

## REPORT ON MACHINERY.

No. 1922

Received at London Office MON 8-JAN. 1917

Date of writing Report 18<sup>th</sup> Nov. 1916 When handed in at Local Office

Port of Kobe

No. in Survey held at  
Reg. Book.

Kobe

Date, First Survey 9<sup>th</sup> Aug 1915 Last Survey 20<sup>th</sup> October 1916

on the Steel Single Screw Steamer "Siam Maru"

(Number of Visits 54)

Tons Gross 4548.10

Net 2815.69

When built 1916-10

Master J. Miyata

Built at

Kobe

By whom built

The Kawasaki Dryd Co. Ltd

Engines made at

Kobe

By whom made

The Kawasaki Dockyard Co. Ltd

when made

1916

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

391

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

## ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders

26: 43 $\frac{1}{2}$ : 72

Length of Stroke

48

Revs. per minute

40

Dia. of Screw shaft

as per rule 15.41

Material of

Steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube

No liner

Is the after end of the liner made water tight

in the propeller boss

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

No liners

Length of stern bush

5' 5 $\frac{1}{4}$ "

Dia. of Tunnel shaft

as per rule 13.48

as fitted 13 $\frac{3}{4}$ "

Dia. of Crank shaft journals

as per rule 14.15

as fitted 14 $\frac{1}{2}$ "

Dia. of Crank pin

14 $\frac{3}{4}$ "

Size of Crank webs

9 $\frac{1}{2}$  x 20 $\frac{1}{2}$ "

Dia. of thrust shaft under

collars

14 $\frac{3}{8}$ "

Dia. of screw

17 $\frac{1}{2}$ "

Pitch of Screw

18" 0 to 20" 0

No. of Blades

4

State whether moveable

Yes

Total surface

100 sq. ft.

No. of Feed pumps

One

Diameter of ditto

5"

Stroke

24"

Can one be overhauled while the other is at work

Yes

9 Weirs feed pump.

No. of Bilge pumps

Two

Diameter of ditto

5"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

Four

Sizes of Pumps

Bal. hor. dup. 10" 11" 12"

Gen. Dry. 7" 2" 2"

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

In Engine Room

Three 3 $\frac{1}{2}$ " + one 3"

In Engine Room

Three 3 $\frac{1}{2}$ " + one 3"

to tunnel well

Small " 5 $\frac{1}{2}$  3 $\frac{1}{2}$  9 dup

In Holds, &amp;c.

Nos 1, 3 + 4 holds, two 3 $\frac{1}{2}$ " each

No. 2 hold, two 4" each

No. of Bilge Injections

1

sizes

10"

Connected to condenser, or to circulating pump

Cir. p.

Is a separate Donkey Suction fitted in Engine room &amp; size

Yes

3 $\frac{1}{2}$ "

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

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, &amp;c.—(Letter for record S)

Manufacturers of Steel

Beardmore &amp; Co.

Total Heating Surface of Boilers

4609

Is Forced Draft fitted

Yes

No. and Description of Boilers

Two Single Ended

Working Pressure

200 lbs

Tested by hydraulic pressure to

Hov lbs

Date of test

12<sup>th</sup> 18 Aug 1916

No. of Certificate

LLOYD'S TEST  
400 lbs  
12-8-16-18-8-16  
A.L.J. R.

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

60.5

No. and Description of Safety Valves to

each boiler

Two Direct Springs

Area of each valve

3 $\frac{3}{4}$  dia.

Pressure to which they are adjusted

205 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

14 $\frac{1}{2}$ "

Length

12'-0"

Material of shell plates

Steel

Thickness

1 $\frac{5}{16}$ "

Range of tensile strength

29-32 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Drub. riv.

long. seams

Drub. riv.

Diameter of rivet holes in long. seams

1 $\frac{3}{8}$ "

Pitch of rivets

8 $\frac{3}{4}$  + 4 $\frac{3}{8}$ 

Top of plates or width of butt straps

1' 7 $\frac{5}{8}$ "

Per centages of strength of longitudinal joint

rivets 95.8

plate 84.3

Working pressure of shell by rules

209 lbs

Size of manhole in shell

16" x 12"

Size of compensating ring (1 $\frac{1}{2}$  + flange) x 1 $\frac{5}{16}$ "

all round.

No. and Description of Furnaces in each boiler

Three 'monsoon'

Material

Steel

Outside diameter

48 $\frac{1}{4}$ "

Length of plain part

top

bottom

Thickness of plates

crown 5 $\frac{1}{8}$ "

Description of longitudinal joint

Weld

No. of strengthening rings

Working pressure of furnace by the rules

208 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

1 $\frac{1}{16}$ "

Back

1 $\frac{1}{16}$ "

Top

1 $\frac{1}{16}$ "

Bottom

Pitch of stays to ditto: Sides

8 $\frac{5}{8}$  x 8 $\frac{1}{2}$ 

Back

9 x 8 $\frac{1}{2}$ 

Top

9 $\frac{3}{8}$  x 8 $\frac{1}{2}$ 

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

204 lbs

Material of stays

Steel

Area at smallest part

2.1

Area supported by each stay

9 $\frac{3}{8}$  x 8 $\frac{1}{2}$ 

Working pressure by rules

230 + End plates in steam space:

Material

Steel

Thickness

1 $\frac{5}{16}$ "

