

REPORT ON MACHINERY.

No. 5290.
OCT 28 1940

Received at London Office

Date of writing Report *Sept 7* 19*40* When handed in at Local Office *Sept 7* 19*40* Port of *Newport News Va*

No. in Survey held at *Newport News Va* Date, First Survey *June 14* Last Survey *Aug 14* 19*40*

Reg. Book. *2503* on the *Boilers and Machinery of the S. S. Val. Kean* (Number of Vents *24*) Tons Gross *5620* Net *3516*

Master *Howe* Built at *Long Beach Cal.* By whom built *Black S.B. Co.* When built *1920*

Engines made at *Los Angeles* By whom made *Lawrence Iron Works* when made *1920*

Boilers made at *Portland Ore.* By whom made *Williamette Iron & Steel Works* when made *1920*

Registered Horse Power *2800* Owners *Douglas Ramsay & Co. Ltd* Port belonging to *Glasgow*

Nom. Horse Power as per Section 28 *552* Is Refrigerating Machinery fitted for cargo purposes *No* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines

Dia. of Cylinders *24 1/2 - 4 1/2 - 72* Length of Stroke *48* Revs. per minute *80* Dia. of Screw shaft *1 1/4* as per rule *1 1/4* as fitted *1 1/4* Material of *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 *Yes* 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 *Yes* Length of stern bush *5-0*

Dia. of Tunnel shaft *3-3* as per rule *3-3* as fitted *3-3* Dia. of Crank shaft journals *3-9* as per rule *3-9* as fitted *3-9* Dia. of Crank pin *1 1/4* Size of Crank web *12x27* Dia. of thrust shaft under

collars *1 1/4* Dia. of screw *10-7* Pitch of Screw *15-8* No. of Blades *4* State whether moveable *Yes* Total surface *88 sq. ft.*

No. of Feed pumps *2* Diameter of ditto *2x8* Stroke *24* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* Diameter of ditto *5* Stroke *21* Can one be overhauled while the other is at work *Yes*

No. of Donkey Engines *3* Sizes of Pumps *12x8 1/2 x 12 12x10 x 12 6x3 1/4 x 6* No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room *3 3 1/2* In Holds, &c. *Two each 3 1/2 dia.*

Tunnel well *1 3 1/2 dia.* Coppersams *3 dia (one suction in each)*

No. of Bilge Injections *1* sizes *10* Connected to condenser, or to circulating pump *Yes* Pump is a separate Donkey Suction fitted in Engine room & size *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 in 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 ~~the~~ the deep water line *Yes*

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 *For Bilge Suctions etc.* How are they protected *Interring thru deep plate*

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 *Cylinder Top Platform.*

BOILERS, &c.—(Letter for record *7*)

Manufacturers of Steel *Union Steel Co. Gary Indiana.*

Total Heating Surface of Boilers *8112 sq. ft.* Is Forced Draft fitted *Yes* No. and Description of Boilers *3. Cylindrical Single Pressure*

Working Pressure *210 lbs.* Tested by hydraulic pressure to *315 lbs.* Date of test *23/7/40* No. of Certificate *1*

Can each boiler be worked separately *Yes* Area of fire grate in each boiler *Oil fuel* No. and Description of Safety Valves *Yes*

each boiler *2 Spring loaded* Area of each valve *9.62 sq. ft.* Pressure to which they are adjusted *212 lbs.* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *1 1/2* dia. of boilers *41-9* Length *11-0* Material of shell plates *Steel*

Thickness *15/8* Range of tensile strength *60000 lbs.* Are the shell plates welded or flanged *No* Descrip. of riveting: cir. seams *D.R. LAP.*

long. seams *T.R. D.B.S.* Diameter of rivet holes in long. seams *1 1/2* Pitch of rivets *10* Top of plates on width of butt straps *23 9/23 1/2*

Per centages of strength of longitudinal joint *94.7* Working pressure of shell by rules *230 lbs.* Size of manhole in *16x12* Outside diameter *45 1/16*

Size of compensating ring *Flange* No. and Description of Furnaces in each boiler *3. Mason* Material *Steel* No. of strengthening rings *5 1/6*

Length of plain part *10 1/2* Thickness of plates *3 1/32* Description of longitudinal joint *Welded* Back *1 1/16* Top *1 1/16* Bottom *5/16*

Working pressure of furnace by the rules *238 lbs.* Combustion chamber plates: Material *Steel* Thickness: Sides *1 1/16* Back *1 1/16* Top *1 1/16* Bottom *5/16*

Pitch of stays to ditto: Sides *7x8* Back *7 1/4 x 7 1/4* Top *7x8 1/2* If stays are fitted with nuts or riveted heads *R. Heads.* Working pressure by rules *215 lbs.*

Material of stays *W. Iron* Area at smallest part *4.90* Area supported by each stay *58.10* Working pressure by rules *271 lbs.* End plates in steam space: *Steel*

Material *Steel* Thickness *1 1/4* Pitch of stays *13 1/2 x 17 1/2* How are stays secured *D. Nuts* Working pressure by rules *221 lbs.* Material of stays *Steel*

Area at smallest part *8.290* Area supported by each stay *286* Working pressure by rules *252* Material of Front plates at bottom *Steel*

Thickness *3/16* Material of Lower back plate *Steel* Thickness *3/16* Greatest pitch of stays *16x7* Working pressure of plate by rules *218 lbs.*

Diameter of tubes *3* Pitch of tubes *4 1/2 x 4* Material of tube plates *Steel* Thickness: Front *3/16* Back *3/16* Mean pitch of stays *12 3/4 x 8*

Pitch across wide water spaces *13* Working pressures by rules *283 lbs.* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *11 x 1 1/2* Length as per rule *34* Distance apart *8 3/4* Number and pitch of stays in each *4 7*

Working pressure by rules *286* Steam dome: description of joint to shell *NOT FITTED* % of strength of joint *Yes*

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

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

Tested by Hydraulic Pressure to *2020*

SUPERHEATER.

