

REPORT ON MACHINERY.

No. 27417

Received at London Office

TUE. 4-FEB. 1919

Date of writing Report

19

When handed in at Local Office 3 FEB 1919

Port of

Sunderland

No. in Survey held at

Sunderland

Date, First Survey

13 May

Last Survey

22 Jan'y 1919

Reg. Book.

on the new steel S/S "SHEAF SPEAR"

(Number of Visits

13)

Gross 3073

Net 1860

Master J. B. Clarke

Built at Sunderland

By whom built

J. Blumer & Co (S/S No 249)

When built 1919

Engines made at

Sunderland

By whom made

J. Dickinson & Sons Ltd (No 839)

when made

1919

Boilers made at

Sunderland

By whom made

J. Dickinson & Sons Ltd (No 839)

when made

1919

Registered Horse Power

429

Owners

W. A. Souter & Co.

Port belonging to

Newcastle

Nom. Horse Power as per Section 28

430

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

25"-41"-68"

Length of Stroke 45"

Revs. per minute 80

Dia. of Screw shaft

as per rule 13.58"

Material of screw shaft

as per rule 14.2"

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

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 5'-0"

Dia. of Tunnel shaft

as per rule 12.41"

Dia. of Crank shaft journals

as per rule 13.03"

Dia. of Crank pin 13 1/4"

Size of Crank webs 8 3/16" x 2 1/2"

Dia. of thrust shaft under

collars 13 1/4"

Dia. of screw 16'-0"

Pitch of Screw 16'-3"

No. of Blades 4

State whether moveable

no

Total surface 750 ft

No. of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work

yes

No. of Bilge pumps 2

Diameter of ditto 3 1/2"

Stroke 24"

Can one be overhauled while the other is at work

yes

No. of Donkey Engines 3

Sizes of Pumps

2 @ 9 1/2" & 7 1/8"

1 @ 10 1/2" & 12 1/2"

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

In Engine Room

5 at 3" dia one little 10/2/19

In Holds, &c. No 1 hold - 2 @ 3". No 2 hold - 2 @ 3".

No. of Bilge Injections 2

sizes 8"

Connected to condenser, or to circulating pump

b.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

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

main below, all others 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

under limber boards

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

yes

Is it fitted with a watertight door

no

worked from access by trunk from deck

OILERS, &c.—(Letter for record

S)

Manufacturers of Steel

John Spencer & Sons Ltd

Total Heating Surface of Boilers 6304 ft

Is Forced Draft fitted

yes

No. and Description of Boilers three single ended marine

Working Pressure 180

Tested by hydraulic pressure to

360

Date of test 21-12-18

No. of Certificate 3520

Can each boiler be worked separately

yes

Area of fire grate in each boiler

51 ft

No. and Description of Safety Valves to

each boiler

two direct spring

Area of each valve

8.295"

Pressure to which they are adjusted

185

Are they fitted with easing gear

yes

Smallest distance between boilers or uptakes and bunkers

1'-10"

Mean dia. of boilers

14'-0"

Length

11'-8 1/2"

Material of shell plates

steel

Thickness 1 1/8"

Range of tensile strength

28 3/4" - 33 tons

Are the shell plates welded or flanged

no

Descrip. of riveting: cir. seams

DR

long. seams

DBS TR

Diameter of rivet holes in long. seams

1 3/8"

Pitch of rivets

8 1/2"

Lap of plates or width of butt straps

1'-6"

Per centages of strength of longitudinal joint

rivets 86.1%

plate 86%

Working pressure of shell by rules

187

Size of manhole in shell

16" x 12"

Size of compensating ring

flanged

No. and Description of Furnaces in each boiler

3. Deighton

Material

steel

Outside diameter

3'-7"

Length of plain part

top

bottom

Thickness of plates

crown 1 1/4"

bottom 3/32"

Description of longitudinal joint

welded

No. of strengthening rings

yes

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

steel

Thickness: Sides

1 1/8"

Back

3/4"

