

Date of writing Report

19

When handed in at Local Office

28 OCT 1919

Port of Newcastle on Tyne

in Survey held at

Newcastle on Tyne

Date, First Survey

19 May 1919

Last Survey

9 October 1919

Book.

on the

SCREW STEAMER "BELGIAN" (1139)

(Number of Visits

31)

ster

Built at

Hull

By whom built

Lan Hunter & Co. Ltd. Hull

When built

1919

ines made at

Newcastle on Tyne

By whom made

Lan Hunter & Co. Ltd. Hull

When made

1919

ilers made at

Newcastle on Tyne

By whom made

Lan Hunter & Co. Ltd. Hull

When made

1919

gistered Horse Power

Owners

J. Leyland & Co.

Port belonging to

Liverpool

n. Horse Power as per Section 28

514

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes.

GINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders

Three

No. of Cranks

Three

a. of Cylinders

24-44-70

Length of Stroke

48

Revs. per minute

78

Dia. of Screw shaft

as per rule 14.5

Material of screw shaft

Steel

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

ween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive

If two

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

Length of stern bush

5' 0"

a. of Tunnel shaft

as per rule 13.8

Dia. of Crank shaft journals

as per rule 12.98

Dia. of Crank pin

14.5

Size of Crank webs

23 x 9

Dia. of thrust shaft under

lars

lars

14.5

Dia. of screw

14.6

Pitch of Screw

16.6

No. of Blades

4

State whether moveable

No

Total surface

98.2 sq. ft.

of Feed pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

Yes.

of Bilge pumps

2

Diameter of ditto

4

Stroke

24

Can one be overhauled while the other is at work

Yes.

of Donkey Engines

3

Sizes of Pumps

10 x 14 x 24 9 x 7 x 18

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

Engine Room

2 in dia 2 in P.R. 2 in dia 2 in P.R. In Holds, &c. N°1 HOLD 2-3/4 in dia N°2 HOLD 2-3/4 in dia

V°3 HOLD 2-3/4 in dia N°4 HOLD WELL 1-3/4 in dia TUNNEL WELL 1-3/4 in dia RESERVE BUNKER 2-3/4 in dia

of Bilge Injections

1

sizes

12

Connected to condenser, or to circulating pump

CP

Is a separate Donkey Suction fitted in Engine room & size

Yes.

re 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

re all connections with the sea direct on the skin of the ship

Yes.

Are they Valves or Cocks

Both.

re 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

Below

re 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.

That pipes are carried through the bunkers

Belgi Suctions

How are they protected

Wood casing

re all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times

Yes.

re the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges

Yes.

the Screw Shaft Tunnel watertight

Yes.

Is it fitted with a watertight door

Yes.

worked from

the upper platform

MILERS, &c.—(Letter for record

S.)

Manufacturers of Steel

J. Spencer & Sons Ltd.

otal Heating Surface of Boilers

4668

Is Forced Draft fitted

Yes.

No. and Description of Boilers

3 Cylinders

Triple

Expansion

No. of Certificate

9282

orking Pressure

180 lb

Tested by hydraulic pressure to

360 lb

Date of test

20.8.19

No. of Certificate

9282

an 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

Donkey Spring

Area of each valve

9.62

Pressure to which they are adjusted

185 lb

allest 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

1/4"

Range of tensile strength

28/32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Cap Double

non rows

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/2"

ng. seams

8/16

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

9 1/2"

Lap of plates or width of butt straps

19 1/2"

er centages of strength of longitudinal joint

rivets 87.5

plate 85.6

Working pressure of shell by rules

182 lb

Size of manhole in shell

16 x 12

ize 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 3' 4"

bottom 3' 4"

Thickness of plates

crown 1/4"

bottom 3/8"

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

3/8"

Back

1/8"

Top

3/8"

Bottom

3/8"

Pitch of stays to ditto: Sides

9 1/4 x 10 1/2"

Back

10 1/4 x 8 1/2"

Top

10 1/2 x 9 1/4"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

180 lb

Material of stays

Steel

Area at smallest part

236"

Area supported by each stay

98"

Working pressure by rules

216 lb

End plates in steam space:

Material

Steel

Thickness

1 1/2"

Area at smallest part

8' 29"

Area supported by each stay

456"

Working pressure by rules

192 lb

Material of Front plates at bottom

Steel

Thickness

3/8"

Material of Lower back plate

Steel

Thickness

Diameter of tubes

2 1/4"

Pitch of tubes

4 x 3 1/8"

Material of tube plates

Steel

Thickness: Front

3/8"

Back

3/4"

Mean pitch of stays

9.81"

Pitch across wide water spaces

13 1/8"

Working pressures by rules

181 lb

Girders to Chamber tops: Material

Steel

Depth and

Thickness of girder at centre

10 x 1 1/4"

Length as per rule

35 1/2"

Distance apart

10 1/8"

Working pressure by rules

184 lb

Steam dome: description of joint to shell

Yes.

