

REPORT ON MACHINERY.

No. 2823

Received at London Office MON. 13 JUN 1921

Date of writing Report 3rd May, 1921 When handed in at Local Office

Port of YOKOHAMA

No. in Survey held at YOKOHAMA

Date, First Survey 30th Oct, 1920 Last Survey 2nd May, 1921

Reg. Book.

(Number of Visits 61)

on the Steel Twin Screw Steamer " MATSUMOTO MARU " (Yard No. 81)

Gross 7024.73

Net 4334.12

When built 1921

Master Kenzo Kurihara Built at YOKOHAMA

By whom built Yokohama Dock Co., Ltd

Engines made at YOKOHAMA

By whom made Yokohama Dock Co., Ltd

when made 1921

Boilers made at YOKOHAMA

By whom made Yokohama Dock Co., Ltd

when made 1921

Registered Horse Power

Owners Nippon Yusen Kabushiki Kaisha

Port belonging to Tokyo

Nom. Horse Power as per Section 28 632

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines

Twin Triple Reciprocating

No. of Cylinders 6

No. of Cranks 6

Dia. of Cylinders 20 1/2 x 33 1/2 x 56

Length of Stroke 48

Revs. per minute 90

Dia. of Screw shaft 13.1

Material of S

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 X

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 XX

If two

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

Length of stern bush 62

Dia. of Tunnel shaft 11.61

Dia. of Crank shaft journals 12.2

Dia. of Crank pin 12.75

Size of Crank webs 17 1/2 x 8 1/2

Dia. of thrust shaft under

collars 12 1/2

Dia. of screw 15 1/2

Pitch of Screw 18 1/2

No. of Blades 4

State whether moveable Yes

Total surface 78 sq ft

No. of Feed pumps 2

Diameter of ditto 4 1/2

Stroke 24

Can one be overhauled while the other is at work Yes

No. of Bilge pumps 4

Diameter of ditto 3 1/2

Stroke 24

Can one be overhauled while the other is at work Yes

No. of Donkey Engines 4

Sizes of Pumps B.P. 10 x 12 x 12

G.S. 8 1/2 x 6 x 9

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

In Engine Room 3-3 1/2

Oil P. 10 x 12 x 12

In Holds, &c. No. 2 hold 2-4

Nos. 1, 3, 4, 5, 6, 7, 2 each

3 1/2, tunnel 4-3

tunnel well one 3

fore peak 1-3

chain locker 1-1 1/2

after peak 1-3

No. of Bilge Injections 2

sizes 8

Connected to circulating pump Yes

Is a separate Donkey Suction fitted in Engine room & size two 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 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 Below

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 Nos. 1, 2, 3, 4, hold bilge pipes

How are they protected Wood lining

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 E.R. top platform

BOILERS, &c.—(Letter for record S.)

Manufacturers of Steel D. Colville and Sons Ltd

Total Heating Surface of Boilers 9200

Is Forced Draft fitted Yes

No. and Description of Boilers 4

Multitubular

Working Pressure 200

Tested by hydraulic pressure to 400

Date of test 18-3-21

No. of Certificate 59-60-1-2

Can each boiler be worked separately Yes

Area of fire grate in each boiler 56.2

No. and Description of Safety Valves to

each boiler 2 Spring loaded

Area of each valve 9.6 sq in

Pressure to which they are adjusted 205

Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 18

Mean dia. of boilers 14-3

Length 11-6

Material of shell plates S

Thickness 15/16 Range of tensile strength 26 to 32

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams D.R.L.

long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1-3/8

Pitch of rivets 9 1/2

Lap of plates or width of butt straps 20 1/2

Per centages of strength of longitudinal joint rivets 88.4

plate 85.6

Working pressure of shell by rules 209

Size of manhole in shell 16 x 12

Size of compensating ring 36 x 30 3/4

No. and Description of Furnaces in each boiler 3 E.C.

