

Rpt. 4.

# REPORT ON MACHINERY

No. 2622

Received at London Office

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

No. in Survey held at Tokyo Date, First Survey 17th Mar, 1919 Last Survey 23rd March, 1920  
 Reg. Book. (Number of Visits 62)

on the S. S. "Eastern Glen" Tons <sup>Gross</sup>            <sub>Net</sub>           

Master            Built at Yokohama By whom built Uchida Shipbuilding & E Co When built 1919

Engines made at Tokyo By whom made Ishikawajima Shipbuilding & E Co when made 1919

Boilers made at Tokyo By whom made Ishikawajima Shipbuilding & E Co when made 1919

Registered Horse Power            Owners U.S.S.B.E.F.Cpn. Port belonging to           

Nom. Horse Power as per Section 28 513 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**ENGINES, &c.**—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders 26 - 43 1/2 - 72 Length of Stroke 48 Revs. per minute 79 Dia. of Screw shaft <sup>as per rule</sup> 15 Material of S  
<sub>as fitted</sub> 16 screw shaft

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 xx If the liner is in more than one length are the joints burned 1 Length 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 Tight fit If two  
 liners are fitted, is the shaft lapped or protected between the liners xx Length of stern bush 63 3/8"

Dia. of Tunnel shaft <sup>as per rule</sup> 13.6 Dia. of Crank shaft journals <sup>as per rule</sup> 14.25 Dia. of Crank pin 14 1/2 Size of Crank webs 27x9 1/2 Dia. of thrust shaft under  
<sub>as fitted</sub> 13 3/4 <sub>as fitted</sub> 14.5 collars 14 1/2 Dia. of screw 17'-9" Pitch of Screw 19'-1" No. of Blades 4 State whether moveable Yes Total surface 99-65 sq ft

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 100 Sizes of Pumps 7"x5"x7" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room 2-3 2 Woodeson feed pump 10 1/2"x8"x8" In Holds, &c. No 1, 1-3 1/2", No 2, 2-3 1/2", No 3, 2-3 1/2",  
No 4, 2-3 1/2", tunnel well 1-2 1/2".

No. of Bilge Injections 1 sizes 8" Connected to condenser, or to circulating pump Cir P Is a separate Donkey Suction fitted in Engine room & size Yes 5"

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 xx How are they protected Wood ceiling

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, Illinois, Carnegie.

Total Heating Surface of Boilers 7376.4 Is Forced Draft fitted Yes No. and Description of Boilers 3 Multitubular 3.S.B.

Working Pressure 200 Tested by hydraulic pressure to 400 Date of test 13-12-19 No. of Certificate 85  
20-12-19 87  
22-12-19 88

Can each boiler be worked separately Yes Area of fire grate in each boiler 175 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 205 U Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers or woodwork 22" Mean dia. of boilers 14'-3" Length 11'-6" Material of shell plates S

Thickness 1 13/32 Range of tensile strength 28-32 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.R.  
 long. seams D.R.S.T.R. Diameter of rivet holes in long. seams 1 1/2" Pitch of rivets 10" Lap of plates or width of butt straps 22"

Per centages of strength of longitudinal joint rivets 91.4 Working pressure of shell by rules 223 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 Deighton Material S Outside diameter 3'-10 1/4"

Length of plain part <sup>top</sup> x Thickness of plates <sup>or crown</sup> 5" Description of longitudinal joint Weld No. of strengthening rings xx  
<sub>bottom</sub> x <sub>bottom</sub> 5" 45 44 45 15

Working pressure of furnace by the rules 217 Combustion chamber plates: Material S Thickness: Sides /64" Back /64" Top /64" Bottom /16"

Pitch of stays to ditto: Sides 10 1/2" x 7 1/2" Back 8 3/4" x 8 5/8" Top 9 1/4" x 8" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 207

Material of stays S Area at smallest part 203 sq in Area supported by each stay 83 sq in Working pressure by rules 221 lb End plates in steam space:  
 Material S Thickness 1 3/16" Pitch of stays 18 3/4" x 16 1/2" How are stays secured D. nuts Working pressure by rules 221 Material of stays S

Area at smallest part 7.7 Area supported by each stay 311 sq in Working pressure by rules 249 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 276

Diameter of tubes 3" Pitch of tubes 4 1/4" 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 225 Girders to Chamber tops: Material S Depth and  
 thickness of girder at centre 8" x 1 1/2" Length as per rule 30 3/4" Distance apart 8" Number and pitch of stays in each 2 x 9 1/4"

