

REPORT ON MACHINERY.

No. 215

THUR. 2 APR 1908

Date of writing Report MARCH 18TH 1908 When handed in at Local Office MARCH 19TH 1908 Port of SEATTLE, WASHINGTON, U.S.A.
No. in Survey held at SEATTLE, WASH., U.S.A. Date, First Survey JULY 3RD 1907 Last Survey MARCH 9TH 1908
Reg. Book. 99 on the Str Chicago. (Number of Visits DAILY)

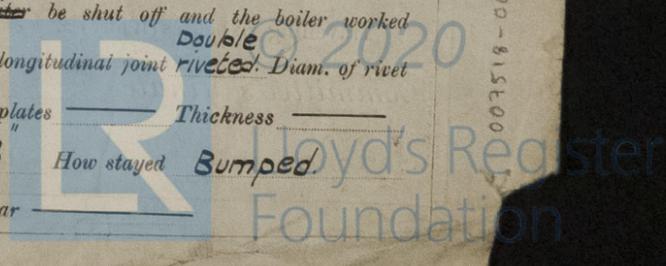
Master H. B. JOYCE Built at Seattle, Wash. By whom built The Moran Company. Tons { Gross 419.33
Net 129.56
Engines made at Seattle, Wash. By whom made The Moran Company. When built 1908.
Boilers made at " " By whom made " " " when made 1908.
Registered Horse Power 650 Owners A. Booth & Co. when made 1908.
Nom. Horse Power as per Section 28 112 Is Refrigerating Machinery fitted for cargo purposes No. Port belonging to SEATTLE
Is Electric Light fitted Yes.

ENGINES, &c.—Description of Engines Vertical triple expansion. No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 15"-24"-38" Length of Stroke 24" Revs. per minute 140 Dia. of Screw shaft as per rule 8.012" Material of Wrot 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 No. 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 Liner fits tight. If two
liners are fitted, is the shaft lapped or protected between the liners Continuous liner. Length of stern bush 35 3/4"
Dia. of Tunnel shaft as per rule 7.1" Dia. of Crank shaft journals as per rule 7.458" Dia. of Crank pin 8" Size of Crank webs H.P. - 5" x 1 1/2"
collars 8" Dia. of screw 9'-10" Pitch of Screw 9'-9" No. of Blades 4 State whether moveable No. Total surface 32.4 sq. ft.
No. of Feed pumps 1-Donkey. Diameter of ditto Donkey 4" Stroke Donkey 6" Can one be overhauled while the other is at work Yes. (Independent pumps.)
No. of Bilge pumps 1-Donkey. Diameter of ditto Donkey 4" Stroke Donkey 6" Can one be overhauled while the other is at work Yes.
No. of Donkey Engines 1 Sizes of Pumps Main 4" Main 8"
In Engine Room 1-4" to F. & B. pump. 1-3" to Donkey pump. No. and size of Suctions connected to both Bilge and Donkey pumps
Ford stores. All connected with both F. & B. and Donkey pumps. In Holds, &c. 1-3" to Fireroom bilge. 1-2" to Fish hold. 1-2" to
No. of Bilge Injections 1 sizes 5" Connected to condenser, or to circulating pump Circ. pump. Is a separate Donkey Suction fitted in Engine room & size Yes - 3"
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 Sea chests fitted. Are they Valves or Cocks Valves.
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 VALVE 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.
Dates of examination of completion of fitting of Sea Connections Nov. 16TH /07 of Stern Tube Nov. 16TH /07 Screw shaft and Propeller Nov. 16TH /07
Is the Screw Shaft Tunnel watertight No TUNNEL Is it fitted with a watertight door _____ worked from _____
BOILERS, &c.—(Letter for record MARCH 9TH /07) Manufacturers of Steel Shell and drum head plates by Worth Bros. Co.
All others by Central Iron & Steel Co.

