

Rpt. 4.

REPORT ON MACHINERY.

No. 2780

TUE MAY 26 1920

Date of writing Report 10th Apr. 1920

When handed in at Local Office

Received at London Office

No. in Survey held at Kobe

Reg. Book.

Port of Kobe

Date, First Survey 30th Sept 1919Last Survey 6th April 1920

on the Steel Single Screw Steamer "SWEDEN MARU"

(Number of Visits 64.)

Master B. Fukuya

Built at

Kobe

By whom built

Kawasaki Dockyard Co. Ltd.

Tons Gross 5869.86

Net 4266.26

Engines made at

Kobe

By whom made

Kawasaki Dockyard Co. Ltd.

When made

1920

Boilers made at

do

By whom made

do

when made

1920

Registered Horse Power

437

Owners

Kawasaki Kisen Kaishiki

Port belonging to

Kobe

Nom. Horse Power as per Section 28

440

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 26" 43½" 72"

Length of Stroke 48"

Revs. per minute 70

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

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

If two

Dia. of Tunnel shaft

as per rule 13.48

Dia. of Crank shaft journals

as per rule 14.15

Dia. of Crank pin

14¾"

Size of Crank webs

9½" x 20½"

Dia. of thrust shaft under

collars

14¾"

Dia. of screw

17" 6"

Pitch of Screw

19" 0" mean

No. of Blades 4

State whether moveable

yes

No. of Feed pumps One

Diameter of ditto 5"

Stroke 24"

Can one be overhauled while the other is at work

yes (with Weir's Feed)

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 Three

Sizes of Pumps

Weir's Feed 9½" x 7" x 24" two

Ballast 10" x 11" x 12" dupl.

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

In Engine Room

Three 3½"

In Holds, &c.

No. of Bilge Injections 1

sizes 9"

Connected to condenser, or to circulating pump

Cn. p.

Is a separate Donkey Suction fitted in Engine room & size

yes 3½"

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 the Discharge Pipes above or below the deep water line

above

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates

yes

Are the Blow Off Cocks fitted with a spigot and brass covering plate

yes

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel

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 Up^r platform of Eng. Rm.

BOILERS, &c.—(Letter for record

Manufacturers of Steel

Illinois Stl. Co., Carnegie Stl. Co., Am. Spiral Co. (Furnaces)

2304.5 2252 x 2 + 1132 (AUX. BLR.)

Total Heating Surface of Boilers = 5636 sq. ft.

Is Forced Draft fitted

yes

No. and Description of Boilers

Two S. & C. Aux. S. & C.

Working Pressure

200 lbs.

Tested by hydraulic pressure to

400 lbs.

Date of test

No. of Certificate

Can each boiler be worked separately

yes

Area of fire grate in each boiler

60½ sq. ft.

No. and Description of Safety Valves to

each boiler

Two Spring loaded

Area of each valve

3¾" dia.

Pressure to which they are adjusted

205 lbs.

Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork

12"

Mean dia. of boilers

14' 6"

Length

12' 0"

Material of shell plates

Thickness

1½"

Range of tensile strength

2678 to 32100

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

ends doub.

long. seams

Double riveted

Diameter of rivet holes in long. seams

1¾"

Pitch of rivets

8¼" 4¾"

Lap of plates or width of butt straps

19½" x 1¼"

Per centages of strength of longitudinal joint

rivets 95.84

plate 84.28

Working pressure of shell by rules

201 lbs.

Size of manhole in shell

16" x 12"

Size of compensating ring (7' 8" flange)

1¾"

No. and Description of Furnaces in each boiler

3 Morrison's

Material

steel

Outside diameter

Length of plain part

top

Thickness of plates

crown 2½"

Description of longitudinal joint

Weld

No. of strengthening rings

yes

Working pressure of furnace by the rules

221 lbs.

Combustion chamber plates: Material

steel

Thickness: Sides

1/16"

Back

1/16"

Top

Pitch of stays to ditto: Sides

8½" x 8½"

Back

8½" x 9"

Top

8½" x 9½"

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules

Material of stays

steel

Area at smallest part

2.10"

Area supported by each stay

8½" x 9½"

Working pressure by rules

230 lbs.

End plates in steam space:

Material

steel

Thickness

1½"

Pitch of stays

19¾" x 20½"

How are stays secured

Double nuts

Working pressure by rules

Area at smallest part

10"

Area supported by each stay

19¾" x 20½"

Working pressure by rules

260 lbs.

Material of Front plates at bottom

steel

Thickness

13/16"

Material of Lower back plate

steel

Thickness

¾"

Greatest pitch of stays

13½" at wide

Working pressure of plate by rules

Diameter of tubes

3¼"

Pitch of tubes

4½" x 4½"

Material of tube plates

steel

Thickness: Front

1"

Back

Pitch across wide water spaces

13½" x 5" dupl.

Working pressures by rules

240 lbs.

Girders to Chamber tops: Material

steel

Depth and

thickness of girder at centre

10¼" x 13/16" (2)

Working pressure by rules

220 lbs.

Steam dome: description of joint to shell

None

% 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 plates

Thickness

How stayed

yes

SUPERHEATER. Type

yes

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

W668-0083

Lloyd's Register
Foundation