

# REPORT ON MACHINERY

No. 2390

Received at London Office

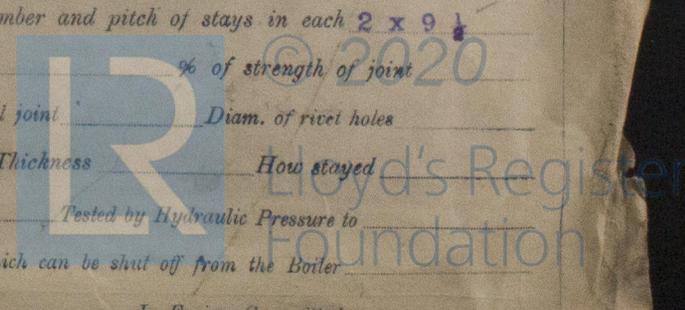
WED. SEP. 11. 1918

Date of writing Report 25th July 18 When handed in at Local Office 19 Port of Yokohama  
 No. in Survey held at Uraga Date, First Survey Feb'y 28th Last Survey July 19th 19 18  
 Reg. Book. on the Steel Twin Screw Steamer " East Indian " (Number of Visits 19)  
 Master Uraga Built at Uraga By whom built Uraga Dock Co Ltd Tons { Gross 8225.88  
 Engines made at Uraga By whom made Uraga Dock Co Ltd when made 1918. Net 5113.11  
 Boilers made at Uraga By whom made Uraga Dock Co Ltd when made 1918.  
 Registered Horse Power U. S. Shipping Board Port belonging to  
 Nom. Horse Power as per Section 28 700 703. Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines twin screw triple expansion No. of Cylinders 6 No. of Cranks 6  
 Dia. of Cylinders 22-36 1/2-61 Length of Stroke 48 Revs. per minute 86 Dia. of Screw shaft as per rule 13 1/4 Material of screw shaft 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 Yes If two liners are fitted, is the shaft lapped or protected between the liners XX Length of stern bush 60"  
 Dia. of Tunnel shaft as per rule 12.2 Dia. of Crank shaft journals as per rule 12.8 Dia. of Crank pin 13 1/2 Size of Crank webs 25x8 1/2 Dia. of thrust shaft under collars 13 1/2 Dia. of screw 16'-0 Pitch of Screw 18'-0 No. of Blades 4 State whether moceable Yes Total surface 85.3 sq ft  
 No. of Feed pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Bilge pumps 2 Diameter of ditto 4" Stroke 24" Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines 4 Sizes of Pumps 5x3 1/2 x 6" stroke, Ballast pump 9x12x10" stroke, 6 1/2 x 6 1/2 x 6", 10"x6"x10" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 4 off-3 1/2" in bunkers, 2 Mumford pump, 10 1/2 x 8" x 24" stroke, In Holds, &c. No. 1 hold 2-3 1/2, No. 2 hold 2-3 1/2, No. 3 hold 2-3 1/2, No. 4 hold 2-3 1/2, No. 5 hold 2-3 1/2, tunnel 2-3 1/2, tunnel well 1-3 1/2.  
 No. of Bilge Injections 2 sizes 8" Connected to condensers circulating pump Yes Is a separate Donkey Suction fitted in Engine room & size Yes- 4 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 Yes  
 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 Bilge pipes How are they protected Wood casing & Iron in way of storm valves  
 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 platform