Total Heating Surface of Boilers 2200 sq. ft. Is Forced Draft fitted No. No. and Description of Boilers One single ended Scotch.
Working Pressure 180 lbs. Tested by hydraulic pressure to 360 LBS Date of test JAN. 17TH /08 No. of Certificate 6
Can each boiler be worked separately _____ Area of fire grate in each boiler 72 sq. ft. No. and Description of Safety Valves to
each boiler 2-4 Improved spring loaded. Area of each valve 12.56" Pressure to which they are adjusted 180 lbs. Are they fitted with easing gear Yes.
Smallest distance between boilers or uptakes and bunkers or woodwork 20" Mean dia. of boilers 14'-0" Length 11'-4 1/2" Material of shell plates Steel.
Thickness 1/2" Range of tensile strength By Surveyor Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double.
Triple riveted long. seams butt scrap. Diameter of rivet holes in long. seams 1/16" Pitch of rivets 9 3/8 at outer row. Lap of plates or width of butt straps 22 1/2" inside.
Per centages of strength of longitudinal joint 86% Working pressure of shell by rules 184 lbs Size of manhole in shell 11" x 15"
Size of compensating ring 28" x 30" x 1/4" No. and Description of Furnaces in each boiler 3 Morison Corrugated. Material Steel. Outside diameter 48 3/8"
Length of plain part _____ Thickness of plates 9/16" Description of longitudinal joint _____ No. of strengthening rings _____
Working pressure of furnace by the rules 183 lbs Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"
Pitch of stays to ditto: Sides 6 1/2" x 6 1/2" Back 6 1/2" x 6 1/2" Top 6 1/2" x 7 1/8" If stays are fitted with nuts or riveted heads Nuts where possible. Working pressure by rules 267 lbs.
Material of stays Steel. Diameter at smallest part 1-23" Area supported by each stay 39 sq. ft. Working pressure by rules 244 lbs End plates in steam space:
Material Steel. Thickness 1/8" Pitch of stays 15" x 15 3/4" How are stays secured & outside. Working pressure by rules 240 lbs. Material of stays Steel.
Diameter at smallest part 2 5/8" Area supported by each stay 236 sq. ft. Working pressure by rules 238 lbs. Material of Front plates at bottom Steel.
Thickness 3/4" Material of Lower back plate Steel. Thickness 5/8" Greatest pitch of stays 6 1/2" Working pressure of plate by rules 345 lbs.
Diameter of tubes 3 o.d. Pitch of tubes 4 1/2" vertical. Material of tube plates Steel. Thickness: Front 3/4" Back 3/4" Mean pitch of stays 8.2"
Pitch across wide water spaces 13 3/4" Working pressures by rules 244 lbs Girders to Chamber tops: Material Steel. Depth and
thickness of girder at centre 9" x 1 3/4" Length as per rule 33 1/2" Distance apart 7 7/8" Number and pitch of stays in each 4-6 1/2" &
Working pressure by rules 191 lbs. Superheater or Steam Drum. 1- Nozzle Drum. Can the superheater be shut off and the boiler worked
separately No. Diameter 30" Length 5'-6" Thickness of shell plates 3/8" Material Steel. Description of longitudinal joint Riveted. Diam. of rivet
holes 15/16" Pitch of rivets 3 1/4" Working pressure of shell by rules 184 lbs Diameter of flue _____ Material of flue plates _____ Thickness _____
stiffened with rings _____ Distance between rings _____ Working pressure by rules _____ End plates: Thickness 3/8" How stayed Bumped.
Working pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____

Letter attached 15-4-08

4810-125500-815500



VERTICAL DONKEY BOILER— Manufacturers of Steel

No.	Description				
Made at	By whom made	When made	Where fixed		
Working pressure	tested by hydraulic pressure to	Date of test	No. of Certificate	Fire grate area	Description of Safety
Valves	No. of Safety Valves	Area of each	Pressure to which they are adjusted	Date of adjustment	
If fitted with easing gear	If steam from main boilers can enter the donkey boiler		Dia. of donkey boiler	Length	
Material of shell plates	Thickness	Range of tensile strength	Descrip. of riveting long. seams		
Dia. of rivet holes	Whether punched or drilled	Pitch of rivets	Lap of plating	Per centage of strength of joint	Rivets Plates
Working pressure of shell by rules	Thickness of shell crown plates	Radius of do.	No. of stays to do.	Dia. of stays	
Diameter of furnace Top	Bottom	Length of furnace	Thickness of furnace plates	Description of joint	
Working pressure of furnace by rules	Thickness of furnace crown plates	Stayed by			
Diameter of uptake	Thickness of uptake plates	Thickness of water tubes	Dates of survey		

