

# REPORT ON MACHINERY.

No. 3516

Received at London Office

FRI JUN 9 1922

Date of writing Report 8th May 1922 When handed in at Local Office

Port of KOBE.

To. in Survey held at TAMA, UNO

Date, First Survey Sept 14th 1920 Last Survey April 18th 1922

Reg. Book. on the Steel Single Screw Steamer "IBUKISAN MARU"

(Number of Visits 53)

Gross 5821.  
Net 4062  
When built 1922.

Master Built at TAMA, UNO

By whom built MITSUI BUSSAN CO LTD

SHIPBUILDING DEPARTMENT

Engines made at TAMA, UNO

By whom made MITSUI BUSSAN CO (SHIPBUILDING DEPT.)

when made 1922

Boilers made at TAMA, UNO

By whom made

"

"

"

"

when made 1922

Registered Horse Power

Owners MITSUI BUSSAN CO LTD.

Port belonging to Kobe

m. Horse Power as per Section 28 488

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

GINES, &c.—Description of Engines

Triple Expansion

No. of Cylinders Three No. of Cranks 3

a. of Cylinders 26": 43 1/2": 72" Length of Stroke 48" Revs. per minute 74

Dia. of Screw shaft as per rule 14.823 Material of Stub

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

the 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

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

If two

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

Length of stern bush 5'-6"

a. of Tunnel shaft as per rule 13.53

Dia. of Crank shaft journals as per rule 14.2

Dia. of Crank pin 14 3/4"

Size of Crank webs 2'3"x4'3"

Bars 14 3/8" Dia. of screw 17'-6" Pitch of Screw 19'-0"

No. of Blades 4

State whether moveable Yes

Total surface 100 sq

a. of Feed pumps 1 Diameter of ditto 5" Stroke 24"

Can one be overhauled while the other is at work

Yes with Weir's Indep. Feed Pumps.

a. of Bilge pumps 2 Diameter of ditto 5" Stroke 24"

Can one be overhauled while the other is at work

Yes

a. of Donkey Engines Five Sizes of Pumps

Ball Pump 10"x12"x12"

Donkey " 7"x5"x9"

Oil F. Trans. " 10"x7"x10"

VEG. OIL TRANS. " 10"x7"x12"

Engine Room 3 @ 3"

In Holds, &c. Nos. 1, 3, 4 & 5 - 2 each @ 3 1/2"

In Deep Tank 2 @ 3 1/2"

Tunnel with 3"

also two D.F. Strokehold Pumps

each 5 1/2"x3 1/2"x5"

a. of Bilge Injections 1 sizes 9 1/2"

Connected to condenser, or to circulating pump

Cir. pp. 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 Yes

Are they Valves or Cocks Both

Are the Discharge Pipes above or below the deep water line About 12" below W.L.

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

at pipes are carried through the bunkers Six bilge pipes

How are they protected Wooden Covering

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

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

Is it fitted with a watertight door Yes

worked from Eng. R. top platform

ELERS, &c.—(Letter for record S)

Manufacturers of Steel Carnegie Steel Co., Nath. Luke Co & J. Thompson Eng. (Furnaces)

al Heating Surface of Boilers 68364 sq ft

Is Forced Draft fitted Yes

No. and Description of Boilers Three Single Ended

orking Pressure 200 lbs

Tested by hydraulic pressure to 350 LBS

Date of test 4-11-21

No. of Certificate 110705 TEST

each boiler be worked separately Yes

Area of fire grate in each boiler 54.9 sq

No. and Description of Safety Valves to boiler 2 spring loaded

Area of each valve 3 1/2" dia.

Pressure to which they are adjusted 205 lbs

Are they fitted with easing gear Yes

Best distance between boilers or uptakes and bunkers or woodwork About 6'-0"

Mean dia. of boilers 14'-0"

Length 11'-6"

Material of shell plates Steel

Thickness 1 5/16" Range of tensile strength 28-32 tons

Are the shell plates welded or flanged No

Descrip. of riveting: cir. seams

Doub. riveted

seams Tr. D.B.S. Diameter of rivet holes in long. seams 1 3/8"

Pitch of rivets 8 5/8"

Lap of plates or width of butt straps 1'-7"

1 1/2" (out)

centages of strength of longitudinal joint rivets 100.9

Working pressure of shell by rules 203 lbs

Size of manhole in shell 16"x12"

No. and Description of Furnaces in each boiler 3 Morrison's

Material Steel Outside diameter 41 3/16"

Thickness of plates crown 19"

Description of longitudinal joint

No. of strengthening rings

orking pressure of furnace by the rules 209 lbs

Combustion chamber plates: Material Steel

Thickness: Sides 11/16"

Back 11/16"

Top 11/16"

Bottom 11/16"

of stays to ditto: Sides 9 1/2"x7 1/4"

Back 8 1/2"x8 1/2"

Top 8 3/8"x9"

If stays are fitted with nuts or riveted heads nuts

Working pressure by rules 218 lbs

Material of stays Steel

Area at smallest part 2.03 sq

Area supported by each stay 75.37 sq

Working pressure by rules 240 lbs

End plates in steam space:

Material Steel Thickness 1 3/16"

Pitch of stays 16 3/4"x19"

How are stays secured nuts & washers

Working pressure by rules 204 lbs

Material of stays Steel

at smallest part 8.12 sq

Area supported by each stay 318.25 sq

Working pressure by rules 280 lbs

Material of Front plates at bottom Steel

Thickness 3/4"

Material of Lower back plate Steel

Thickness 11/16"

