

REPORT ON MACHINERY.

No. 2375

Received at London Office

Date of writing Report 6th Jan'y 1919 When handed in at Local Office

Port of Kobe

No. in Survey held at

Osaka

Date, First Survey 13 March 1918

Last Survey 7th Jan'y 1919

Reg. Book.

on the Steel Single Screw Steamer "Surabaya Maru"

Number of Visits 37

Gross 4386

Master S. Yano

Built at Osaka

By whom built The Osaka Iron Works, Ltd.

When built 1918

Engines made at

Osaka

By whom made

The Osaka Iron Works, Ltd.

when made 1918

Boilers made at

do

By whom made

do

when made do

Registered Horse Power

Owners

The Osaka Shosen Kaisha

Port belonging to

Osaka

Nom. Horse Power as per Section 28

390

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

3

Dia. of Cylinders

24" 41" 67"

Length of Stroke

48"

Revs. per minute

65

Dia. of Screw shaft

as per rule 13.96
as fitted 14 1/2"

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 is in more than one length are the joints burned

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

Tightly fitted

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

Length of stern bush

5' 4"

Dia. of Tunnel shaft

as per rule 12.46
as fitted 12 3/4"

Dia. of Crank shaft journals

as per rule 13.09
as fitted 13 1/4"

Dia. of Crank pin

13 1/2"

Size of Crank webs

8 1/2" x 25"

Dia. of thrust shaft under

collars

13 1/4"

Dia. of screw

17' 0"

Pitch of Screw

17' 0"

No. of Blades

4

State whether moveable

No.

Total surface

90 sq ft

No. of Feed pumps

Two

Diameter of ditto

4"

Stroke

25"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

Two

Diameter of ditto

4 1/2"

Stroke

25"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Two

Sizes of Pumps

Bal. 9 1/2" x 12" x 10" dup.

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

In Engine Room

Well 3 1/2"

Two wings 3 1/2"

Seri. 7 1/2" x 5 1/2" x 6"

In Holds, &c. Nos. 1 & 2 holds Each 3 1/2" cen & two 2 1/4" wings

Tunnel well 3 1/2"

After (No 3) hold, two 3 1/2" cen & two 2 1/4" wings

No. of Bilge Injections

1 size

Connected to condenser, or to circulating pump

Cir. 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

Larger valves: Smaller Cocks

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 Eng. Rm. upper platform

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel Duxons Iron & Steel Co. Old Steel Co. Alleghany Steel Co.
Beighton's Patent Fire & Tube Co.

Total Heating Surface of Boilers

5400

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

30/10/18: 3/11/18

No. of Certificate

Lloyd's N.D. TEST
360 LBS
30/10/18: 3/11/18 Y.D.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63 1/4 sq ft

No. and Description of Safety Valves to

each boiler

Two Direct Spring

Area of each valve

3" dia

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

12"

Mean dia. of boilers

15' 0"

Length

12' 0"

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

Dup. Tw.

long. seams

Dup. shps.

Diameter of rivet holes in long. seams

1 5/16"

Pitch of rivets

9" x 11 1/2"

Top of plates or width of butt straps

19 1/2" x 1 1/8"

Per centages of strength of longitudinal joint

rivets 89.25
plate 85.41

Working pressure of shell by rules

188 lbs

Size of manhole in shell

12" x 16"

Size of compensating ring

2' 10" x 3' 2"

No. and Description of Furnaces in each boiler

3 Beighton's

Material

Steel

Outside diameter

48 1/4"

Length of plain part

top 19 1/2"
bottom 19 1/2"

Thickness of plates

crown 19 1/2"
bottom 19 1/2"

Description of longitudinal joint

Welded

No. of strengthening rings

Yes

Working pressure of furnace by the rules

199

Combustion chamber plates: Material

Steel

Thickness: Sides

5/8"

Back

5/8"

Top

5/8"

Bottom

7/8"

Pitch of stays to ditto: Sides

8 x 8 1/2"

Back

8 1/2 x 8 1/2"

Top

9 x 8"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

187 lbs

Material of stays

Steel

Area at smallest part

1.79 sq ft

Area supported by each stay

8 1/2 x 8 1/2"

Working pressure by rules

187 lbs

End plates in steam space:

Material

Steel

Thickness

1 7/32"

Pitch of stays

18 x 20"

