

REPORT ON MACHINERY.

No. 2755

Received at London Office

TUE. 22 FEB. 1921

Date of writing Report Dec 29 1920 When handed in at Local Office

Port of Yokohama

No. in Survey held at Uraga

Date, First Survey May 28th

Last Survey Dec 13 1920

Reg. Book.

(Number of Visits 57)

on the Steel Single Screw Steamer "LUSHAN-MARU"

er Seizo Kusakari Built at Uraga

By whom built Uraga Dock Co Ltd

nes made at Uraga

By whom made

Uraga

Dock Co Ltd

when made

1920

rs made at Do

By whom made

DO.

when made

1920

tered Horse Power

Owners Nishui Kaen Kabushiki Kaisha

Port belonging to Tokyo

Horse Power as per Section 28 303

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

INES, &c.—Description of Engines

Reciprocating, triple expansion Eng. No. of Cylinders 3

No. of Cranks 3

of Cylinders 21" x 35" x 58"

Length of Stroke 39

Revs. per minute 80-90

Dia. of Screw shaft

as per rule 12-12

Material of

A.H. Steel

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

e propeller boss Yes

If the liner is in more than one length are the joints burned

If the liner does not fit tightly at the part

en the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive Yes

If two

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

Length of stern bush 54"

of Tunnel shaft as per rule 10-95

Dia. of Crank shaft journals as per rule 11-45

as fitted 11-75

Dia. of Crank pin 12"

Size of Crank webs 22x7 5/8

Dia. of thrust shaft under

s 11 3/4 Dia. of screw 14 1/2"

Pitch of Screw 16 1/2"

No. of Blades 4

State whether moceable No

Total surface 72 sq Dwt Area

of Feed pumps 2

Diameter of ditto 3 1/2"

Stroke 21

Can one be overhauled while the other is at work Yes

of Bilge pumps 2

Diameter of ditto 3 1/2"

Stroke 21

Can one be overhauled while the other is at work Yes

of Donkey Engines 3

Sizes of Pumps

GEN.S.P. 8x5 1/2 x 8"

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

Engine Room 3 at 3" and 1 at 3 1/2" direct Connected to ball pump In Holds, &c. Nat. hold forward 2 at 3" Cross bunker forward 2 at 3"

13 1/2" in aft hold bilge well 1 at 2 1/2" in tunnel well. (2-3" Non return valves, operated from deck, fitted in hold)

of Bilge Injections 1 sizes 6 1/2"

Connected to condenser, or to circulating pump pump

Is a separate Donkey Suction fitted in Engine room & size Yes - 3 1/2"

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

all connections with the sea direct on the skin of the ship part on shell, part on kingston valves

Are they Valves or Cocks Both

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

Are the Discharge Pipes above the deep water line only

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

pipes are carried through the bunkers

Bilge pipe in Reserve Cross bunker How are they protected

Cased in. & led thro' bracket

all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes

he Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes

e Screw Shaft Tunnel watertight Yes

Is it fitted with a watertight door Yes

worked from Upper deck level in E.R.

LERS, &c.—(Letter for record 8)

Manufacturers of Steel Carnegie, U.S.A. & Yawata, Steel Works Japan.

Heating Surface of Boilers 4370-45

Is Forced Draft fitted Yes

No. and Description of Boilers Two Cylindrical, Scotch type.

ing Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test 12-10-20.

No. of Certificate 138.

each boiler be worked separately Yes

Area of fire grate in each boiler 49.5 sq

No. and Description of Safety Valves to

boiler 3" Swin. Spring loaded

Area of each valve 706

Pressure to which they are adjusted 205 lbs

Are they fitted with easing gear Yes

test distance between boilers or uptakes and bunkers on woodwork 18"

Mean dia. of boilers 13-6"

Length 12-0"

Material of shell plates A.H. Steel

ness 1 5/16 Range of tensile strength 28/32 Tons

Are the shell plates welded or flanged No

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

seams T.R.D.B. Shape Diameter of rivet holes in long. seams 1 7/16

Pitch of rivets 10"

Lap of plates or width of butt straps 21 1/2"

entages of strength of longitudinal joint rivets 91.97%

plate 85.625%

Working pressure of shell by rules 221 lbs

Size of manhole in shell 16 x 12"

of compensating ring 36 1/2 x 32 1/2 x 1 1/4"

No. and Description of Furnaces in each boiler 3 Morrison

Material Steel

Outside diameter 40 1/2"

h of plain part top

Thickness of plates crown 19"

bottom 32"

Description of longitudinal joint Welded

No. of strengthening rings

ing pressure of furnace by the rules 234 7/16

Combustion chamber plates: Material Steel

Thickness: Sides 1 1/16"

Back 1 1/16"

Top 1 1/16"

Bottom 1 3/16"

of stays to ditto: Sides 8 1/4 x 8"

Back 9 x 8"

Top 9 1/2 x 8"

