

Rpt. 4.

REPORT ON MACHINERY.

No. 2648

FRI JUN 11 1920

Received at London Office

Date of writing Report 6-5-1920 When handed in at Local Office

Port of Yokohama

No. in Survey held at Tokyo & Tsurumi

Date, First Survey Nov 15-1919

Last Survey 26th April 1920

Reg. Book.

(Number of Visits)

on the S.S. "Erie Maru"

Gross 5467.40

Net 3409.34

Master

Built at

Tsurumi

By whom built

Asano Shipbuilding Co Ltd

When built

1920.

Engines made at

Tokyo

By whom made

Ishikawajima S. B & E Co Ltd

when made

1920.

Boilers made at

Tokyo & Uraga

By whom made

Ishikawajima S.B.& E, & Uraga Dk Co

when made

1920.

Registered Horse Power

Owners

Kokusai Kisen Kaisha

Port belonging to

Yokohama

Nom. Horse Power as per Section 28

573 5/3

Is Refrigerating Machinery fitted for cargo purposes

No

Is Electric Light fitted

Yes

ENGINES, &c.—Description of Engines Triple Expansion

No. of Cylinders

3

No. of Cranks

3

Dia. of Cylinders 26 - 43 1/2 - 72

Length of Stroke 48

Revs. per minute

79

Dia. of Screw shaft

as per rule 15"

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

XX

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

XXX

Length of stern bush

63 3/4"

Dia. of Tunnel shaft

as per rule 13.6"

Dia. of Crank shaft journals

as per rule 14.25"

Dia. of Crank pin

14 1/2"

Size of Crank webs

27x9 1/2"

Dia. of thrust shaft under

collars

14 1/2"

Dia. of screw

17'-9"

Pitch of Screw

19'-1"

No. of Blades

4

State whether moveable

Yes

Total surface

99-65 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

2

Diameter of ditto

4 1/2"

Stroke

24"

Can one be overhauled while the other is at work

Yes

No. of Donkey Engines

1 B D

Sizes of Pumps

7 x 6 x 7

No. and size of

Suctions connected to both Bilge and Donkey pumps

In Engine Room

3-3 1/2

2 Woodeson feed pumps

10 1/2 x 10 1/2 x 8

In Holds, &c. No. 11-3 1/2, No. 2 2-3 1/2, No. 3 2-3 1/2, No. 4 2-3 1/2,

Tunnel well

1-2 1/2

No. of Bilge Injections

1

sizes

8"

Connected to condenser, or to circulating pump

Cir P

Is a separate Donkey Suction fitted in Engine room & size

Yes 5"

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

Yes

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

XXX

How are they protected

Wood Ceiling

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

Top platform

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Carnegie

Total Heating Surface of Boilers

2458.8

Is Forced Draft fitted

Yes

No. and Description of Boilers

3 Multitubular

Working Pressure

200 lbs

Tested by hydraulic pressure to

400 lbs

Date of test

27-12-19

No. of Certificate

91. 1 Boiler

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

58-289 sq ft

No. and Description of Safety Valves to

each boiler

Twin spring loaded

Area of each valve

11.04 sq ft

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

22"

Mean dia. of boilers

14'-3"

Length

11'-6"

Material of shell plates

Steel

Thickness

132"

Range of tensile strength

28 / 32 ton

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams

D R Lap

long. seams

T.R.D.B.S.

Diameter of rivet holes in long. seams

1 1/2"

Pitch of rivets

10"

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

223

Size of manhole in shell

16" x 12"

Size of compensating ring

36 1/2" x 32 1/2"

No. and Description of Furnaces in each boiler

3 Morrison

Material

Steel

Outside diameter

3'10 1/4"

Length of plain part

top x

bottom

Thickness of plates

crown 5"

bottom 5"

Description of longitudinal joint

Welded

45

No. of strengthening rings

xx

Working pressure of furnace by the rules

217 lbs

Combustion chamber plates: Material

Steel

Thickness: Sides

/ 64"

Back

/ 64"

Top

/ 64"

Bottom

/ 16"

Pitch of stays to ditto: Sides

10 1/2 x 7 1/2"

Back

8 1/2 x 8 1/2"

Top

9 1/2 x 8"

If stays are fitted with nuts or riveted heads

Nuts

Working pressure by rules

207

Material of stays

Steel

Area at smallest part

2.03 sq in

Area supported by each stay

78.74 sq in

Working pressure by rules

232 lbs

End plates in steam space:

