ... £ 3 : 0 : 0 When applied for,
Special ... £ 39 : 15 : 0 6/3/1917
Donkey Boiler Fee ... £ ✓ : : When received,
Travelling Expenses (if any) £ ✓ : : 10/3/1917

FRI. 16 MAR. 1917

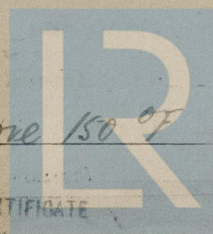
Committee's Minute

Assigned

+ L.M.C. 3.17
Fitted for Oil fuel 3.17 F.P. above 150°F

W^m Morrison, 16/3/17
Engineer Surveyor to Lloyd's Register of Shipping.

FRI. 9-MAY. 1919



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Lloyd's Register
Foundation

TUE. 12 NOV 1919

MACHINERY CERTIFICATE
WRITTEN