If stays are fitted with nuts or riveted heads Nuts fitted

Working pressure by rules 212 lbs

rial of stays A.H. Steel

Area at smallest part 1.79

Area supported by each stay 72 sq

Working pressure by rules 224 lbs

End plates in steam space:

rial A.H. Steel Thickness 1 5/16"

Pitch of stays 20 x 19 3/4"

How are stays secured D.Nuts & Washers

Working pressure by rules 206 lbs

Material of stays A.H. Steel

at smallest part 8-2958

Area supported by each stay 395 sq

Working pressure by rules 218 lbs

Material of Front plates at bottom A.H. Steel

Thickness 7/8"

Greatest pitch of stays 13 1/2 x 8"

Working pressure of plate by rules 214-5

Diameter of tubes 3"

Pitch of tubes 4 1/4 x 4 1/8"

Material of tube plates A.H. Steel

Thickness: Front 7/8 & 5/8"

Dial. Back 3/4"

Mean pitch of stays 9 7/16"

Pitch across wide water spaces 13 1/2"

Working pressures by rules 277 lbs

Girders to Chamber tops: Material A.H. Steel

Depth and

thickness of girder at centre 9 1/2 x 10 1/4 x 1 3/8"

Length as per rule 32 5/16"

Distance apart 9 1/2"

Number and pitch of stays in each 3 at 8"

Working pressure by rules 241-54

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

PERHEATER. 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

W1265-0082

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 4 connecting rod top end bolts & nuts, 2 conn. rod bottom end bolts & nuts, 2 main bearing bolts & nuts; one set of top end brasses; one pair bottom end brasses; 6 coupling bolts & nuts; one set of feed & bilge pump valves; one set of main engine piston rings & springs; one H.P. & one L.P. valve spindle; one eccentric strap; two eccentric rods; one air pump rod; one ecc. pump impeller & shaft; one propeller shaft; one C.I. solid propeller; 6 joint ring bolts; 6 cyl. cover bolts; one set safety valve springs; 2 dog water tubes; 3 dog condenser tubes; one set cyl. escape valve springs; a quantity of assorted bolts & nuts; iron of various sizes and a quantity of hand tools

The foregoing is a correct description,

K. Ushioke

Manufacturer.

Dates of Survey while building { During progress of work in shops - - May 28 June 9, 11, 15, 25, 28, 29. JULY 5, 8, 9, 21, 26. AUG. 5, 6, 12, 16, 20, 23, 30. SEPT. 2, 3, 8, 14, 16, 17, 20, 21, 22, 27. During erection on board vessel - - - Oct. 4, 5, 6, 8, 11, 12, 15, 18, 20, 25, 27, 29. Nov. 2, 3, 9, 15, 17, 19, 22, 26, 29. Dec. 1, 3, 6, 7, 8, 10, 13. Total No. of visits 57. Is the approved plan of main boiler forwarded herewith Retained for duplicate

Dates of Examination of principal parts—Cylinders 20-9-20 Slides 22-7-20 Covers 20-9-20 Pistons 20-9-20 Rods 4-10-20 Connecting rods 4-10-20 Crank shaft 7-10-20 Thrust shaft 7-10-20 Tunnel shafts 7-10-20 Screw shaft 27-9-20 Propeller 27-9-20 Stern tube 9-7-20 Steam pipes tested 3-11-20 Engine and boiler seatings 5-10-20 Engines holding down bolts 29-11-20 Completion of pumping arrangements 7-12-20 Boilers fixed 2-11-20 Engines tried under steam 8-12-20 Completion of fitting sea connections 5-10-20 Stern tube 4-10-20 Screw shaft and propeller 29-11-20 Main boiler safety valves adjusted 6-11-20 Thickness of adjusting washers Lock nuts fitted Material of Crank shaft A.H. Steel Identification Mark on Do. 7-10-20 08 Material of Thrust shaft A.H. Steel Identification Mark on Do. 7-10-20 08 Material of Tunnel shafts A.H. Steel Identification Marks on Do. 7-10-20 08 Material of Screw shafts Steel Identification Marks on Do. 7-11-5-20 08 Material of Steam Pipes Solid drawn copper Test pressure 400 lbs water test. Is an installation fitted for burning oil fuel No 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 of this vessel have been constructed under special survey, according to the Rules & approved plans. The materials have been tested found efficient & the workmanship is good. Crank, thrust, tunnel shafting & propeller shafts supplied by Nagasaki Steel Works. Machinery & Boilers have now been efficiently fitted on board & tested under steam with satisfactory results. This case is now respectfully submitted for the Committee's consideration and Record LMC with date 12-20 in Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 12.20 FD.

RecM

23/2/21

A.P.R.

The amount of Entry Fee ... £EN 30- : When applied for, Special ... £ 616- : 14-12-1920 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) & SEE HULL REP. : 14-12-1920

A.D. Buchanan

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 1 MAR. 1921

Assigned

+ L.M.C. 12.20

F.D.

CERTIFICATE WRITTEN



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