

REPORT ON MACHINERY.

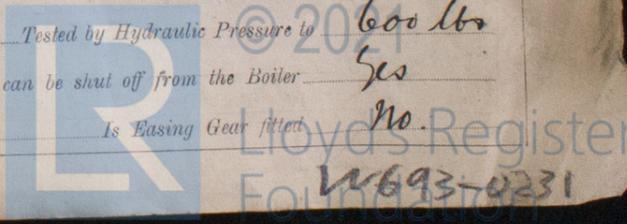
Received at London Office

Date of writing Report 19... When handed in at Local Office... Port of Kobe
 No. in Survey held at Osaka Date, First Survey 7th Nov. 1918 Last Survey 23rd June 1919
 Reg. Book. on the Twin Screw Steel Steamer "Amazon Maru" (Number of Visits 49) Tons {Gross 7740²²/₁₀₀ Net 4823²¹/₁₀₀
 Master A. Kobayashi Built at Osaka By whom built The Osaka Iron Works, Ltd. When built 1919
 Engines made at Osaka By whom made The Osaka Iron Works, Ltd. when made 1919
 Boilers made at do By whom made do when made do
 Registered Horse Power Owners The Osaka Shosen Kaisha Port belonging to Osaka
 Nom. Horse Power as per Section 28 655 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Expansion Twin Screws No. of Cylinders 3 each Eng. No. of Cranks 3 each
 Dia. of Cylinders 21 1/2 : 35 : 58 Length of Stroke 18" Revs. per minute 75 Dia. of Screw shaft as per rule 13.18 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 fits tightly If two
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 1' : 9"
 Dia. of Tunnel shaft as per rule 11.92 Dia. of Crank shaft journals as per rule 12.52 Dia. of Crank pin 12 3/4" Size of Crank webs 8 1/2 x 1 1/2 Dia. of thrust shaft under
 collars 12 3/4" Dia. of screw 15 : 9" Pitch of Screw 18 : 6" mean No. of Blades 1 State whether moveable yes Total surface 48 each screw
 No. of Feed pumps 2 Diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 Diameter of ditto 3 1/2" Stroke 21" Can one be overhauled while the other is at work yes
 No. of Donkey Engines Three Sizes of Pumps Bal. 9 1/2 x 12 x 10 Dupl. Gen. Serv. 4 1/2 x 5 1/2 x 6 Dupl. Small 6 x 4 x 6 Dupl. No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 3 1/2" } Two 3 1/2" in each hold.
 No. of Bilge Injections 2 sizes 4 1/2" Connected to condenser, or to circulating pump in p. Is a separate Donkey Suction fitted in Engine room of size yes 3 1/2"
 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 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 None How are they protected ✓
 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 upper platform in Eng. R.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Smith Durham & Co. Scottish Tube Co. John Marshall & Co. 3SB & 1Aux 3B
 Total Heating Surface of Boilers = 9332 Is Forced Draft fitted yes No. and Description of Boilers Three 3. 6. + One Aux. 3. 6.
 Working Pressure 200 lbs. Tested by hydraulic pressure to 100 lbs. Date of test 4th Nov 1919 No. of Certificate LLOYD'S TEST 400 LBS X.J. 4/3/19 & 25/3/19 R.
 Can each boiler be worked separately yes Area of fire grate in each boiler 61.8 No. and Description of Safety Valves to
 each boiler Two Spring loaded Area of each valve 3" dia. 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 18" Mean dia. of boilers 15' : 0" Length 12' : 0" Material of shell plates Steel
 Thickness 1 1/2" Range of tensile strength 28 to 32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double riv.
 long. seams Double riv. Straps Diameter of rivet holes in long. seams 1 1/8" Pitch of rivets 9 3/4" + 1 1/8" Top of plates or width of butt straps 2 1/4" x 1 1/2"
 Per centages of strength of longitudinal joint rivets 91.9 Working pressure of shell by rules 203 lbs. Size of manhole in shell 12" x 16"
 Size of compensating ring 31" x 38" x 1 1/2" No. and Description of Furnaces in each boiler 3 Heighton Material Steel Outside diameter 47 1/2"
 Length of plain part top ✓ Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings ✓
 Working pressure of furnace by the rules 213 lbs. Combustion chamber plates: Material Steel Thickness: Sides 2 1/32" Back 2 1/32" Top 2 1/32" Bottom 7/8"
 Pitch of stays to ditto: Sides 8 1/4" x 8 1/2" Back 8 1/4" x 8 3/4" Top 8 x 9" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 206 lbs.
 Material of stays Steel Area at smallest part 1.79 Area supported by each stay 72 Working pressure by rules 223 lbs. End plates in steam space:
 Material Steel Thickness 1 3/32" Pitch of stays 18" x 20" How are stays secured Double nuts 2 x 13/16 washers Working pressure by rules 215 lbs. Material of stays Steel
 Area at smallest part 8.29 Area supported by each stay 18" x 20" Working pressure by rules 215 lbs. Material of Front plates at bottom Steel
 Thickness 13/16" Material of Lower back plate Steel Thickness 3/4" Greatest pitch of stays 14 3/4" at wide spaced stays 5/8" doubling. Working pressure of plate by rules 200 lbs.
 Diameter of tubes 3 1/4" Pitch of tubes 1 3/8" x 1 1/2" Material of tube plates Steel Thickness: Front 13/16" Back 13/16" Mean pitch of stays 10 3/4"
 Pitch across wide water spaces 14" doubled Working pressures by rules 200 lbs. Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 10 1/2" x 7/8" (two) Length as per rule 31 1/2" Distance apart 9" Number and pitch of stays in each 3 @ 8"
 Working pressure by rules 246 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 Yemura & Meshida modification of Schmidt Date of Approval of Plan 200 lbs Tested by Hydraulic Pressure to 200 lbs
 Date of Test 29th May & 4th June 1919 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 3" Pressure to which each is adjusted 205 lbs Is Easing Gear fitted No