Pitch of stays

19 $\frac{3}{4}$  x 20 $\frac{1}{2}$ 

How are stays secured

Drub. nuts

Working pressure by rules

201 lbs

Material of stays

Steel

Area at smallest part

10.1

Area supported by each stay

19 $\frac{3}{4}$  x 20 $\frac{1}{2}$ 

Working pressure by rules

260

Material of Front plates at bottom

Steel

Thickness

1 $\frac{3}{16}$ "

Material of Lower back plate

Steel

Thickness

3 $\frac{1}{4}$ "

Greatest pitch of stays

13 $\frac{1}{2}$ "

Working pressure of plate by rules

200 lbs

water sp. doubled 3 $\frac{1}{4}$ "

Diameter of tubes

3 $\frac{1}{4}$ "

Pitch of tubes

4 $\frac{7}{16}$  x 4 $\frac{5}{16}$ 

Material of tube plates

Steel

Thickness: Front

1 $\frac{3}{16}$ "

Back

1 $\frac{3}{16}$ "

Mean pitch of stays

8 $\frac{3}{4}$ "

Pitch across wide water spaces

13 $\frac{3}{4}$ "

Working pressures by rules

200 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10 $\frac{1}{2}$  x 13 $\frac{1}{16}$ 

Length as per rule

34 $\frac{1}{2}$ "

Distance apart

9 $\frac{3}{8}$ "

Number and pitch of stays in each

Working pressure by rules

230 lbs

Steam dome: description of joint to shell

Yes

% of strength of joint

Yes

Diameter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Pitch of rivets

Working pressure of shell by rules

Crown



IS A DONKEY BOILER FITTED?

Yes

If so, is a report now forwarded?

Yes

SPARE GEAR. State the articles supplied:— Four main bearing bolts & nuts. Two crank pin bolts & nuts. Two cross head bolts & nuts. Set coupling bolts & nuts. Set feed pump valves & seats. Set bilge pump valves & seats. Set packing rings & springs for all pistons. Set pump ring bolts. Assorted bolts & nuts. Iron of various sizes.

One crank shaft. One propeller shaft. 4 propeller blades with 2 sets studs & nuts. Slide valve rod each size. Centrif. fan & shaft. Set crosshd. & crank pin brasses. Air pump rod & nut. 3 safety valve springs. 30 Condenser tubes etc. etc.

The foregoing is a correct description.

Kawasaki Dockyard Co., Ltd.

Per

Shanama

Manufacturer.

Secretary.

Dates of Survey while building: During progress of work in shops - 9 Aug. 11.13 Sep. 4.7.12.28 Oct. 4.11.20.24 Dec 1915. 8.17 Jan. 7.12.21 Feb. 8.15.29.31 March. During erection on board vessel - 8.11.19.25 April. 1.4.8.26 May. 2.9.12.14 June. 6.17.19.28 July 5.12.14.18.21.24.26. Total No. of visits 54

Is the approved plan of main boiler forwarded herewith Yes

Dates of Examination of principal parts—Cylinders 9/8/15 etc Slides 11/12/15 etc Covers 4/12/15 etc Pistons 7/12/16 etc Rods 25/4/16 etc Connecting rods 25/4/16 etc Crank shaft 2/6/16 etc Thrust shaft 12/6/16 etc Tunnel shafts 4/5/16 etc Screw shaft 2/6/16 etc Propeller 9/6/16 etc Stern tube 28/7/16 etc Steam pipes tested 4/9/16 12/9/16 Engine and boiler seatings 21 Aug 16 Engines holding down bolts 7 Sept.

Completion of pumping arrangements 16 Sept 1916 Boilers fixed 7 Sept 1916 Engines tried under steam 30 Sept 1916 Completion of fitting sea connections 26 Aug 1916 Stern tube 24 Aug 1916 Screw shaft and propeller 28 Aug 1916 Main boiler safety valves adjusted 22 Sept 1916 Thickness of adjusting washers Port boiler 7/16 Star boiler 7/16

Material of Crank shaft Steel Identification Mark on Do. Nos. 214/215 Lloyd's G.H. 1.16 Material of Thrust shaft Steel Identification Mark on Do. No. 205 Lloyd's G.H. 1.16 Material of Tunnel shafts Steel Identification Marks on Do. Lloyd's No. 206/210 G.H. 1.16 Material of Screw shafts Steel Identification Marks on Do. Lloyd's G.H. 1.16

Material of Steam Pipes Steel Test pressure 400 lbs.

Is an installation fitted for burning oil fuel 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 No. If so, state name of vessel

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

The machinery & boilers have been made & fitted under Special Survey & the material & workmanship have been found good & the dimensions in accordance with the Society's rules.

The vessel is in my opinion eligible for the record & L.M.C.

The shafting is made by The Imperial Steel Works at Maroran.

It is submitted that this vessel is eligible for

THE RECORD + L.M.C. 10.16.

F.D.

J.W.D.

9/1/17.

Arthur L. Jones

Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... Yen 30 : Special ... 593.25 : Donkey Boiler Fee ... 50 : Travelling Expenses (if any) £ : When applied for, 1st Nov. 1916. When received, 18 Nov. 1916.

Committee's Minute FRI. 12 JAN. 1917

Assigned

+ L.M.C. 10.16

MACHINERY CERTIFICATE

WRITTEN

F.D.



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