

REPORT ON MACHINERY.

No. 27107

Received at London Office THU. 6-DEC. 1917

Date of writing Report

10

When handed in at Local Office - 5 DEC 1917

Port of

SUNDERLAND

No. in Survey held at
Reg. Book.

SUNDERLAND

Date, First Survey

12 April 1916

Last Survey

1 Dec 1917

(Number of Visits)

42

Gross 2153

Net 1304

Master

G. Fresant

Built at

Sunderland

By whom built

Osbourne Graham & Co. (151-205)

When built

1917

Engines made at

Sunderland

By whom made

Macdonell & Pollock Ltd (No 281)

when made

1917

Boilers made at

Sunderland

By whom made

Macdonell & Pollock Ltd (No 281)

when made

1917

Registered Horse Power

Owners

Furness Withy & Co. Ltd

Port belonging to

London

Nom. Horse Power as per Section 28

231

Is Refrigerating Machinery fitted for cargo purposes

Is Electric Light fitted

yes

ENGINES, &c.—Description of Engines

Triple expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

21-35-58

Length of Stroke

39

Revs. per minute

68

Dia. of Screw shaft

as per rule 12.05

Material of (Screw) shaft

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 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

49

Dia. of Tunnel shaft

as per rule 10.512

Dia. of Crank shaft journals

as per rule 11.1

Dia. of Crank pin

11 3/8

Size of Crank webs

6 1/2 x 7 1/2

Dia. of thrust shaft under

collars

11 3/8

Dia. of screw

15-0

Pitch of Screw

14-6

No. of Blades

4

State whether moveable

no

Total surface

68 sq

No. of Feed pumps

2

Diameter of ditto

3 1/2

Stroke

20

Can one be overhauled while the other is at work

yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

20

Can one be overhauled while the other is at work

yes

No. of Donkey Engines

2

Sizes of Pumps

6 1/4 x 6

9 1/2 x 10

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

In Engine Room

3 @ 2 3/4"

In Holds, &c.

Fore hold - 2 @ 2 3/4"

Aft hold - 2 @ 2 3/4"

Tunnel well - 1 @ 2 1/2"

Brown Hunter - 2 @ 2 3/4"

No. of Bilge Injections

1

size

5 1/2"

Connected to condenser, or to circulating pump

b.p.

Is a separate Donkey Suction fitted in Engine room & size

1 @ 3"

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

valves

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

forward hold suction

How are they protected

wood casing

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

14-9-17

of Stern Tube

4-10-17

Screw shaft and Propeller

9-10-17

Is the Screw Shaft Tunnel watertight

yes

Is it fitted with a watertight door

yes

worked from

top platform

BOILERS, &c.—(Letter for record)

(5)

Manufacturers of Steel

John Spence & Sons Ltd.

Total Heating Surface of Boilers

3616

Is Forced Draft fitted

no

No. and Description of Boilers

two single ended marine

Working Pressure

180

Tested by hydraulic pressure to

360

Date of test

28-9-17 & 4-10-17

No. of Certificate

3431 & 3434

Can each boiler be worked separately

yes

Area of fire grate in each boiler

59 sq

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

5.93 sq

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers or woodwork

1-6

Mean dia. of boilers

14-6

Length

10-6

Material of shell plates

steel

Thickness

1 1/8

Range of tensile strength

29 3/4-33

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

D.R.

long. seams

D.B.S.T.R.

Diameter of rivet holes in long. seams

1 3/16

Pitch of rivets

8 1/4

Lap of plates or width of butt straps

17 5/8

Per centages of strength of longitudinal joint

rivets 88.7

plate 85.6

Working pressure of shell by rules

184

Size of manhole in shell

16 x 12

Size of compensating ring

27 x 29 x 1 1/8

No. and Description of Furnaces in each boiler

3 plain

Material

steel

Outside diameter

3-8

Length of plain part

top 7-6

Thickness of plates

crown 13

bottom 10

Description of longitudinal joint

welded

No. of strengthening rings

none

Working pressure of furnace by the rules

181

Combustion chamber plates: Material

steel

Thickness: Sides

11/16

Back

11/16

Top

11/16

Bottom

7/8

Pitch of stays to ditto: Sides

8 5/8 x 10

Back

8 5/8 x 11

Top

8 5/8 x 10 3/8

If stays are fitted with nuts or riveted heads

nuts in use

Working pressure by rules

181

Material of stays

steel

Diameter at smallest part

2-030

Area supported by each stay

99-20

Working pressure by rules

184

End plates in steam space:

Material

steel

Thickness

1 1/4

Pitch of stays

18 x 21

How are stays secured

D.N.