How are stays secured

Double nut

Working pressure by rules

194 lbs

Material of stays

Steel

Area at smallest part

7.5 sq ft

Area supported by each stay

18 x 20"

Working pressure by rules

216 lbs

Material of Front plates at bottom

Steel

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

13 3/4" bottom

Working pressure of plate by rules

180 lbs

c.c. stays, doubled 1/2"

Diameter of tubes

3"

Pitch of tubes

4 1/2" 4 1/4"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

9 1/2"

Pitch across wide water spaces

13 1/4"

Working pressures by rules

180 lbs

Girders to Chamber tops: Material

Steel

thickness of girder at centre

9 1/2" x 7"

Length as per rule

34"

Distance apart

9"

Number and pitch of stays in each

3 @ 8"

Working pressure by rules

212 lbs

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

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

Diameter of Safety Valve

Pressure to which each is adjusted

Is Easing Gear fitted

W1350-0180

IS A DONKEY BOILER FITTED? No.

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

4 Crosshead bolts & nuts. ✓ Set valve spindles
2 Crank pin bolts & nuts. ✓ Set eccentric rods
Set coupling bolts & nuts ✓ Air pump rod
2 main bearing bolts & nuts. ✓ Circulating pump rod
Piston springs for all pistons ✓ Set feed & bilge pump valves ✓
Crank pin & Crosshead brasses. ✓ + seats.

The foregoing is a correct description,



Dates of Survey while building
During progress of work in shops -- 13.30 Mar. 5.18.23 Apr. 1.10.22 May 10.20.29 June 5.9.16 July 6.9.13.22.26.28.29 August
During erection on board vessel -- 16.18.25.30. Sept 3.8.10.24.30 Oct. 5.9.20.29 Nov.
Total No. of visits 37. 12.17.23 Dec. 1918 7 Jan 1919

Is the approved plan of main boiler forwarded herewith Geo. (Photo must be sent) None
" " " donkey " " " "

Dates of Examination of principal parts—Cylinders 13/3/18 Etc Slides 5/4/18 Covers 18/4/18 Pistons 18/4/18 Rods 30/9/18
Connecting rods 10/10/18 Crank shaft 18/9/18 Thrust shaft 29/11/18 Etc Tunnel shafts 29/8/18 Screw shaft 20/11/18 Propeller 20/11/18
Stern tube 18/9/18 Steam pipes tested 12/12/18 Engine and boiler seatings 20/11/18 Engines holding down bolts 17/12/18
Completion of pumping arrangements 23/12/18 Boilers fixed 12/12/18 Engines tried under steam 17/12/18
Completion of fitting sea connections 29/11/18 Stern tube 9/11/18 Screw shaft and propeller 29/11/18
Main boiler safety valves adjusted 17/12/18 Thickness of adjusting washers Star. Ber. 3/4" x 7/8" Port Ber. 7/8" x 1"
Material of Crank shaft Steel Identification Mark on Do. 18.9.18 LLOYD'S Material of Thrust shaft Steel Identification Mark on Do. 29.1.18 LLOYD'S
Material of Tunnel shafts Steel Identification Marks on Do. 9/8/18, 13/8/18, 29/8/18, 30/8/18 LLOYD'S Material of Screw shafts Steel Identification Marks on Do. 22.8.18 LLOYD'S
Material of Steam Pipes S. D. Steel 5/16 thick 6 bore Test pressure 340 lbs ALJ. R. 29/8/18 29/8/18 Y. D. R.
Is an installation fitted for burning oil fuel No ✓ Is the flash point of the oil to be used over 150°F. ✓
LLOYD'S 20.11.18
LINER FITTED 20.11.18

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 Juku Maru, Yamato Maru, "War maid" etc ✓

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

The machinery has been made & fitted under Special Survey in accordance with the Rule requirements & the materials & workmanship have been found good.

The vessel is eligible in my opinion for the notation + L.M.C. 1.1919

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 1.19 F.D.

The amount of Entry Fee ... Yen 30 : When applied for, 11 Jan 1919
Special ... Yen 691 :
Donkey Boiler Fee ... £ : When received, 21 Jan 1919
Travelling Expenses (if any) Yen 10 :

Committee's Minute

Assigned

MINISTRY CERTIFICATE WRITTEN.

Engineer Surveyor to Lloyd's Register of Shipping.



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