% of strength of joint

100

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

UPERHEATER. Type

None

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

Pressure to which each is adjusted

Is Easing Gear fitted

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

Pressure to which each is adjusted

Is Easing Gear fitted

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Pressure to which each is adjusted

IS A DONKEY BOILER FITTED? *No*

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— *2 cone rod end top and 9 2 bolt end bolts, nuts, 2 main bearing bolts & nuts, 1 set of coupling bolts & nuts, 1 feed pump suction & 1 disch valve, 3 main & 3 donkey feed check valves, 6 cylinder cover studs & nuts, 6 steam chest cover studs & nuts, 12 junk ring studs & nuts, 1 propeller, 50 condenser fanules, 100 condenser tube packings, 6 studs each size fitted to Boiler Mounting covers, 6 air pump valves, 2 rings / packing for each piston rod and slide rod, 1 spring for feed pump escape valve, 1 valve box for main engine stop valve, 1 diaphragm for each size reducing valve, 1 set piston rings for winding pump engine, 1 crank end bush, 1 main pin bush, 1 main bearing head (each size for air pump), 1 set piston & bucket rings for feed donkey, 1 general donkey & ballast donkey, 1 set piston rings for engine & 3 winches, 20 firebricks, 2 patterns, 27 baffle plate iron, 2 bolts & nuts assorted etc.*

The foregoing is a correct description,

FOR
SWAN, HUNTER & WIGHAM RICHARDSON, LTD.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *May 19. 28. Jun 2. 11. 13. 20. Jul 1. 4. 8. 10. 15. 23. 28. 31. Aug 5. 7. 12. 18. 20. 21. 22. 25. 26. Sep 9. 11. 18. 22. 26. 30*
{ During erection on board vessel -- } *6 Oct. 8. 9.*
Total No. of visits *31*

Is the approved plan of main boiler forwarded herewith *no*

" " " donkey " " " *none*

Dates of Examination of principal parts—Cylinders *5/8/19* Slides *5/8/19* Covers *22-9-19* Pistons *5/8/19* Rods *7/8/19*
Connecting rods *7/8/19* Crank shaft *See Report* Thrust shaft *B.K. Survey* Tunnel shafts *B.K. Survey* Screw shaft *18/8/19* Propeller *18/8/19*
Stern tube *21/8/19* Steam pipes tested *18-9-19* Engine and boiler seatings *26/8/19* Engines holding down bolts *22-9-19*
Completion of pumping arrangements *30-9-19/9-10-19* Boilers fixed *22-9-19* Engines tried under steam *30-9-19*
Completion of fitting sea connections *21/8/19* Stern tube *26/8/19* Screw shaft and propeller *22-9-19*
Main boiler safety valves adjusted *9-10-19* Thickness of adjusting washers *SB. S $\frac{1}{2}$ P $\frac{9}{16}$ CB. S $\frac{1}{16}$ P $\frac{9}{16}$ PB. S $\frac{1}{2}$ P $\frac{1}{2}$*

Material of Crank shaft *Steel* Identification Mark on Do. *2777 D* Material of Thrust shaft *Steel* Identification Mark on Do. *WRH*
Material of Tunnel shafts *Steel* Identification Marks on Do. *WRH* Material of Screw shafts *Steel* Identification Marks on Do. *WRH*
Material of Steam Pipes *Steel* *See below flanges & spindles & washers* Test pressure *540 lb $\frac{1}{2}$ "* *Hydraulic*

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 *Yes* If so, state name of vessel. *Es. Barbadian (Standard*

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

The Engines of this Vessel have been constructed under Bureau Veritas, Survey, and the Boilers have been constructed under Lloyd's Register, Survey and the material and workmanship are sound and good

The machinery fitted up on board - The Engines have been tried under steam and the boiler Safety Valves adjusted for the working pressure.

In our opinion the machinery is now in good condition and safe working order, and eligible to have the notation of L.M.C. 10-19, made in the Register Book—

It is submitted that this vessel is eligible for THE RECORD LMC 10.19. F.D.

The amount of Entry Fee ... £ : : When applied for, *28 OCT 1919*
Special *25* : :
Donkey Boiler Fee ... £ : : When received, *30/10/19*
Travelling Expenses (if any) £ : :

L. G. Challers & Co. Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute *TUE. NOV. 4 1919*

Assigned *L.M.C. 10-19 F.D.*



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