

REPORT ON MACHINERY.

No. 168A

Received at London Office

Date of writing Report 19 When handed in at Local Office 19

Port of Chicago, Illinois

No. in Survey held at Indianapolis
Reg. Book. Midwest Eng. Co.

Date, First Survey 27/2/25

Last Survey 16/7/20

19

on the Twin Screw Steamer Ijingo Maru

(Number of Visits)

Tons { Gross 8600.18
Net 6255.34

Master Gichi Yamamatsu Built at Ysurumi By whom built Asano S B Co. When built 1921
Engines made at Indianapolis Ind. By whom made Midwest Engine Co. when made 1920
Boilers made at Ysurumi By whom made Asano S. B. Co. when made 1921
Registered Horse Power Owners Goro Kisen Kaisha Port belonging to Yokohama
Shaft Horse Power at Full Power 5600 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

TURBINE ENGINES, &c.—Description of Engines Parsons Cross Compound No. of Turbines 2.

Diameter of Rotor Shaft Journals, H.P. 4" L.P. 4" Diameter of Pinion Shaft 8.050" Outside teeth
Diameter of Journals 5" Distance between Centres of Bearings 28x28x6 1/2" Diameter of Pitch Circle 775" H.S. 16.5" Int.
Diameter of Wheel Shaft 12" Int. 14 1/2" L.S. Distance between Centres of Bearings 58 7/8" Int. 43" L.S. Diameter of Pitch Circle of Wheel 51.25" Int. 93.36" L.S.
Width of Face 14" Int. 26" L.S. Diameter of Thrust Shaft under Collars 9.375" Diameter of Tunnel Shaft as per rule.
No. of Screw Shafts Diameter of same as fitted Diameter of Propeller Pitch of Propeller L.P. H.P.
No. of Blades State whether Moveable Total Surface Diameter of Rotor Drum, H.P. 13.16" L.P. 22" astern (22.75, 24.5625)
Thickness at Bottom of Groove, H.P. 12.5" L.P. 21.3" L.P. 20.125" Revs. per Minute at Full Power, Turbine 3600 Propeller 90 (21.125, 23.3125)
ASTERN 23.0625
22.3125
21.5625

PARTICULARS OF BLADING.

H.P.

L.P.

H.P. ASTERN.

| | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. | HEIGHT OF BLADES. | DIAMETER AT TIP. | NO. OF ROWS. |
|---------------|----------------------|------------------|--------------|----------------------|------------------|--------------|----------------------|------------------|-----------------|
| 1ST EXPANSION | .605 | 14.19 | 5 | 2.23 | 26.44 | 2 | 1.562 | 27.187 | 1 |
| 2ND | .7925 | 14.565 | 6 | 2.79 | 27.565 | 2 | 2.312 | 27.937 | 1 |
| 3RD | 1.0425 | 15.065 | 5 | 3.475 | 28.93 | 2 | 3.062 | 28.687 | 1 |
| 4TH | 1.3550 | 15.69 | 5 | 4.345 | 30.67 | 2 | L.P. ASTERN | | |
| 5TH | 1.105 | 18.19 | 3 | 4.965 | 31.99 | 1 | 2.656 | 28.062 | 1 1st EXPANSION |
| 6TH | 1.4175 | 18.815 | 3 | " | " | 1 | 4.281 | 29.687 | 1 2nd |
| 7TH | 1.8500 | 19.68 | 3 | " | " | 1 | 5.906 | 31.312 | 1 3rd |
| 8TH | 2.3500 | 20.68 | 3 | " | " | 1 | | | |

No. and size of Reed pumps

No. and size of Bilge pumps

No. and size of Bilge suction in Engine Room

In Holds, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size

Are all the bilge suction pipes fitted with roses Are the roses in Engine room always accessible

Are all connections with the sea direct on the skin of the ship Are they Valves or Cocks

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Are the Discharge Pipes above or below the deep water line

Are they each fitted with a Discharge Valve always accessible on the plating of the vessel Are the Blow Off Cocks fitted with a spigot and brass covering plate

What pipes are carried through the bunkers How are they protected

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

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

Is the Screw Shaft Tunnel watertight Is it fitted with a watertight door worked from

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

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers

Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate

Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear

Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

plates

Size of compensating ring No. and Description of Furnaces in each Boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

bottom

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules Steam dome: description of joint to shell % of strength of joint Diameter

Thickness of shell plates Material Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Working pressure of shell by rules Crown plates: Thickness How stayed

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible yes

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture W.T. STEEL TUBE

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat W.T. Steel tube

What special protection has been provided for the cables near boiler casings W.T. STEEL TUBE

What special protection has been provided for the cables in engine room W.T. steel tube

How are cables carried through beams in steel tubes through bulkheads, &c. W.T. nipples milled

How are cables carried through decks W.T. nipples milled each side

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected W.T. steel tube

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage no

If so, how are the lamp fittings and cable terminals specially protected ✓

Where are the main switches and fuses for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or fuses fitted in bunkers no

Cargo light cables, whether portable or permanently fixed portable How fixed Screw plugs in CI Bars

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel ✓

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

Is the installation supplied with a voltmeter yes, and with an amperemeter yes, fixed on switch board

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas ✓

Are any switches, fuses, or joints of cables fitted in the pump room or companion ✓

How are the lamps specially protected in places liable to the accumulation of vapour or gas ✓

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 600 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

T. Tamae Electrical Engineers

Date 5-9-21

COMPASSES.

Distance between dynamo or electric motors and standard compass 130 ft from dynamo 105 ft from wireless motor

Distance between dynamo or electric motors and steering compass 170 " " " 150 " " "

The nearest cables to the compasses are as follows:—

| | | |
|--|--|--|
| A cable carrying <u>6</u> Amperes | <u>10</u> feet from standard compass | <u>10</u> feet from steering compass |
| A cable carrying <u>44</u> Amperes | <u>10</u> feet from standard compass | <u>10</u> feet from steering compass |
| A cable carrying <u> </u> Amperes | <u> </u> feet from standard compass | <u> </u> feet from steering compass |

Have the compasses been adjusted with and without the electric installation at work at full power yes

The maximum deviation due to electric currents, etc., was found to be Nil degrees on various courses in the case of the standard compass and Nil degrees on various course in the case of the steering compass.

Builder's Signature. Date

GENERAL REMARKS. The installation of this vessel has been fitted in accordance with the Society's Rules. The workmanship and materials are good. The plant tried under working conditions and found satisfactory. Eligible in my opinion for notation in Register Book "ELECTRIC LIGHT"

THE RECORD. Elec Light
Yes. Yes 355.00

26/10/21

Chas. Ewing
Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. NOV. 9 1921

TUE. 22 NOV. 1921

Elec Lt



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.