**BOILERS, &c.**—(Letter for record S) Manufacturers of Steel Worth Bros.  
 Total Heating Surface of Boilers 9835.2 Is Forced Draft fitted Yes No. and Description of Boilers 4 Multitubular  
 Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 10-6-19 No. of Certificate U 138  
 Can each boiler be worked separately Yes Area of fire grate in each boiler 58 3/16 sq ft No. and Description of Safety Valves to each boiler 2 Spring loaded Area of each valve 11.04 sq in Pressure to which they are adjusted 200 Are they fitted with easing gear Yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork 19" Mean dia. of boilers 14'-3 Length 11'-6 Material of shell plates S  
 Thickness 1 13/32 Range of tensile strength 28-32 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.  
 long. seams T.R. Diameter of rivet holes in long. seams 1 1/8 Pitch of rivets 10 Lap of plates or width of butt straps 22  
 Per centages of strength of longitudinal joint rivets 94 Working pressure of shell by rules 224 Size of manhole in shell 16 x 12  
 plate 85  
 Size of compensating ring 36 1/2 x 32 1/2 No. and Description of Furnaces in each boiler 3 Morrison Material S Outside diameter 46 1/2  
 Length of plain part top X Thickness of plates crown 3/8 Description of longitudinal joint Weld No. of strengthening rings None  
 bottom X Working pressure of furnace by the rules 223 Combustion chamber plates: Material S Thickness: Sides 45/64 Back 11/16 Top 45/64 Bottom 15/16  
 Pitch of stays to ditto: Sides 10 1/2 x 7 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 206  
 Material of stays S Area at smallest part 2.03 Area supported by each stay 83.25 sq in Working pressure by rules 220 End plates in steam space: Material S Thickness 1 3/16 Pitch of stays 165x18.75 How are stays secured D.Nuts Working pressure by rules 214 Material of stays S  
 Area at smallest part 7.67 Area supported by each stay 311 sq in Working pressure by rules 255 Material of Front plates at bottom S  
 Thickness 3/8 Material of Lower back plate S Thickness 3/8 Greatest pitch of stays 8 1/2 Working pressure of plate by rules 276  
 Diameter of tubes 3 Pitch of tubes 4 1/2 x 4 1/2 Material of tube plates S Thickness: Front 3/8 Back 3/8 Mean pitch of stays 4.2  
 Pitch across wide water spaces 13 1/2 Working pressures by rules 225 Girders to Chamber tops: Material S Depth and thickness of girder at centre 8 x 12 Length as per rule 31 1/2 Distance apart 8 Number and pitch of stays in each 2 x 9 1/2  
 Working pressure by rules 218 Steam dome: description of joint to shell 2020 % of strength of joint  
 Diameter 11 Thickness of shell plates 3/8 Material S Description of longitudinal joint Weld Diam. of rivet holes 1 1/8  
 Pitch of rivets 10 Working pressure of shell by rules 225 Crown plates S Thickness 3/8 How stayed Weld  
**SUPERHEATER.** Type Horizontal Date of Approval of Plan 10-6-19 Tested by Hydraulic Pressure to 200  
 Date of Test 10-6-19 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes  
 Diameter of Safety Valve 1 1/2 Pressure to which each is adjusted 200 Is Easing Gear fitted Yes

1880-1918



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 4 connecting rod top end bolts & nuts 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, 6 coupling bolts, 1 set feed & bilge pump valves, 1 set piston springs, 1 section crank shaft, 1 propeller shaft, 4 propeller blades, top & bottom end brasses, main bearing brasses, ahead & astern eccentric rods, air pump rod, bolts & nuts assorted etc.

The foregoing is a correct description,

*Y. Kattinura*

Manufacturer.

Dates of Survey while building: During progress of work in shops - Feb 28, March 30th, April 11, 19, 23, 29, May 2, 11, 20, 23, June 3, 10, 26, July 5, 9, 12, 13, 15, 19. During erection on board vessel - Total No. of visits 19

Is the approved plan of main boiler forwarded herewith No

Dates of Examination of principal parts—Cylinders 30-3-18 Slides 11-5-18 Covers 29-4-18 Pistons 8-6-18 Rods 3-6-18 Connecting rods 10-6-18 Crank shaft 3-6-18 Thrust shaft 3-6-18 Tunnel shafts 3-6-18 Screw shaft 26-6-18 Propeller 26-6-18 Stern tube 11-4-18 Steam pipes tested 5-7-18 Engine and boiler seatings 23-5-18 Engines holding down bolts 5-7-18 Completion of pumping arrangements 12-7-18 Boilers fixed 26-6-18 Engines tried under steam 19-7-18 Completion of fitting sea connections 23-5-18 Stern tube 23-5-18 Screw shaft and propeller 9-7-18 Main boiler safety valves adjusted 15-7-18 Thickness of adjusting washers F.P. f1 3/16, F.S. f1 3/32, A.P. f1 3/32

Material of Crank shaft S Identification Mark on Do. J.S.C. Material of Thrust shaft S Identification Mark on Do. F.P. f1 3/16 J.S.C. Material of Tunnel shafts S Identification Marks on Do. J.S.C. Material of Screw shafts S Identification Marks on Do. J.S.C. Material of Steam Pipes Steel Test pressure 600 lbs

Is an installation fitted for burning oil fuel No Is the flash point of the oil to be used over 150°F. xx

Have the requirements of Section 49 of the Rules been complied with xx

Is this machinery duplicate of a previous case Yes If so, state name of vessel Mecanicien Donzel

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery of this vessel has been built under special Survey in accordance with the approved plans and the Society's Rules, the materials and workmanship are good, The machinery has been satisfactorily tried under steam, and is in my opinion eligible for the record LMC 7-18.

It is submitted that this vessel is eligible for THE RECORD. + LMC 7.18 F.D.

*J. J. Cairns*  
12-9-18

Certificate (if required) to be sent to

The amount of Entry Fee ... £ 820.00 When applied for. Special ... £ 30.00 18-7-18 Donkey Boiler Fee ... £ Travelling Expenses (if any) £ 22-7-18

*J. J. Cairns*  
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 17 SEP. 1918 Assigned + Lmb 7 18 J.D.