Material

Steel

Thickness

1 3/16"

Pitch of stays

16 1/2" x 19"

How are stays secured

D. Nuts

Working pressure by rules

211 lbs

Material of stays

Steel

Area at smallest part

7.068 sq in

Area supported by each stay

31.4 sq in

Working pressure by rules

233.5

Material of Front plates at bottom

Steel

Thickness

3/4"

Material of Lower back plate

Steel

Thickness

3/4"

Greatest pitch of stays

14" x 8 1/2"

Working pressure of plate by rules

257 lbs

Material of

Doubler

Diameter of tubes

3"

Pitch of tubes

4 1/2" x 4 1/2"

Material of tube plates

Steel

Thickness: Front

3/4"

Back

3/4"

Mean pitch of stays

8 3/8"

Pitch across wide water spaces

13 1/2"

Working pressures by rules

224.5 lbs

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre

9" x 1 3/4"

Length as per rule

29

Distance apart

8

Number and pitch of stays in each

2 at 9 1/4"

Working pressure by rules

308 lbs

Steam dome: description of joint to shell

XXX

% of strength of joint

xx

Diameter

xx

Thickness of shell plates

xx

Material

xx

Description of longitudinal joint

xx

Diam. of rivet holes

xx

Pitch of rivets

xx

Working pressure of shell by rules

xx

Crown plates

xx

Thickness

xx

How stayed

xx

SUPERHEATER. Type

xx

Date of Approval of Plan

XXXX

Tested by Hydraulic Pressure to

xx

Date of Test

xxx

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? xx

SPARE GEAR. State the articles supplied:— One crank shaft, one propeller shaft, one propeller blade, two connecting rod top - end bolts and nuts, two connecting rod bottom - end bolts and nuts, two main bearings bolts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, a quantity of assorted bolts and nuts, iron of various sizes.

The foregoing is a correct description,

THE ISHIKAWAJIMA SHIP BUILDING
AND ENGINEERING Co. Ltd, TOKYO.

Manufacturer.

Dates of Survey while building
(During progress of work in shops --) Nov 15, 26 Dec 2, 10, 16, 20, 27 1919, Jan 7, 12, 20, 23, 28 Feb 5, 9, 18, 27, Mar 8, 15, 23.
(During erection on board vessel ---) April 6, 7, 10, 16, 19, 23, 26.
Total No. of visits 27.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 28-1-20 Slides 8-3-20 Covers 28-1-20 Pistons 8-3-20 Rods 10-12-19

Connecting rods 8-12-19 Crank shaft 8-12-19 Thrust shaft 25-9-19 Tunnel shafts 22-12-19 Screw shaft 3-12-19 Propeller 7-1-20

Stern tube 9-2-20 Steam pipes tested 19-4-20 Engine and boiler seatings 16-4-20 Engines holding down bolts 16-4-20

Completion of pumping arrangements 24-4-20 Boilers fixed 10-4-20 Engines tried under steam 26-4-20

Completion of fitting sea connections 7-4-20 Stern tube 6-4-20 Screw shaft and propeller 6-4-20

Main boiler safety valves adjusted 23-4-20 Thickness of adjusting washers Lock Nuts

Material of Crank shaft S Identification Mark on Do. R O B Material of Thrust shaft S Identification Mark on Do. R O B

Material of Tunnel shafts S Identification Marks on Do. R O B Material of Screw shafts S Identification Marks on Do. R O B

Material of Steam Pipes Steel & Copper Test pressure 600 & 400 lbs

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. xxx

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

Is this machinery duplicate of a previous case Yes If so, state name of vessel " Ural-San Maru "

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 the record LMC 4-20.

It is submitted that
this vessel is eligible for
THE RECORD. T.L.M.C. 4-20 F.D.

18/6/20

JIM

The amount of Entry Fee ... £ 30.00 : When applied for,
Special ... £ 450.00 : 27-4-1920
Donkey Boiler Fee ... £ : When received,
Travelling Expenses (if any) £ 61.00 : 1-5-1920

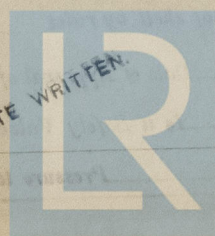
Committee's Minute

Assigned

FRI. JUN. 25 1920

T.L.M.C. 4-20 F.D.

CERTIFICATE WRITTEN



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Lloyd's Register
Foundation

J. Roy Law
Engineer Surveyor to Lloyd's Register of Shipping.