Type *Yes* Date of Approval of Plan *NOW REMOVED.* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes*

Date of Test *Yes* Is Easing Gear fitted *Yes*

iameter of Safety Valve *Yes* Pressure to which each is adjusted *Yes*

IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded?

Yes.

SPARE GEAR. State the articles supplied:— One spare spindle for main engine, 1 spare set of bottom end blocks. 1 spare set of top end blocks (4). 1 spare eccentric strap. 1 spare impeller shaft. 1 spare valve skirt for feed pumps (Independent). 2 spare main bearing bolts and nuts. 12 spare coupling bolts and nuts. 1 spare set of top end bolts and nuts. 1 spare ring for L.P. piston. 1 spare set of rings for M.P. piston. 1 spare ring for M.P. piston valve. 1 spare propeller blade - 6 spare studs. 10-boiler tubes (plain). 3 staytubes. 20 condenser tubes & 150 air heater tubes. 300 spare condenser ferrules. 1 spare set of bilge pump valves. 1 spare set for air pumps. 12 spare valves for feed and auxiliary pumps. 1 spare set of rings (water end) for feed pump. Assorted bolts & nuts of various sizes. 12 spare burners & 12 spare burner cones for main Flats & rounds of various sizes.

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } Dates whilst on dry dock and afloat.
{ During erection on board vessel - - } June 14, 19, 27. July 1, 3, 5, 8, 9, 11, 15, 17, 18, 22, 23, 24, 31, Aug, 2, 6, 7, 8, 10, 12, 13
Total No. of visits 24.

Is the approved plan of main boiler forwarded herewith

Yes.

Dates of Examination of principal parts—Cylinders 6.8.40 Slides 6.8.40 Covers 6.8.40 Pistons 6.8.40 Rods 6.8.40
Connecting rods 6.8.40 Crank shaft 8.8.40 Thrust shaft 11.7.40 Tunnel shafts 8.7.40 Screw shaft 27.6.40 Propeller 27.6.40
Stern tube 27.6.40 Steam pipes tested 15.7.40 Engine and boiler seatings 11.7.40 Engines holding down bolts 11.7.40
Completion of pumping arrangements 11.9.7.40 Boilers fixed 11.23.7.40 Engines tried under steam 13.8.40
Completion of fitting sea connections 11.1.7.40 Stern tube 27.6.40 Screw shaft and propeller 11.7.40
Main boiler safety valves adjusted 10.12.18/40 Thickness of adjusting washers 11.7.40
Material of Crank shaft 11.7.40 Identification Mark on Do. F. 334. Material of Thrust shaft 11.7.40 Identification Mark on Do. 11.7.40
Material of Tunnel shafts 11.7.40 Identification Marks on Do. 11.7.40 Material of Screw shafts 11.7.40 Identification Marks on Do. 11.7.40
Material of Steam Pipes 11.7.40 Test pressure 630 lbs. per sq. in. 11.7.40
Is an installation fitted for burning oil fuel 11.7.40 Is the flash point of the oil to be used over 150°F. 11.7.40
Have the requirements of Section 49 of the Rules been complied with 11.7.40
Is this machinery duplicate of a previous case 11.7.40 If so, state name of vessel 11.7.40

General Remarks (State quality of workmanship, opinions as to class, &c. The boilers and engines of this vessel are)

of good construction and workmanship. Shell plating, furnaces, end plates and combustion chamber plates drilled and spacing of stays compared with the approved plan and found in order. The boilers were tested by hydraulic pressure to 315 Lbs. per square inch and found good and tight. The boilers and engines are efficiently secured in place. Main and auxiliary steam piping tested to 630 Lbs. per square inch and found good and tight. The crank shaft has been rebuilt - all journals renewed. All pumps and auxiliary machinery examined. These engines and boilers were built under the rules and inspection of the American Bureau of Shipping. The main boilers, main engines, all auxiliary machinery, electric light installation, steam steering gear and windlass tested under steam and found in good order. The fuel oil installation examined and found to comply with section 49 of the Rules. In my opinion, the case merits the favorable consideration of the Committee for a record of L.M.C. 8.40 and propeller shaft seen 6.40 in the Register Book. Fitted for oil fuel F.P. above 150°F.

The amount of Entry Fee ... £ : : When applied for,
Special ... £ : : 19
Donkey Boiler Fee ... £ : : When received,
Travelling Expenses (if any) £ : : 19

Committee's Minute

Assigned L.M.C. 8.40 T.S.C.L. 6.40

C. Hudson

Engineer Surveyor to Lloyd's Register of Shipping.



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