

## REPORT ON MACHINERY.

No. 2784

Received at London Office  
Date of writing Report 28-2-20 When handed in at Local Office 10-2-20 Port of Yokohama 15 APR. 1921  
No. in Survey held at Yokohama Date, First Survey 28-5-20 Last Survey 28-2-1921  
Reg. Book. on the Steel S.S. Manshu Maru yard no 102 (Number of Visits 41)  
Master                      Built at Kanagawa By whom built Uchida Ship B. & Eng Co When built 1921  
Engines made at Yokohama By whom made Uchida S.B. & E. Co. when made 1921  
Boilers made at Kanagawa By whom made Uchida S.B. & E. Co. when made 1921  
Registered Horse Power                      Owners Dairen Steamship Co. Port belonging to Dairen  
Nom. Horse Power as per Section 28 573 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple Reciprocating No. of Cylinders 3 No. of Cranks 3  
Dia. of Cylinders 26+43 1/2+72 Length of Stroke 48 Revs. per minute 80 Dia. of Screw shaft as per rule 14 3/4 Material of S  
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 x 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 x Length of stern bush 63 3/8  
Dia. of Tunnel shaft as per rule 13 1/4 Dia. of Crank shaft journals as per rule 14 1/2 Dia. of Crank pin 14 3/4 Size of Crank webs 9 1/2 x 17 1/2 Dia. of thrust shaft under  
collars 1 1/2 Dia. of screw 17-9 Pitch of Screw 19 No. of Blades 4 State whether moveable yes Total surface 99.6  
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 4 Sizes of Pumps 2 1/2 x 2 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps  
In Engine Room 10 B.R. 4-3 1/2 In Holds, &c. F.P. 1-3 1/2 No. 2-3 1/2 No. 2-2-3 1/2  
No. 3-2-3 1/2 No. 4-2-3 1/2 A.P. 1-3 1/2 A.W. 1-3 1/2  
No. of Bilge Injections 1 sizes 9 Connected to condenser or to circulating pump yes Is a separate Donkey Suction fitted in Engine room & size 1-3 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 x  
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  
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 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 Eng. Room.

BOILERS, &c.—(Letter for record                     ) Manufacturers of Steel Carnegie & Yawata  
Total Heating Surface of Boilers 7376.4 Is Forced Draft fitted yes No. and Description of Boilers 3 scotch marine type  
Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 2-3-18 Dec 18 No. of Certificate 143-4-5  
Can each boiler be worked separately yes Area of fire grate in each boiler 58-2 No. and Description of Safety Valves to  
each boiler 2 sprung loaded Area of each valve 11.04 Pressure to which they are adjusted 200 Are they fitted with easing gear yes  
Smallest distance between boilers or uptakes and bunkers or woodwork                      Mean dia. of boilers 14-3' Length 11-6 Material of shell plates S  
Thickness 1 1/2 Range of tensile strength 26432 T Are the shell plates welded or flanged                      Descrip. of riveting: cir. seams D.R.L.  
long. seams T.R.D.B.S Diameter of rivet holes in long. seams 1.5 Pitch of rivets 10 Lap of plates or width of butt straps 22  
Per centages of strength of longitudinal joint                      Working pressure of shell by rules 224 Size of manhole in shell 16 1/2  
Size of compensating ring                      No. and Description of Furnaces in each boiler 3 M.O.F. Material S Outside diameter 44 5/8  
Length of plain part                      Thickness of plates                      Description of longitudinal joint welded No. of strengthening rings                       
Working pressure of furnace by the rules 224 Combustion chamber plates: Material S Thickness: Sides 1/6 Back 1/6 Top 1/6 Bottom 1/6  
Pitch of stays to ditto: Sides 10x7 1/2 Back 8 1/2 x 8 1/2 Top 9 1/2 x 8 If stays are fitted with nuts or riveted heads NUTS Working pressure by rules 221  
Material of stays S Area at smallest part 2.1 Area supported by each stay 73.77 Working pressure by rules 256 End plates in steam space:  
Material S Thickness 1 3/16 Pitch of stays 16 1/2 x 19 How are stays secured NUTS Working pressure by rules 282 Material of stays S  
Area at smallest part 7.67 Area supported by each stay 313.5 Working pressure by rules 254 Material of Front plates at bottom S  
Thickness 3/4 Material of Lower back plate S Thickness 3/4 Greatest pitch of stays 8.5 Working pressure of plate by rules 269  
Diameter of tubes 3 Pitch of tubes 4 1/2 x 4 1/8 Material of tube plates S 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 224 Girders to Chamber tops: Material S Depth and  
thickness of girder at centre 10 1/2 x 1 1/2 Length as per rule 30.25 Distance apart 8 Number and pitch of stays in each 20 9 1/4  
Working pressure by rules 346 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                     

101313-0017



IS A DONKEY BOILER FITTED?

NO

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— One crank shaft 1 propeller shaft 4 blades  
- 2. Connecting Rod top & bottom end bolts & nuts 2 main bearing bolts  
1 set coupling bolts 1 set feed & Balg. valve 1 set piston rings  
for each cylinder Assorted bolts & nuts. 2 set of various sizes

The foregoing is a correct description,

*J. K. M. M. M.*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- May 28 June 1-8 25 July 3-16 16-19 26 Aug 4-18 Sept 22-29 Oct 1-2 5-6 13-14 21  
During erection on board vessel -- Nov 8-11 20 22-30 Dec 2-9 13 18 22-29 Jan 6-10 20 24-26 Feb 1-2 8-22  
Total No. of visits 41

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 6/10/20 Slides 12/1/20 Covers 22/2/20 Pistons 22/2/20 Rods 22/2/20

Connecting rods 2/2/20 Crank shaft 1/10/20 Thrust shaft 1/10/20 Tunnel shafts 1/10/20 Screw shaft 1/10/20 Propeller 1/10/20

Stern tube 1/10/20 Steam pipes tested 26/1/21 Engine and boiler seatings 6/1/21 Engines holding down bolts 1/2/21

Completion of pumping arrangements 16/2/21 Boilers fixed 1/2/21 Engines tried under steam 16/2/21

Completion of fitting sea connections 16/2/21 Stern tube 16/2/21 Screw shaft and propeller 16/2/21

Main boiler safety valves adjusted 16/2/21 Thickness of adjusting washers LOCKNUTS

Material of Crank shaft S Identification Mark on Do. F Material of Thrust shaft S Identification Mark on Do. F

Material of Tunnel shafts S Identification Marks on Do. F Material of Screw shafts S Identification Marks on Do. F

Material of Steam Pipes Steel Test pressure 600

Is an installation fitted for burning oil fuel NO 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 Hamburg & am. Rept No. 2760.

General Remarks (State quality of workmanship, opinions as to class, &c. The Machinery & Boilers of this vessel were constructed under special survey of materials tested to Rule Requirements and workmanship was found thorough. On completion the machinery was thoroughly tested under working conditions with satisfactory results. In the opinion of the undersigned the machinery is eligible to be classed in the register Book. LMC 2.21. notation electric light

It is submitted that this vessel is eligible for THE RECORD. + LMC. 2.21 F.D. C.L.

J.M. Bell 29/4/21

The amount of Entry Fee ... £ 60.00 : When applied for, Special ... £ 98.00 : 22.2.1921 Donkey Boiler Fee ... £ : When received, Travelling Expenses (if any) £ 50.00 : 7.2.21

Committee's Minute TUE. MAY. 3 1921

Assigned + L.M.C. 2.21 F.D. C.L.

H. B. Archbold Engineer Surveyor to Lloyd's Register of Shipping.



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