Greatest pitch of stays 17 1/4" dia. of

Working pressure of plate by rules 262 lbs

Material of tube plates Steel

Thickness: Front 13/16"

Back 3/4"

Mean pitch of stays 8 3/8"

Working pressures by rules 224 lbs

Girders to Chamber tops: Material Steel

Depth and

ness of girder at centre 9"x1 1/2"

Length as per rule 29 1/4"

Distance apart 8 3/8"

Number and pitch of stays in each 2 @ 9"

Working pressure by rules 291 lbs

Steam dome: description of joint to shell

% of strength of joint

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Working pressure of shell by rules

Crown plates

Thickness

How stayed

PERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

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

Pressure to which each is adjusted

Is Easing Gear fitted

meter

Thickness of shell plates

Material

Description of longitudinal joint

Diam. of rivet holes

Working pressure of shell by rules

Crown plates

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meter

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Material

Description of longitudinal joint

Diam. of rivet holes

Working pressure of shell by rules



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied:— 1 set of packing rings & springs for each size of pistons. 1 air pump rod nut. 1 set crank pin brasses.  $\frac{1}{4}$  total number of junking bolts & nuts. 1 set of feed check valve & 4 bolts and nuts for crosshead brasses. A quantity of assorted bolts and nuts. 1 safety valve spring for each. 2 bolts and nuts for crank pin brasses. Iron of various sizes. 1 set of air pump valve. 2 main bearing bolts & nuts. 20 plain tubes for boilers. 1 slide valve rod for each size. 1 set of coupling bolts & nuts for main shafting. 1 spare propeller blade. 1 circulating pump shaft with 1 set of feed & bilge pump valves. 1 set crosshead brasses. A quantity of spare gear for the various auxiliary machines. 1 eccentric rod for each size.

The foregoing is a correct description,

MITSUBI BUSSAN KAISHA, LTD.

Manufacturer.

SHIPBUILDING DEPARTMENT

Dates of Survey while building { During progress of work in shops -- 1920 Sept 14, 16, 21, 28; Oct. 5, 7, 12, 19; Nov 13, 27; Dec 9, 16; 1921 JAN 6; Feb. 1, 10; Mar 8, 24; APR 9; MAY 15, 23; JUNE 30; JULY 15, 23, 28; AUG. 13, 19, 23, 26, 30; SEPT 8, 12, 16, 22; OCT 3; NOV 24, 24; During erection on board vessel -- DEC. 5; 1922 JAN 7, 28; FEB. 27; MAR. 4, 10, 17, 23, 27; APR. 1, 4, 5, 8, 13, 18; Total No. of visits 53. Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 24-11-21 Slides 24-11-21 Covers 24-11-21 Pistons 5-12-21 Rods Connecting rods Crank shaft 2-4-21 Thrust shaft 2-19-21 Tunnel shafts 5-19-19 Screw shaft 26-3-21 Propeller 19-8-21 Stern tube 30-6-21 Steam pipes tested 27-2-21 Engine and boiler seatings 28-1-22 Engines holding down bolts 27-3-22 Completion of pumping arrangements 13-4-22 Boilers fixed 27-3-22 Engines tried under steam 30-3-22 OVERHAUL 13-4-22. Completion of fitting sea connections 6-7-21 Stern tube 6-7-21 Screw shaft and propeller 19-9-21 Main boiler safety valves adjusted 27-3-22 Thickness of adjusting washers Lock-nuts LLOYDS No 392-434-483 Material of Crank shaft F. Steel Identification Mark on Do. 25-1919 Material of Thrust shaft F. Steel Identification Mark on Do. 25-2. Material of Tunnel shafts " " Identification Marks on Do. LLOYDS No 25-1919 Material of Screw shafts F. Steel Identification Marks on Do. 26-3-21 Material of Steam Pipes Copper Test pressure 400 lbs. Is an installation fitted for burning oil fuel Yes. Is the flash point of the oil to be used over 150°F. Yes. Have the requirements of Section 49 of the Rules been complied with Yes. Is this machinery duplicate of a previous case Yes If so, state name of vessel IWATESAN MARU RPT. No. EASTERN IMPORTER " " EASTERN EXPORTER " "

General Remarks (State quality of workmanship, opinions as to class, &c.)

The Machinery & Boilers have been made under Special Survey accordance with the Requirements of the Rules, and the materials & workmanship are good. The machinery worked Satisfactorily on trial.

The oil fuel suction Piping from Settling Tanks to Strokehold Pumps was tested to 50 lb. The O.F. Pressure Piping to Burners was tested to 400 lbs. and all the system found tight.

The Machinery of this Vessel is eligible, it is submitted, for the record of + L.M.C. 4.22. and "Fitted for Oil fuel 4.22 (F.P. above 150°F). A Blue Print of Boilers & O.F. Piping in 2 + B. spaces are sent herewith.

It is submitted that this vessel is eligible for THE RECORD.

+ L.M.C. - 4.22. F.D. C.L.

Fitted for Oil Fuel, 4.22, F.P. above 150°F.

The amount of Entry Fee ... £ Yen 50.00

Special ... £ 14.73

ELEG LIGHTS Donkey Boiler Fee ... £ 2.25

Travelling Expenses (if any) £ Included with Bill.

When applied for,

APR 17 1922

When received,

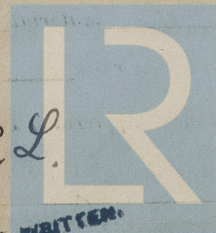
12/6/22

Engineer, Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 4.22. F.D. C.L.  
Fitted for oil fuel 4.22  
F.P. above 150°F.



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