

REPORT ON MACHINERY

No. 70521

MON. 17 DEC. 1917

Received at London Office

Date of writing Report

10

When handed in at Local Office

14 DEC 1917

Port of

NEWCASTLE-ON-TYNE

in Survey held at Newcastle-on-Tyne

Date, First Survey

3rd April 1917

Last Survey

14th Dec 1917

1917

g. Book.

on the SCREW STEAMER "WAR DAFFODIL"

(Number of Visits

31.

Tons

Gross

5199

Net

3216

When built

1917

Master

Built at Low Walker

By whom built

James Hunter Wigham Richardson

When made

1917

Engines made at

St. Peter's

By whom made

J. W. Hawthorn Leslie & Co. Ltd.

when made

1917

Boilers made at

Low Walker

By whom made

James Hunter Wigham Richardson

when made

1917

Registered Horse Power

Owners

(E. J. Pym & Co. Ltd.)

Port belonging to

London

Nom. Horse Power as per Section 28

518

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

Engines, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

Dia. of Cylinders

27" 44" 73"

Length of Stroke

48"

Revs. per minute

80

Dia. of Screw shaft

as per rule 14 1/2"

Material of

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

the propeller boss

Yes

If the liner is in more than one length are the joints burned through

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

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

Length of stern bush

5' 0 1/2"

Dia. of Tunnel shaft

as per rule 14 1/2"

Dia. of Crank shaft journals

as per rule 14 1/2"

Dia. of Crank pin

14 1/2"

Size of Crank webs

9 x 28"

Dia. of thrust shaft under

collars

Diam. of screw

17' 6"

Pitch of Screw

16' 6"

No. of Blades

4

State whether moveable

No

Total surface

102.5 sq. ft.

No. of Feed pumps

2

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

4"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Three

Sizes of Pumps

9 1/2 x 18"

9 1/2 x 18"

10 1/2 x 14"

7 1/2 x 14"

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

In Engine Room

Two—3 1/2" dia.

In Stokehold

Two—3 1/2" dia.

In Holds, &c.

No. 1 HOLD

2—3 1/2" dia.

No. 2 HOLD

2—3 1/2" dia.

No. 3 HOLD

Two—3 1/2" dia.

No. 4 HOLD

One—3 1/2" dia.

TUNNEL ONE—3" dia.

No. of Bilge Injections

1 size 8"

Connected to condenser, or to circulating pump

C.P.

Is a separate Donkey Suction fitted in Engine room & size

Yes 3 1/2"

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

No

How are they protected

No

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

12/9/17

of Stern Tube

12/9/17

Screw shaft and Propeller

12/9/17

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

No

Entered worked from

Boilers, &c.—(Letter for record

S)

Manufacturers of Steel

J. Spencer & Sons Ltd.

Total Heating Surface of Boilers

7668 sq. ft.

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Cylinders

Single

Working Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

14/9/17

No. of Certificate

B.T. Test and Certificate

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63 sq. ft.

No. and Description of Safety Valves to

each boiler

2 Swiss Spring loaded

Area of each valve

9.62 sq. in.

Pressure to which they are adjusted

185 lb

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

About 18"

Mean dia. of boilers

15' 6"

Length

11' 6"

Material of shell plates

Steel

Thickness

1 1/4"

Range of tensile strength

28 to 32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Lap Double

Long. seams

Butt Strap

Diameter of rivet holes in long. seams

1 5/8"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

19 1/2"

Percentages of strength of longitudinal joint

rivets 84.5%

plate 83.6%

Working pressure of shell by rules

182 lb

Size of manhole in shell

16" x 12"

Size of compensating ring

Plate flanged

No. and Description of Furnaces in each boiler

3 Deighton's

Material

Steel

Outside diameter

50 1/2"

Length of plain part

top 4' 6"

Thickness of plates

bottom 3 1/2"

Description of longitudinal joint

Weld

No. of strengthening rings

None

Working pressure of furnace by the rules

188 lb

Combustion chamber plates: Material

Steel

Thickness: Sides

23"

Back

16"

Top

23"

Bottom

23"

Pitch of stays to ditto: Sides

9 1/4" x 10 1/8"

Back

10 1/4" x 8 1/2"

Top

10 1/8" x 9 1/4"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180 lb

Material of stays

Steel

Diameter at smallest part

2 3/8"

Area supported by each stay

98 sq. in.

Working pressure by rules

215 lb

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Pitch of stays

2 1/4" x 2 1/8"

How are stays secured

Nuts

Working pressure by rules

184 lb

Material of stays

Steel

Diameter at smallest part

8 2/9"

Area supported by each stay

456 sq. in.

