

Rpt. 4.

REPORT ON MACHINERY

No. 2745
DEC. 22 1920

Received at London Office

Date of writing Report 17-11-1920 When handed in at Local Office 18-11-1920 Port of YOKOHAMA

No. in Survey held at YOKOHAMA
Reg. Book.Date, First Survey 12-1-20 Last Survey 6th Nov 1920

(Number of Visits)

on the SINGLE SCREW STEAMER "TOKUYO MARU"

Master U KONDO Built at TSURUMI By whom built ASANO S.B. CO

Tons { Gross 5450.42
Net 3299.90
When built 1920

Engines made at TOKYO

By whom made ISHIKAWAJIMA S.B. & E CO

when made 1920

Boilers made at TSURUMI

By whom made ASANO S.B. CO

when made 1920

Registered Horse Power

Owners TOYO KISEN KAISHA

Port belonging to YOKOHAMA

Nom. Horse Power as per Section 28

513

503

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 STEEL

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

SOLDERED

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

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

✓

Length of stern bush 63 3/4"

Dia. of Tunnel shaft as per rule 13.54"

Dia. of Crank shaft journals as per rule 14.12"

as fitted 13.75"

as fitted 14.5"

Dia. of Crank pin 14.5"

Size of Crank webs 27x9 1/2"

Dia. of thrust shaft under

bars 14.5"

Dia. of screw 17.9"

Pitch of Screw 19'-1"

No. of Blades 4

State whether moveable YES

Total surface 99.6 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 165 DONKEY

18 DONKEY

Sizes of Pumps 7x5x7

9x12x12

6x12x6

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

Engine Room 3

2 FEED PUMPS

10 1/2 x 8 x 18

In Holds, &c. No. 1. 1 3/2. No. 2. 2.3 1/2

No. 3. 3.3 1/2

No. 4. 2.3 1/2

TUNNEL. 1. 2 1/2

No. of Bilge Injections 1

size 8"

Connected to condenser, or to circulating pump

CIRC PUMP

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

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

That pipes are carried through the bunkers No. 1 & 2 HOLD SUCTIONS

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

MILERS, &c.—(Letter for record S)

Manufacturers of Steel MIDVALE & CARNEGIE

Total Heating Surface of Boilers 7128

Is Forced Draft fitted YES

No. and Description of Boilers 3 CYLINDRICAL MULTITUBULAR

Working Pressure 200 lbs

Tested by hydraulic pressure to 400 lbs

Date of test 9-9-20/24-9-20

No. of Certificate 132-134

Can each boiler be worked separately YES

Area of fire grate in each boiler 58.2 sq ft

No. and Description of Safety Valves to each boiler 2 SPRING LOAD

Area of each valve 11.04

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 1 1/32

Range of tensile strength 28 To 32

Are the shell plates welded or flanged NO

Descrip. of riveting: cir. seams DOUBLE

Long. seams DOUBLE STRAP

TREBLE RIVET

Diameter of rivet holes in long. seams 1 1/2

Pitch of rivets 10"

Lap of plates or width of butt straps 22

Percentages of strength of longitudinal joint rivets 93

plate 8.5

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 MORISON

Material STEEL

Outside diameter 3'-8 5/8

Length of plain part top

Thickness of plates crown 5/8

bottom 5/8

Description of longitudinal joint WELDED

No. of strengthening rings

Working pressure of furnace by the rules 225

Combustion chamber plates: Material STEEL

Thickness: Sides 45/64

Back 1/16

Top 45/64

Bottom 15/16

Pitch of stays to ditto: Sides 10 1/2 x 7 1/2

Back 8 1/2 x 8 3/8

Top 8 x 9 1/4

If stays are fitted with nuts or riveted heads NUTS

Working pressure by rules 206

Material of stays STEEL

Area at smallest part 2.03

Area supported by each stay 78.75

Working pressure by rules 229

End plates in steam space:

