

Rpt. 4.

REPORT ON MACHINERY.

No. 27890

Received at London Office WED. JUL 28 1920

Date of writing Report

19

When handed in at Local Office

27 JUL 1920

Port of

SUNDERLAND.

No. in Survey held at
Reg. Book.

SUNDERLAND.

Date, First Survey

2 July 19 Last Survey 22 July 1920

(Number of Visits 43)

on the machinery of the S.S. "S. B. Lund"

Master

Jansen

Built at

Sunderland

By whom built

Messrs. J. Clark & Co. (1057)

when made

1920

Engines made at

Sunderland

By whom made

Messrs. J. Clark & Co. (1057)

when made

1920

Boilers made at

Sunderland

By whom made

Messrs. J. Clark & Co. (1057)

when made

1920

Registered Horse Power

Owners Dampf akt. Selekkt "Kriston"

Port belonging to

Bergen

Nom. Horse Power as per Section 28

202 197

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders

19 1/2, 32, 53

Length of Stroke

36

Revs. per minute

72

Dia. of Screw shaft

as per rule 11 1/2

Material of

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

Dia. of Tunnel shaft

as per rule 9 1/2

Dia. of Crank shaft journals

as per rule 10 1/2

Dia. of Crank pin

10 3/8

Size of Crank webs

15 x 6 1/2

Dia. of thrust shaft under

collars

10 1/2

Dia. of screw

14-3

Pitch of Screw

14-9

No. of Blades

4

State whether moveable

No

Total surface

62.59

No. of Feed pumps

2

Diameter of ditto

2 3/4

Stroke

22

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

2

Diameter of ditto

3 1/2

Stroke

22

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3

Sizes of Pumps

9 x 10 x 10, 5 1/2 x 3 1/2 x 5

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

In Engine Room

4 D 3"

In Holds, &c. 2 in each hold 3" on in hold was 3"

No. of Bilge Injections

1

sizes

4"

Connected to condenser, or to circulating pump

Yes

Is a separate Donkey Suction fitted in Engine room & size

4 1/2 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

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

Yes

Is it fitted with a watertight door

Yes

worked from

Upper platform

BOILERS, &c.—(Letter for record

S)

Manufacturers of Steel

Spencer & Co.

Total Heating Surface of Boilers

3222

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two single ended

Working Pressure

180 lbs

Tested by hydraulic pressure to

360 lbs

Date of test

29.3.20

No. of Certificate

3676

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

52.59

No. and Description of Safety Valves to

each boiler

Two spring valves

Area of each valve

7.07

Pressure to which they are adjusted

185 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

24"

Mean dia. of boilers

13-5"

Length

10-6"

Material of shell plates

S

Thickness

1 1/2"

Range of tensile strength

29 1/2-33

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Exp 1/4"

long. seams

A. V. K. riv.

Diameter of rivet holes in long. seams

1 1/4"

Pitch of rivets

7 3/8"

Exp of plates or width of butt straps

16"

Per centages of strength of longitudinal joint

rivets 86

plate 85

Working pressure of shell by rules

180

Size of manhole in shell

12 x 16

Size of compensating ring

Hinged

No. and Description of Furnaces in each boiler

3 Brighton

Material

S

Outside diameter

41 1/2"

Length of plain part

top

bottom

Thickness of plates

crown 3 1/2"

bottom 3 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

-

Working pressure of furnace by the rules

182

Combustion chamber plates: Material

S

Thickness: Sides

2 1/2"

Back

4 1/2"

Top

2 1/2"

Bottom

2 1/2"

Pitch of stays to ditto: Sides

10 x 10

Back

10 1/2 x 9

Top

10 x 9

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

186

Material of stays

S

Area at smallest part

2.03

Area supported by each stay

100

Working pressure by rules

182

End plates in steam space:

Material

S

Thickness

1 1/2"

Pitch of stays

22 3/4 x 18

How are stays secured

A. V. K.

Working pressure by rules

180

Material of stays

S

Area at smallest part

7.07

Area supported by each stay

386

Working pressure by rules

189

Material of Front plates at bottom

S

Thickness

2 1/2"

Material of Lower back plate

S

Thickness

1"

Greatest pitch of stays

17 1/4"

Working pressure of plate by rules

210

Diameter of tubes

3 1/4"

Pitch of tubes

4 1/2 x 4 3/8"

Material of tube plates

S

Thickness: Front

2 1/2"

Back

3 1/4"

Mean pitch of stays

9 x 10 15/16"

Pitch across wide water spaces

14 1/2"

Working pressures by rules

274

Girders to Chamber tops: Material

S

Depth and

thickness of girder at centre

7 1/2 + 1 3/4"

Length as per rule

30"

Distance apart

9"

Number and pitch of stays in each

2, 10"

Working pressure by rules

184

Steam dome: description of joint to shell

-

% 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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

005003-005012-0157

Lloyd's Register
Foundation

IS A DONKEY BOILER FITTED?

yes

If so, is a report now forwarded?

yes, attached.

SPARE GEAR.

State the articles supplied:—

Two top end and two bottom end connecting rod bolts and nuts, two main bearing bolts, one set connecting bolts, one set fuel and lidge pump valves, assorted bolts and nuts. Iron, various sizes.

The foregoing is a correct description,

James C. Clark

Manufacturers of Main Engines & Boilers.

Dates of Survey while building { During progress of work in shops - - 1919 Jul 2 Aug 4 15 Sep 1 11 16 29 Oct 2 23 29 Nov 6 13 21 24 Dec 10 15 Jan 14 22 Feb 2 3 13 16 Mar 8 23 29 Apr 8 19 20 22 26 May 3 10 27 31 Jun 24 27 28 29 Jul 16 22 Total No. of visits (42) Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 10.10.19 Slides 24.3.20 Covers 24.11.19 Pistons 23.10.19 Rods 14.1.20

Connecting rods 24.11.19 Crank shaft 24.10.19 Thrust shaft 6.11.19 Tunnel shafts 10.5.20 Screw shaft 2.6.20 Propeller 31.5.20

Stern tube 3.4.20 Steam pipes tested 7.6.11.6.20 Engine and boiler seatings 20.4.20 Engines holding down bolts 4.6.20

Completion of pumping arrangements 4.6.20 Boilers fixed 31.5.20 Engines tried under steam 21.6.20

Completion of fitting sea connections 20.4.20 Stern tube 31.5.20 Screw shaft and propeller 4.6.20

Main boiler safety valves adjusted 20.6.20 Thickness of adjusting washers 15 13 14 P 7/8 S 9/16 Star 13 14 P 7/8 S 9/16

Material of Crank shaft Steel Identification Mark on Do. 1057 GAH Material of Thrust shaft Steel Identification Mark on Do. 1057 GAH

Material of Tunnel shafts Steel Identification Marks on Do. 1157 GAH Material of Screw shafts Steel Identification Marks on Do. 1057 GAH

Material of Steam Pipes Iron Test pressure 540 lbs. 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 — 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, the materials and workmanship are sound and good and under the vessel ship in my opinion to have record of + LMC 7. 20.

THE RECORD + LMC 7. 20.

The amount of Entry Fee £ 2 : : When applied for, Special £ 30 : 2 : 16.7.1920 Donkey Boiler Fee £ : : When received, Travelling Expenses (if any) £ : : 31/7/20

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

FRI. AUG. 6 1920

+ LMC 7. 20



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