Working pressure by rules 225 Steam dome: description of joint to shell xxx % of strength of joint xx

Diameter xx Thickness of shell plates xx Material xx Description of longitudinal joint xx Diam. of rivet holes xx

Pitch of rivets xx Working pressure of shell by rules xx Crown plates xx Thickness xx How stayed xx

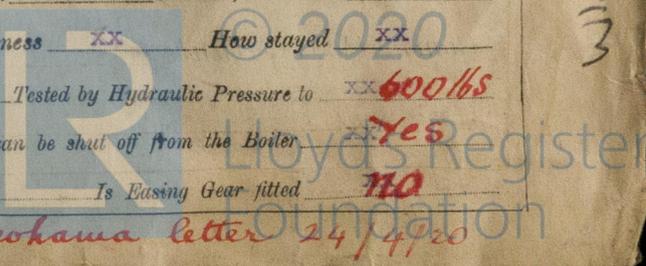
**UPERHEATER.** Type Foster Pat. Date of Approval of Plan xx Tested by Hydraulic Pressure to xx 600 lbs

Date of Test 27-3-20 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes

Diameter of Safety Valve 2" Pressure to which each is adjusted 200 lbs Is Easing Gear fitted No

*See Yokohama letter 24/4/20*

W150-0155



IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded? xx

SPARE GEAR. State the articles supplied: One crank shaft, one propeller shaft, one propeller blade, two connecting rod top-end bolts and nuts, two connecting rod bottom-end bolts and nuts, two main bearing bolts, one set of coupling bolts, one set of feed and bilge pump valves, one set of piston springs, a quantity of assorted bolts and nuts, iron of various sizes.

The foregoing is a correct description,

THE ISHIKAWAJIMA SHIP BUILDING AND ENGINEERING Co. Ltd, TOKYO.

T. Uchida

Manufacturer.

Dates of Survey while building: During progress of work in shops -- Mar 17, 31, May 2, 6, 17, 23, 27, 30, June 4, 6, 10, 13, 17, 20, 23, 27, July 5, 8, 11, 14, 18, Aug 1, 7, 11, 15, 28, Sept 1, 5, 16, 29, Oct 7, 9, 13, 24, Nov 5, 10, 17, 26, Dec 3, 10, 13, 22, 25. During erection on board vessel --- SEPT 27, Jan 6, 9, 13, 14, 20, 26, 28, Feb 4, 19, March 1, 4, 10, 13, 19, 20, 23. Total No. of visits 62.

Is the approved plan of main boiler forwarded herewith

" " " donkey " " "

Dates of Examination of principal parts: Cylinders 23-6-19 Slides 26-12-19 Covers 23-6-19 Pistons 26-12-19 Rods 10-3-19 Connecting rods 4-8-19 Crank shaft 14-7-19 Thrust shaft 18-7-19 Tunnel shafts 17-5-19 Screw shaft 18-1-19 Propeller 13-12-19 Stern tube 18-8-19 Steam pipes tested 6-3-20 Engine and boiler seatings 6-1-20 Engines holding down bolts 19-3-20 Completion of pumping arrangements 20-3-20 Boilers fixed 10-3-20 Engines tried under steam 20-3-20 Completion of fitting sea connections 19-3-20 Stern tube 19-3-20 Screw shaft and propeller 19-3-20 Main boiler safety valves adjusted 20-3-20 Thickness of adjusting washers Lock nuts

Material of Crank shaft S Identification Mark on Do. R.O.B. Material of Thrust shaft S Identification Mark on Do. R.O.B. Material of Tunnel shafts S Identification Marks on Do. R.O.B. Material of Screw shafts S Identification Marks on Do. R.O.B.

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.

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 Eastern Glade

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 L.M.C. 3-20.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3-20 F.D. JWC 18/5/20.

JWC GPR

Certificate (if required) to be sent to The Surveyors are requested not to write on or below the space for Committee's Minute.

The amount of Entry Fee ... £ 30. : Special ... £ 800. : Donkey Boiler Fee ... £ : Travelling Expenses (if any) £ 54. : When applied for, 24-9-1920. When received, 19.

W. Boylan, L. Anklold. Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute

Assigned

TUE. JUN. 15 1920

+ L.M.C. 3-20 F.D.



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