Top

1 1/8"

Bottom

1 1/8"

Pitch of stays to ditto: Sides

9 3/8" x 9"

Back

9" x 10 1/2"

Top

9" x 9 3/8"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

194

Material of stays

steel

Area at smallest part

2.035"

Area supported by each stay

94.50"

Working pressure by rules

216

End plates in steam space:

Material

steel

Thickness

1 1/2"

Pitch of stay

23 3/4" x 19 1/2"

How are stays secured

DN & W

Working pressure by rules

181

Material of stays

steel

Area at smallest part

8.295"

Area supported by each stay

464.0"

Working pressure by rules

186

Material of Front plates at bottom

steel

Thickness

3 1/2"

Material of Lower back plate

steel

Thickness

2 1/2"

Greatest pitch of stays

13 1/2" x 9"

Working pressure of plate by rules

185

Diameter of tubes

2 3/4"

Pitch of tubes

4" x 4"

Material of tube plates

steel

Pitch across wide water spaces

13 1/2"

Working pressures by rules

184

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

2 @ 10 1/2" x 3"

Length as per rule

2-11 1/2"

Distance apart

9 3/8"

Working pressure by rules

200

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

Pressure to which each is adjusted

Is Easing Gear fitted

Foundation

IS A DONKEY BOILER FITTED?

20

If so, is a report now forwarded?

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

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building	{	During progress of work in shops - -	1918 Jun 5 Oct. 7. 14. 25. 30. Nov. 1. 4. 20. 25. 29. Dec. 2. 4. 5. 9. 18. 19. 21.
		During erection on board vessel - - -	Jan 7. 13. 14. 15. 21. 22.
		Total No. of visits	(23)

Is the approved plan of main boiler

Is the approved plan of main boiler forwarded herewith

” ” ” *donkey* ” ”

Dates of Examination of principal parts—Cylinders 20-11-18 Slides 4-12-18 Covers 25-10-18 Pistons 5-12-18 Rods 3-12-18

Connecting rods 3-12-18 Crank shaft 18-12-18 Thrust shaft 18-12-18 Tunnel shafts 18-12-18 Screw shaft 19-12-18 Propeller 9-12-18

Stern tube 18-12-18 Steam pipes tested 148 15-1-19 Engine and boiler seatings 25-10-18 Engines holding down bolts 13-1-19

Completion of pumping arrangements 22-1-19 Boilers fixed 7-1-19 Engines tried under steam 22-1-19

Completion of fitting sea connections 27-11-18 Stern tube 19-12-18 Screw shaft and propeller 20-12-18

Main boiler safety valves adjusted 22-1-19 Thickness of adjusting washers: In. Lh - $P\frac{1}{2}$ S $\frac{7}{16}$; bent Lh - $P\frac{3}{4}$ S $\frac{1}{2}$; st Lh - $P\frac{7}{16}$ S $\frac{3}{4}$ Total

Material of Crank shaft 1. Steel Identification Mark on Do 2691281 J.P Material of Thrust shaft 1. Steel Identification Mark on Do 258 JA A

Material of Tunnel shafts Steel Identification Marks on Do. 254256 JF. Material of Screw shafts Superior Identification Marks on Do. 154316 F

Material of Steam Pipes Lapwelded wrought iron Test pressure 540 pounds 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 yes If so, state name of vessel Standard "C" type.

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 in
in my opinion for classification and the record \times LMC 1,19

It is submitted that
this vessel is eligible for
THE RECORD. + L. M. C. 119 FD

The amount of Entry Fee	...	£	:	:	When applied for,
Special	...	£	68	59	31.1.19
Donkey Boiler Fee	...	£	:	:	When received,
Travelling Expenses (if any)	£	:	:	:	3.2.19

Engineer Surveyor to Lloyd's Register of ShippAre there

Committee's Minute : FEB. 7 FEB. 1952

Assigned

F. D.

2
MACHINE CERTIFICATE
WRITTEN

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Lloyd's Register
Foundation