IS A DONKEY BOILER FITTED? *Ans. No.* If so, is a report now forwarded? *Yes.*

SPARE GEAR. State the articles supplied:—
Two Crank pin bolts + nuts ✓
Two Crosshead bolts + nuts ✓
Feed + Bilge pump Valves ✓
Two Thrust shaft bolts + nuts ✓
Safety valve Springs ✓
Set coupling bolts + nuts ✓
Piston rings + Springs ✓
Two main bearing bolts + nuts ✓
Etc. ✓
junk ring bolts ✓
assorted bolts + nuts ✓
assorted Sheet Steel ✓

The foregoing is a correct description,

G. Yemm Manufacturer.
OSAKATRON WORKS
1919

Dates of Survey while building: During progress of work in shops -- *Nov. 7, 9, 13, 25, Dec. 17, 19, 23, 28, 30, 1918, Jan. 11, 18, 22, 23, 24, 25, 30, 31, Feb. 1, 3, 8, 14, 17, 18, 20, 24, 27, Mar. 1, 4, 5, 10, 12, 19, 25, April 2, 11, 23, May 2, 5, 10, 14, 16, 21, 23, 29, June 2, 4, 9, 16, 23, 1919.*
Total No. of visits *49.* Is the approved plan of main boiler forwarded herewith *Yes.*
" " " donkey " " "

Dates of Examination of principal parts—Cylinders *14/5/19* U/c Slides *21/5/19* Covers *14/5/19* Pistons *10/5/19* Rods *2/5/19*
Connecting rods *23/4/19* Crank shaft *2/4/19* Thrust shaft *30/12/18* Tunnel shafts *17/2/19* U/c Screw shaft *31/1/19* Propeller *10/5/19*
Stern tube *2nd May '19* Steam pipes tested *2/5/19: 9/6/19* Engine and boiler seatings *16/5/19* Engines holding down bolts *9/6/19*
Completion of pumping arrangements *16/6/19* Boilers fixed *4/6/19* Engines tried under steam *16/6/19 + 21/6/19*
Completion of fitting sea connections *2/5/19* Stern tube *2/5/19* Screw shaft and propeller *21/3/19*
Main boiler safety valves adjusted *16/6/19* Thickness of adjusting washers *Locknuts, Cleats*
Material of Crank shaft *Steel* Identification Mark on Do. *LLOYD'S* Material of Thrust shaft *Steel* Identification Mark on Do. *LLOYD'S*
Material of Tunnel shafts *Steel* Identification Marks on Do. *LLOYD'S* Material of Screw shafts *Steel* Identification Marks on Do. *LLOYD'S*
Material of Steam Pipes *Steel* Test pressure *600 lbs*

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 Spare *LLOYD'S*

Is this machinery duplicate of a previous case *Yes* If so, state name of vessel *"Alps Maru" "Andes Maru" "Atacama" "Amus Maru"*

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

The machinery has been made & fitted under Special Survey in accordance with the Rule requirements & the materials & workmanship are good.

The vessel is in my opinion eligible for the notation + L.M.C 6.19

After the water test of the starboard L.P. Cylinder cracks were found at the ribs of the steam port, the cracks being 3 to 4 ins. long. Four stays were fitted by prolonging cylinder cover studs to the passage wall. After the trial the cracks were found not to have extended but other cracks were found at ribs of Exhaust passage. The vessel made a trip to Japanese ports & a new cylinder has now (24th July) been fitted.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C 6.19. F.D.

The amount of Entry Fee ... *Yen 30* : When applied for, *26th June 1919*
Special ... *Yen 9.22* :
Donkey Boiler Fee ... *Yen* :
Travelling Expenses (if any) *Yen 10* : *7th July 1919*

J.W.D.
9/9/19
A. L. Jones Y. Jo. assist.
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

MACHINERY CERTIFICATE WRITTEN

TUE. SEPT 9 1919

+ L.M.C 6.19



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