SPARE GEAR. State the articles supplied:— 1 pair crank brasses, 1 pair crosshd brasses, 1 set link blocks, 14 condenser tubes, 50 condenser ferrules, 6 boiler tubes, 6 follower bolts, & 6 studs and nuts for cylinder covers. 2 TOP END BOLTS AND 2 BOTT. END BOLTS FOR CONNECTING ROD, 2 MAIN BEARING BOLTS, 1 SET COUPLING BOLTS, 1 SET OF FEED AND BILGE PUMP VALVES

The foregoing is a correct description, ✓

Chetogan Company
A. Lawson Manufacturer.

Dates of Survey while building	During progress of work in shops - -	FROM JULY TO NOVEMBER 1907	Is the approved plan of main boiler forwarded herewith
	During erection on board vessel - -	FROM OCTOBER 1907 TO MARCH 1908	
	Total No. of visits	DAILY	

Dates of Examination of principal parts—Cylinders OCT. /07 Slides OCT. /07 Covers OCT. /07 Pistons OCT. /07 Rods OCT. /07
 Connecting rods NOV. /07 Crank shaft SEPT. /07 Thrust shaft SEPT. /07 Tunnel shafts OCT. /07 Screw shaft NOV. /07 Propeller NOV. /07
 Stern tube NOV. /07 Steam pipes tested JAN. 9TH /08 Engine and boiler seatings DEC. /07 Engines holding down bolts DEC. /07, JAN. /08
 Completion of pumping arrangements JANUARY /08 Boilers fixed JANUARY /08 Engines tried under steam FEB. 12TH & 22ND /08
 Main boiler safety valves adjusted FEB. 7TH /08 Thickness of adjusting washers ADJUSTED BY JAM NUTS LLOYD'S R.H.
 Material of Crank shaft WROT STEEL Identification Mark on Do. 444 448 Material of Thrust shaft WROT STEEL Identification Mark on Do. 437
 SHAFTING MADE BY BETHLEHEM STEEL CO, SOUTH BETHLEHEM, PA, LLOYD'S R.H.
 Material of Tunnel shafts WROT STEEL Identification Marks on Do. 447 Material of Screw shafts WROT STEEL Identification Marks on Do. 442
 LOOSE COUPLING, WROT STEEL, LLOYD'S R.H. 438, 445
 Material of Steam Pipes COPPER Test pressure 360 LBS □

General Remarks (State quality of workmanship, opinions as to class, &c.)
 The materials for shafting and boiler were tested by a Surveyor to the Society. The Engines and boiler built and installed under my daily inspection. Plan of boiler approved by the Committee. The materials and workmanship on the Engines and boiler, and details in connection therewith, are first class and the Society's rules complied with in every detail.
 In my opinion the vessel is eligible to be classed in the Society and to have record of + LMC 3.08 in the Register Book

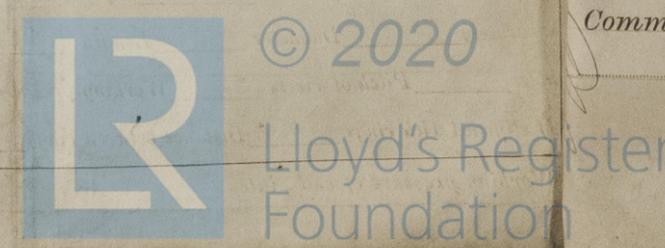
It is submitted that this vessel is eligible for THE RECORD. L.M.C. 3.08. ELEC LIGHT.

J.S. 28.4.08.
28.4.08

The amount of Entry Fee	£ 2	When applied for,
Special	£ 30	March 19... 1908
Donkey Boiler Fee	£	When received,
Travelling Expenses (if any)	£ 8	✓ 19...

James Fowler
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute
Assigned
MAY 1 1908
+ LMC 3.08



Certificate (if required) to be sent to THE MORAN CO., SEATTLE, WASH.

The Surveyors are requested not to write on or below the space for Committee's Minute.

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