Material STEEL

Thickness 1 3/16

Pitch of stays 16 1/2 x 19

How are stays secured NUTS & WASHERS

Working pressure by rules 211

Material of stays STEEL

Area at smallest part 7.67

Area supported by each stay 313.5

Working pressure by rules 254

Material of Front plates at bottom STEEL

Thickness 3/4

Material of Lower back plate STEEL

Thickness 3/4

Greatest pitch of stays 8 1/2

Working pressure of plate by rules 269

Diameter of tubes 3

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

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 225

Girders to Chamber tops: Material STEEL

Depth and

Thickness of girder at centre 9 x 13 1/4

Length as per rule 30 3/4

Distance apart 8"

Number and pitch of stays in each 2-9 1/4

Working pressure by rules 225

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 FOSTER

Date of Approval of Plan

Tested by Hydraulic Pressure to

Date of Test 21-10-19

BUFFALO

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YES

Diameter of Safety Valve 1 1/2

Pressure to which each is adjusted 205

Is Easing Gear fitted YES

Date of Test 24-10-19

Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler YES

Is Easing Gear fitted YES

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IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded? ☒

SPARE GEAR. State the articles supplied:— One crank. one tail shaft. one propeller blade
Hob end bolts & nuts. Bottom end bolts & nuts. main bearing bolts & nut
One set coupling bolts. one set feed and bilge pump valves
one set piston rings for each cylinder. 12 boiler tubes. 53 condenser
tubes 150 ferrules. a quantity of assorted bolts & nuts and
bar stock of various sizes

The foregoing is a correct description,

Alfred H. H. H.

Manufacturer.

Dates of Survey while building { During progress of work in shops -- Jan 12/22 May 4/25 June 15/22 25/29 July 3/6/9/15/22 23/24/28 Aug 3/6/7/10/17/28/30 Sept 7-9-20
During erection on board vessel -- Aug 4/21/23 Sept 15/22/27/29 Oct 1/6/11/14/18/20/25/29 Nov 6
Total No. of visits 42

Is the approved plan of main boiler forwarded herewith ☒

" " " donkey " " " ☒

Dates of Examination of principal parts—Cylinders 25-5-20 Slides 7-8-20 Covers 7-8-20 Pistons 7-8-20 Rods 7-8-20
Connecting rods 15-6-20 Crank shaft 7-8-20 Thrust shaft 15-6-20 Tunnel shafts 15-9-20 Screw shaft 1-10-20 Propeller 1-10-20

Stern tube 15-7-20 Steam pipes tested 20-10-20 Engine and boiler seatings 23-8-20 Engines holding down bolts 15-9-20

Completion of pumping arrangements 29-10-20 Boilers fixed 1-10-20 Engines tried under steam 29-10-20

Completion of fitting sea connections 4-8-20 Stern tube 4-8-20 Screw shaft and propeller 4-8-20

Main boiler safety valves adjusted 25-10-20 Thickness of adjusting washers Lock nuts fitted

Material of Crank shaft STEEL Identification Mark on Do. LLOYDS SPARE 25-11-19 25-11-19 Material of Thrust shaft STEEL Identification Mark on Do. LLOYDS 2-12-19 YJB

Material of Tunnel shafts STEEL Identification Marks on Do. LLOYDS 12-12-19 12-12-19 Material of Screw shafts STEEL Identification Marks on Do. LLOYDS 2-10-19 YJB

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. ☒

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

Is this machinery duplicate of a previous case yes If so, state name of vessel ⁵/MEIYO 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 approved plans and the Society's Rules. The materials and workmanship are good. The machinery tried under steam and found satisfactory and is eligible in my opinion for record of LMC 11-20 and notation fitted for oil fuel F.P. above 150°F subject to fuel pumps, heaters and delivery pipes being fitted under survey and tested. Also the cross connections between oil and fresh water pipe systems being blanked off and and oil suctions being controlled from deck outside casing

It is submitted that
this vessel is eligible for
THE RECORD. + LMC. 11. 20. FD

Roll
23/12/20

ARH

The amount of Entry Fee ... £ 30.0 : When applied for,
Special ... £ 795.0 : 4-11-1920
Donkey Boiler Fee ... £ :
Travelling Expenses (if any) £ 80.0 : 9-11-1920

Alfred H. H. H.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ LMC 11. 20

F. D.

CERTIFICATE WRITTEN

FRI. 28 JAN. 1921



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Foundation