Working pressure by rules

184 lb

Material of Front plates at bottom

Steel

Thickness

3 1/2"

Material of Lower back plate

Steel

Thickness

27"

Greatest pitch of stays

13 1/8"

Working pressure of plate by rules

182 lb

Diameter of tubes

2 3/4"

Pitch of tubes

4 1/2" x 3 1/2"

Material of tube plates

Steel

Thickness: Front

3 1/2"

Back

3 1/4"

Mean pitch of stays

9' 8 1/2"

Pitch across wide water spaces

13 1/8"

Working pressures by rules

181 lb

209 lb

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

10" x 1 1/2"

Length as per rule

35 1/8"

Distance apart

10' 5"

Pitch across wide water spaces

13 1/8"

Working pressures by rules

181 lb

VERTICAL DONKEY BOILER— Manufacturers of Steel

No. Description
Made at By whom made When made Where fixed
Working pressure tested by hydraulic pressure to Date of test No. of Certificate Fire grate area Description of Safety
Valves No. of Safety Valves Area of each Pressure to which they are adjusted Date of adjustment
If fitted with casing gear If steam from main boilers can enter the donkey boiler Dia. of donkey boiler Length
Material of shell plates Thickness Range of tensile strength Descrip. of riveting long. seams
Dia. of rivet holes Whether punched or drilled Pitch of rivets Lap of plating Per centage of strength of joint
Working pressure of shell by rules Thickness of shell crown plates Radius of do. No. of stays to do. Dia. of stays
Diameter of furnace Top Bottom Length of furnace Thickness of furnace plates Description of joint
Working pressure of furnace by rules Thickness of furnace crown plates Radius of do. Stayed by
Diameter of uptake Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied:— Propeller, 1 H.P. Piston valve, 12 Condenser tubes, 25 each plain & capped cone
tube ferrules, 2 Conn. Rod Bolt Nuts, 2 P. Rod Crosshead Bolt Nuts, 2 Main Bearing Bolts, 1 set Coupling Bolts, 1 set Air
pump valves, 1 set feed & 1 set Bilge pump valves, 2 Main Boiler Check valves, 1 Aux. feed Check valves, 1 Feed pump
Escape valve & spring, 12 Joint Ring Studs, 6 each Cylinder Cover & Steam Chest Studs, 1 Stud of each size fitted to Boiler, 1 Pa
piston for Main try stop valve, 1 set of Piston and Packing, 2 Rings each
Piston Packing for Piston and Slide Rods, 1 Cut White Metal 5 Bar Rod
and 3 Bars Flat Iron. Spare Gear for Centrifugal pump, Spare Piston
Rings for each Auxiliary Engine and Spare Rings for each Aux. pump Piston

The foregoing is a correct description.

Manufacturer

FOR R. & W. HAWTHORN, LESLIE & CO. LD.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits
Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 14/8/17 Slides 17/8/17 Covers 16/11/17 Pistons 17/8/17 Rods 17/8/17
Connecting rods 17/8/17 Crank shaft 9/2/17 Thrust shaft 18/6/17 Tunnel shafts 29/6/17 Screw shaft 29/6/17 Propeller 13/8/17
Stern tube 17/8/17 Steam pipes tested 26/9/17 Engine and boiler seatings 13/9/17 Engines holding down bolts 18/10/17
Completion of pumping arrangements 23/11/17 Boilers fixed 3/12/17 Engines tried under steam 16/11/17
Main boiler safety valves adjusted 16/11/17 Thickness of adjusting washers 5.12.5.12.20.3.2. C.B. 1/2 5/16 3/8 P.B. 1/2 5/16 3/8
Material of Crank shaft Steel Identification Mark on Do. 9686 Material of Thrust shaft Steel Identification Mark on Do. 9686
Material of Tunnel shafts Iron Identification Marks on Do. 5926-7-8 Material of Screw shafts Iron Identification Marks on Do. 5927
Material of Steam Pipes Wrought Iron Test pressure 540 lbs.

General Remarks (State quality of workmanship, opinions as to class, &c.)

This vessel's engines and boilers were built under the special survey of
the Surveyors of the Bureau Veritas. They were originally intended for H¹⁰⁵⁹
(a S.V.) vessel. This ship being ready for launching, while its machinery was not
ready, the engines and boilers for H¹⁰³⁸ vessel were transferred to it. The engine
and boilers for H¹⁰⁵⁹ vessel were fitted on H¹⁰³⁸ and are herein reported.

After completion on board the machinery and boilers were examined
under steam and found to work satisfactorily. They are now in good and
efficient condition and eligible in my opinion to have the record of

LMC 12.17. marked in the Society's Register Book

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

The amount of Entry Fee .. £ : :
Special .. £ 100 : :
Donkey Boiler Fee .. £ : :
Travelling Expenses (if any) £ : :
When applied for, 14 DEC 1917
When received, 21-12-17
Committee's Minute FRI. 28 DEC. 1917
Assigned L.M.C. 12.17
FRI. 18 JAN. 1918