

REPORT ON MACHINERY.

No. 938

Port of NAGASAKI.

Received at London Office WED. OCT. 28. 1914

No. in Survey held at

NAGASAKI.

Date, first Survey 3rd May, 1913 Last Survey 18th Sept 1914

Reg. Book.

on the

Twin s.s. "Suwa Maru"

(Number of Plates 206)

Tons

Gross 11738

Net 7290

Master J. Murai

Built at

Nagasaki

By whom built

Mitsui Bishi Dockyard & Engine Works when made 1914

Engines made at

Nagasaki

By whom made

Mitsui Bishi Dockyard & Engine Works when made 1914

Boilers made at

Nagasaki

By whom made

Mitsui Bishi Dockyard & Engine Works when made 1914

Registered Horse Power

1337

Owners

Nippon Yusen Kaisha

Port belonging to Tokio

Nom. Horse Power as per Section 28

1337

Is Refrigerating Machinery fitted for cargo purposes

No.

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines

Twin screw, triple expansion

No. of Cylinders

No. of Cranks

Dia. of Cylinders

28" 47" & 79"

Length of Stroke

51"

Revs. per minute

88.7

Dia. of Screw shaft

as per rule 16.53"

Material of (forged steel as fitted 16.5" screw shaft)

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

If two

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

Length of stern bush

6' 9"

Dia. of Tunnel shaft

as per rule 14.54"

Dia. of Crank shaft journals

as per rule 15.36"

Dia. of Crank pin

16"

Size of Crank webs

10 1/2" x 34"

Dia. of thrust shaft under

collars

15 1/2"

Dia. of screw

17' 9"

Pitch of Screw

20' 6"

No. of Blades

14

State whether moveable

Yes

Total surface 102.8 sq. ft. each

No. of Feed pumps

4

Diameter of ditto

5"

Stroke

25 1/2"

Can one be overhauled while the other is at work

Yes

No. of Bilge pumps

4

Diameter of ditto

5"

Stroke

25 1/2"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

3 sets Duplex

Sizes of Pumps

12" x 14" x 12"

2 Hairs 11 1/2" x 15 1/2" x 26"

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

12" x 14" x 12"

2 Hairs 8" x 10 1/2" x 22"

In Engine Room

30 4"

In Boiler room

20 4"

In Holds, &c.

No. 1 Hold 20 4"

No. 2 Hold 20 4"

No. 3 Hold 20 4"

No. 4 Hold 20 4"

No. of Bilge Injections

2

sizes 13"

Connected to condenser, or to circulating pump

Is a separate Donkey Suction fitted in Engine room & size

Yes 20 4"

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

Bilge pipes

How are they protected

with steel plate cover

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

Dates of examination of completion of fitting of Sea Connections

26th March 1914

of Stern Tube

26th March 1914

Screw shaft and Propeller

27th July 1914

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from upper deck

BOILERS, &c.—(Letter for record S)

Manufacturers of Steel

David Colville & Sons

Total Heating Surface of Boilers

19742 sq. ft.

Is Forced Draft fitted

Yes

No. and Description of Boilers

7 Single ended Scotch

Working Pressure

200 lbs.

Tested by hydraulic pressure to

400 lbs.

Date of test

23.12.13 and 13.1.14

No. of Certificate

57 for Nos. 5, 6, 7, 8

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

63.25

No. and Description of Safety Valves to

each boiler

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

15.6"

Length

11.9"

Material of shell plates

Steel

Thickness

1 7/16"

Range of tensile strength

28,632 tons

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

Double

riveted lap.

long. seams

2 straps

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

10" x 5"

Lap of plates or width of butt straps

22"

Per centages of strength of longitudinal joint

rivets 91.4

plate 85

Working pressure of shell by rules

211 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring

36 1/2" x 52 1/2" x 1 1/2"

No. and Description of Furnaces in each boiler

3 sets: Forge Bulk type

Material

Steel

Outside diameter

57 1/2"

Length of plain part

top 5"

Thickness of plates

bottom 5"

Description of longitudinal joint

Welded

No. of strengthening rings

None

Working pressure of furnace by the rules

213 lbs.

Combustion chamber plates: Material

Steel

Thickness: Sides

1 1/2"

Back

1 1/2"

Top

Pitch of stays to ditto: Sides

9 1/2" x 7 1/2"

Back

9" x 8 1/2"

Top

8 1/2" x 8"

If stays are fitted with nuts or riveted heads

None

Material of stays

Steel

Diameter at smallest part

1 3/4"

Area supported by each stay

76 sq. in.

Working pressure by rules

239 lbs.

End plates in steam space:

Material

Steel

Thickness

1 3/4"

Pitch of stays

20" x 17"

How are stays secured

at both ends

Working pressure by rules

Diameter at smallest part

3 3/8"

Area supported by each stay

340 sq. in.

Working pressure by rules

235 lbs.

Material of Front plates at bottom

Steel

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

11 1/2" x 7"

Working pressure of plate by rules

Diameter of tubes

3"

Pitch of tubes

4 5/8" x 4 3/8"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

Pitch across wide water spaces

13 1/2"

Working pressures by rules

248 lbs.

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

10" x 7 1/2" double

Length as per rule

32 1/2"

Distance apart

8"

Number and pitch of stays in each

8 x 8 1/2"

Working pressure by rules

300 lbs.

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately

Description of longitudinal joint

Diam. of rivet

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet

Pitch of rivets

Working pressure of shell by rules

Diameter of flue

Material of flue plates

Thickness

End plates: Thickness

How stayed

If stiffened with rings

Distance between rings

Working pressure by rules

End plates: Thickness

How stayed

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Foundation