Working pressure by rules

183

Material of stays

steel

Diameter at smallest part

6-10

Area supported by each stay

347 sq

Working pressure by rules

182

Material of Front plates at bottom

steel

Thickness

3 1/2

Material of Lower back plate

steel

Thickness

3 1/2

Greatest pitch of stays

13 1/4 x 8 5/8

Working pressure of plate by rules

196

Diameter of tubes

3 1/4

Pitch of tubes

4 3/4 x 4 1/2

Material of tube plates

steel

Thickness: Front

21/32

Back

21/32

Mean pitch of stays

11 5/8

Pitch across wide water spaces

14 1/2 x 10

Working pressures by rules

216

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 13 1/2 x 17 1/2

Length as per rule

28 7/16

Distance apart

10 3/8

Number and pitch of stays in each

2 @ 8 1/2

Working pressure by rules

192

Superheater or Steam chest; how connected to boiler

none

Can the superheater be shut off and the boiler worked

separately

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

holes

Pitch of rivets

IS A DONKEY BOILER FITTED? yes

If so, is a report now forwarded? yes

SPARE GEAR. State the articles supplied:— Two connecting rod top and bottom end bolts and nuts
two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves
one screw shaft and one propeller.

The foregoing is a correct description,

MAC COLL & POLLOCK LTD.

W. MacColl
General Manager.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - 14/16 Apr 12 Aug 15 1917 Mar 16 May 1 Jun 12 22 25 Jul 5 9 11 13 17 20 27 Aug 11 13 21 31 Sep 3 5
During erection on board vessel - - - 14 15 18 24 26 28 Oct 2 4 5 9 11 16 17 24 25 30 31 Nov 14 27 29 Dec 1
Total No. of visits (42)

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " yes

Dates of Examination of principal parts—Cylinders ^(18-9-17-HP) 5-7-17 Slides 28-9-17 Covers 13-7-17 Pistons 26-9-17 Rods 15-9-17
Connecting rods 5-9-17 Crank shaft 19-6-17 Thrust shaft 31-8-17 Tunnel shafts 3-9-17 Screw shaft 24-9-17 Propeller 20-7-17
Stern tube 28-9-17 Steam pipes tested 3/6 Engine and boiler seatings 5-10-17 Engines holding down bolts 16-10-17
Completion of pumping arrangements 1-12-17 Boilers fixed 17-10-17 Engines tried under steam 25-10-17
Main boiler safety valves adjusted 25-10-17 Thickness of adjusting washers P-P 3/8", S 1/2", S both 3/8"

Material of Crank shaft 5M. 1 Steel Identification Mark on Do. 2288 N. WC Material of Thrust shaft 5M. 1 Steel Identification Mark on Do. 2292 N. WC
Material of Tunnel shafts 5M. 1 Steel Identification Marks on Do. 2292 N. WC Material of Screw shafts 5M. 1 Steel Identification Marks on Do. 2292 N. WC

Material of Steam Pipes Lapwelded steel Test pressure 540 lbs per 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 workmanship and materials are good.
The machinery has been constructed under special survey and is eligible in my opinion
for classification and the record + LMC 12.17

It is submitted that
this vessel is eligible for
THE RECORD + LMC 12.17.

W.D.
4/12/17

The amount of Entry Fee ... £ 2 : - :
Special ... £ 31 : 11 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 5 DEC 1917
When received, 18-1-18

Sh. Davis.
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute TUE 11 DEC 1917
Assigned + LMC 12.17

MACHINERY CERTIFICATE
WRITTEN