

REPORT ON MACHINERY.

No. 2838.

Date of writing Report *May 25th 1920* When handed in at Local Office *1920* Port of *Kobe*
 No. in Survey held at *Osaka - Imposhima* Date, First Survey *June 14th 1919* Last Survey *Mar. 29th 1920*
 Reg. Book. on the *STEEL SINGLE SCREW STEAMER "HAVANA MARU"* (Number of Visits *33*)
 Master *Osaka* Built at *Imposhima* By whom built *Osaka Iron Works, Imposhima branch* When built *1920*
 Engines made at *Osaka* By whom made *Osaka Iron Works, Ltd* when made *1920*
 Boilers made at *do* By whom made *do* when made *1920*
 Registered Horse Power *559.3* Owners *The Osaka Shosen Kaisha Ltd.* Port belonging to *Osaka*
 Nom. Horse Power as per Section 28 *559.3* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *yes*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *Three* No. of Cranks *3*
 Dia. of Cylinders *26½": 44½": 74½"* Length of Stroke *51"* Revs. per minute *79.5* Dia. of Screw shaft *as per rule 15.41 as fitted 15¾"* Material of screw shaft *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 in 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 liners are fitted, is the shaft lapped or protected between the liners *✓* Length of stern bush *5'-6½"*
 Dia. of Tunnel shaft *as per rule 14.02 as fitted 14½"* Dia. of Crank shaft journals *as per rule 14.72 as fitted 14½"* Dia. of Crank pin *14½"* Size of Crank webs *9¼x27½"* Dia. of thrust shaft under collars *14½"* Dia. of screw *18'-3"* Pitch of Screw *18'-3"* No. of Blades *4* State whether moveable *yes* Total surface *100°*
 No. of Feed pumps *Two* Diameter of ditto *4"* Stroke *27"* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *Two* Diameter of ditto *4½"* Stroke *27"* Can one be overhauled while the other is at work *yes*
 No. of Donkey Engines *Three* Sizes of Pumps *Weirs feed 8"x10½"x21" dupl. Ballast 9½"x12"x10" " Gen. Serv. 7½"x5½"x6"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *Two @ 3½"* In Holds, &c. *Nos. 1, 2, 4 + 5 Two @ 3½"*
 In deep tank *Two 3½"*
 No. of Bilge Injections *1* sizes *9"* Connected to condenser, or to circulating pump *✓* Is a separate Donkey Suction fitted in Engine room & size *yes 3½"*
 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 *Larger Valves; Smaller Cocks.*
 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 *Telemotor pipe + voice tube* How are they protected *Covered with wood + iron bands*
 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 *Engine Room Grating*

BOILERS, &c.—(Letter for record *S*) Manufacturers of Steel *Mudvale Stl. & Ordnance Co., Am. spiral pipe Works; Cambria Stl. Co.; Champion Rivet Co.*
 Total Heating Surface of Boilers *7988.4* Is Forced Draft fitted *yes* No. and Description of Boilers *Three Single ended 3SB*
 Working Pressure *200 lbs.* Tested by hydraulic pressure to *400 lbs.* Date of test *12/2/20 + 12/2/20* No. of Certificate *12-230-12-20 Y.J.*
 Can each boiler be worked separately *yes* Area of fire grate in each boiler *61.1°* No. and Description of Safety Valves to each boiler *Two Spring loaded* Area of each valve *7.068°* 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 *About 2'-2"* Mean dia. of boilers *15'-0"* Length *12'-0"* Material of shell plates *Steel*
 Thickness *1½"* Range of tensile strength *2679 to 32 ton* Are the shell plates welded or flanged *no* Descrip. of riveting: cir. seams *Doub. riveted*
 long. seams *Doub. riveted* Diameter of rivet holes in long. seams *1½"* Pitch of rivets *9½", 4½"* Lap of plates or width of butt straps *1'-10"x1½"*
 Per centages of strength of longitudinal joint *88.7* Working pressure of shell by rules *228 lbs.* Size of manhole in shell *12" x 16"*
 Size of compensating ring *34"x38"x1½"* No. and Description of Furnaces in each boiler *3 Morisons* Material *Steel* Outside diameter *48¾"*
 Length of plain part *top ✓ bottom ✓* Thickness of plates *crown 2½" bottom 2½"* Description of longitudinal joint *Weld* No. of strengthening rings *✓*
 Working pressure of furnace by the rules *219 lbs.* Combustion chamber plates: Material *Steel* Thickness: Sides *1½"* Back *1½"* Top *1½"* Bottom *1½"*
 Pitch of stays to ditto: Sides *8½"x8½"* Back *8½"x9"* Top *8"x9"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *213 lbs.*
 Material of stays *Steel* Area at smallest part *2.1°* Area supported by each stay *76.5°* Working pressure by rules *247 lbs.* End plates in steam space:
 Material *Steel* Thickness *1½"* Pitch of stays *18"x20"* How are stays secured *Doub. nuts + 8"x¾" washers* Working pressure by rules *214 lbs.* Material of stays *Steel*
 Area at smallest part *7.66°* Area supported by each stay *360°* Working pressure by rules *221 lbs.* Material of Front plates at bottom *Steel*
 Thickness *¾"* Material of Lower back plate *Steel* Thickness *¾"* Greatest pitch of stays *14½" Ser. stay* Working pressure of plate by rules *200 lbs.*
 Diameter of tubes *3"* Pitch of tubes *4½"x4½"* Material of tube plates *Steel* Thickness: Front *¾"* Back *¾"* Mean pitch of stays *8¾"*
 Pitch across wide water spaces *13¼"* Working pressures by rules *200 lbs.* Girders to Chamber tops: Material *Steel* Depth and thickness of girder at centre *10½": 7½"x2"* Length as per rule *34½"* Distance apart *9"* Number and pitch of stays in each *3 @ 8"*
 Working pressure by rules *249 lbs.* 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 *✓* 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 *✓*

IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

1 Pair Bolts + nuts for Crosshead brasses.	1 Set Crosshead brasses	Bolts + nuts assorted
2 Bolts + nuts for Crank pin brasses	1 Set Crank pin brasses.	1 Piston rod with nut.
4 Main bearing bolts + nuts	2 Propeller blades.	1 Set of Cylinder escape valves + springs.
1 Set of Coupling bolt + nut for main shaftings.	1 Propeller Shaft.	Iron of various sizes
1 Set of Eccentric Rods.	1 Set of Check Valves.	
1 Air pump Rod.	1 Safety valve spring	

The foregoing is a correct description,

Manufacturer.



Dates of Survey while building
During progress of work in shops -- 1919 June 14; Aug. 6; Sept. 3, 26; Oct. 11, 15, 21, 25, 27, 30; Nov. 3, 4, 11; Dec. 4, 8, 13, 16, 19, 22; Jan. 1, 1920
During erection on board vessel -- 1920 Jan. 15, 26, 29, 30; Feb. 9, 12, 18
Total No. of visits 33

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 13-12-19; 9-2-20 Slides 15-1-20; 9-2-20 Covers 9-2-20 Pistons 13-12-19; 9-2-20 Rods 16-12-19 etc
Connecting rods 29-1-20 Crank shaft 12-11-19 etc Thrust shaft 3-9-19 Tunnel shafts 6-8-19 etc Screw shaft 14-6-19 etc Propeller 26-2-20
Stern tube 14-2-20 Steam pipes tested 22-3-20 Engine and boiler seatings 22-3-20 Engines holding down bolts 22-3-20
Completion of pumping arrangements 23-3-20 Boilers fixed 20-3-20 Engines tried under steam 2-4-20
Completion of fitting sea connections 5-3-20 Stern tube 2-3-20 Screw shaft and propeller 3-3-20
Main boiler safety valves adjusted 29-3-20 Thickness of adjusting washers Lock nuts
Material of Crank shaft Steel Identification Mark on Do. LLOYDS 12-11-19; 10-11-19 Y.J.R. Material of Thrust shaft Steel Identification Mark on Do. LLOYDS 3-9-19; 25-10-19 Y.J.R.
Material of Tunnel shafts Steel Identification Marks on Do. LLOYDS 27-10-19; 3-11-19; 4-11-19 Y.J.R. Material of Screw shafts Steel Identification Marks on Do. LLOYDS 25-10-19 Y.J.R.
Material of Steam Pipes Steel Test pressure 600 lbs. Spare: LLOYDS 14-6-19 Y.J.R.

Is an installation fitted for burning oil fuel

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 S/S. "HAGUE MARU" (Kobe Reg. No. 276)

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

The Shafting was forged + rough turned at The Siger Forge Company, Buffalo, + finished at The Osaka Iron Works, Ltd.

The Machinery has been made + fitted under Special Survey in accordance with the requirements of the Rules + the materials and workmanship have been found good.

The Machinery is in our opinion eligible for the record of L.M.C. 3-20

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3.20 F.D

Rem

9/8/20

The amount of Entry Fee ... Yen : 30.- When applied for,
Special ... £ 840.- 9th Apr. 1920
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : 83.- 4th May 1920

Committee's Minute

Assigned

FRI. AUG. 13 1920

+ L.M.C. 3.20 J.D.

CERTIFICATE WRITTEN

J.G. Fry + Y. Jo. assn
Engineer Surveyor to Lloyd's Register of Shipping.



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