Material S

Outside diameter 41 1/4

Length of plain part top XX

Thickness of plates crown 5/8

Description of longitudinal joint Weld

No. of strengthening rings X

Working pressure of furnace by the rules 244

Combustion chamber plates: Material S

Thickness: Sides 11/16

Back 11/16

Top 11/16

Bottom 15/16

Pitch of stays to ditto: Sides 9 x 8

Back 9 x 8 1/2

Top 9 x 8 1/2

If stays are fitted with nuts or riveted heads Nuts

Working pressure by rules 212

Material of stays S

Area at smallest part 2.07

Area supported by each stay 76.8

Working pressure by rules 243

End plates in steam space:

Material S

Thickness 1 7/32

Pitch of stays 16 1/2 x 19 1/2

How are stays secured D. Nuts

Working pressure by rules 208

Material of stays S

Area at smallest part 7.06

Area supported by each stay 318 sq in

Working pressure by rules 230

Material of Front plates at bottom S

Thickness 3/4

Material of Lower back plate S

Thickness 11/16

Greatest pitch of stays 13 5/8 x 8 1/2

Working pressure of plate by rules 236

Diameter of tubes 3 1/4

Pitch of tubes 4 1/2 x 4 3/8

Material of tube plates S

Thickness: Front 3/4

Back 3/4

Mean pitch of stays 9

Pitch across wide water spaces 13 3/4

Working pressures by rules 212

Girders to Chamber tops: Material S

Depth and

thickness of girder at centre 10 x 1 1/2

Length as per rule 29 1/2

Distance apart 8 1/2

Number and pitch of stays in each 2 - 9

Working pressure by rules 327

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

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One crank shaft, one propeller shaft, one set coupling bolts and nuts, two main bearing bolts, one set of feed and bilge pump valves, one set connecting rod top end bolts and nuts, one set bottom end bolts and nuts, one set top and bottom ends, one piston rod, one valve spindle, one air pump rod, one set rings for each piston and piston valve of both engines, two propeller blades for each engine, $\frac{1}{4}$ total number junk ring bolts, twelve cylinder cover nuts and studs, three escape valve springs, $\frac{1}{30}$ total number condenser tubes, one pair eccentric rod and straps, four safety valve springs, twelve boiler tubes, a quantity of assorted bolts and nuts and iron of various sizes etc.

The foregoing is a correct description,

Sanatara

Topio

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Octr 30, Novr 4, 5, 6, 10, 13, 18, 26, 27, Decr 1, 3, 14, 22, 23, 24, 27, 28, Jan 7, 10, 11, 13, 18, 19, 20, 22, 24, 28, 31, Feb 3, 4, 7, 10, 15, 17, 19, 22, 23, 24, 26, Mar 1, 4, 5, 8, 10, 15, 18, 24, 25, 29, 30, 31, Apl 5.
During erection on board vessel -- April 11, 13, 18, 21, 23, 27, May 2.
Total No. of visits 61.

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 3-2-21 Slides 7-2-21 Covers 7-2-21 Pistons 24-12-20 Rods 24-12-20
Connecting rods 22-2-21 Crank shaft 22-2-21 Thrust shaft 22-9-20 Tunnel shafts 18-3-21 Screw shaft 27-8-20 Propeller 30-3-21
Stern tube 11-1-21 Steam pipes tested 31-3-21 Engine and boiler seatings 18-4-21 Engines holding down bolts 18-4-21
Completion of pumping arrangements 23-4-21 Boilers fixed 18-4-21 Engines tried under steam 27-4-21
Completion of fitting sea connections 5-4-21 Stern tube 24-3-21 Screw shaft and propeller 5-4-21
Main boiler safety valves adjusted 23-4-21 Thickness of adjusting washers Jam Nuts
Material of Crank shaft S Identification Mark on Do. J.S.C. Material of Thrust shaft S Identification Mark on Do. No 208
Material of Tunnel shafts S Identification Marks on Do. Material of Screw shafts S Identification Marks on Do. R.O.B.
Material of Steam Pipes Steel Test pressure 600 lbs

Is an installation fitted for burning oil fuel No

Is the flash point of the oil to be used over 150°F. xx

Have the requirements of Section 49 of the Rules been complied with xx

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 of this

vessel has been built under special survey in accordance with the approved plans and the Society's Rules, the materials and workmanship are good, the machinery has been satisfactorily tried under steam, and is in my opinion eligible for record LMC 5-21.

It is submitted that this vessel is eligible for THE RECORD + LMC 5. 21. F.D. CL.

The amount of Entry Fee ... Y 60.00 When applied for, Special ... 903.00 3-5-19-21 Donkey Boiler Fee ... £ Travelling Expenses (if any) Y 43.00 10-5-19-21

Committee's Minute FRI. 17 JUN. 1921

Assigned + L.D. 5. 21.

F.D. c.L.

Engineer Surveyor to Lloyd's Register of Shipping.

TUE. 6 SEP. 1921

Lloyd's Register Foundation