

Rpt. 4.

REPORT ON MACHINERY

No. 2834

Date of writing Report *Mar 24th 1920* When handed in at Local Office *Mar 27th 1920* Port of *Baltimore Md*
 No. in Survey held at *Alexandria Va.* Date, First Survey *Nov. 7th 1919* Last Survey *Mar 5th 1920*
 Reg. Book. on the *Steamer Clemence C. Morse* (Number of Visits *16*)

Master *A. Haley* Built at *Alexandria Va* By whom built *Virginia S. B. Co.* Tons { Gross *6061*
 Engines made at *Hamilton Ohio* By whom made *Hooven Owens Rentschler Leo* when made *1919* Net *3759*
 Boilers made at *Chester Pa.* By whom made *Sun Shipbuilding Co.* when made *1919* When built *1920*
 Registered Horse Power _____ Owners *United States* Port belonging to *Alexandria Va*
 Nom. Horse Power as per Section 28 *510* ⁵⁴⁷ Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

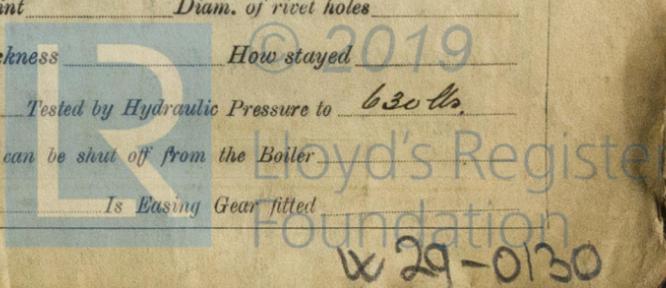
ENGINES, &c.—Description of Engines

Description of Engines		No. of Cylinders	No. of Cranks
Dia. of Cylinders	Length of Stroke	Revs. per minute	Dia. of Screw shaft as per rule as fitted
Is the screw shaft fitted with a continuous liner the whole length of the stern tube in the propeller boss		Is the after end of the liner made water tight	
If the liner is in more than one length are the joints burned		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		Length of stern bush <i>5'-2 1/2"</i>	
Dia. of Tunnel shaft as per rule as fitted	Dia. of Crank shaft journals as per rule as fitted	Dia. of Crank pin	Size of Crank webs
collars	Dia. of screw	Pitch of Screw	No. of Blades
State whether moveable <i>yes</i>		Total surface	
No. of Feed pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
<i>2</i>	<i>12 x 8</i>	<i>24</i>	<i>yes</i>
No. of Bilge pumps	Diameter of ditto	Stroke	Can one be overhauled while the other is at work
<i>4</i>	<i>12 x 8 1/2</i>	<i>12</i>	<i>yes</i>
No. of Donkey Engines	Sizes of Pumps	No. and size of Suctions connected to both Bilge and Donkey pumps	
<i>4</i>	<i>12 x 10 x 12</i>	<i>7 1/2 x 5 x 6</i>	
In Engine Room	<i>2-3 1/2"</i>	Thrust Recess <i>1-0 1/2"</i>	Tunnel <i>1-3 1/2"</i>
<i>No 4, 2-3 1/2"</i>			In Holds, &c. <i>No 1-2, 3 1/2". No 2, 2-3 1/2". No 3, 2-3 1/2"</i>
No. of Bilge Injections	Size	Connected to condenser, or to circulating pump	Is a separate Donkey Suction fitted in Engine room & size
<i>1</i>	<i>10"</i>	<i>yes</i>	<i>yes-3 1/2"</i>
Are all the bilge suction pipes fitted with roses	Are the roses in Engine room always accessible	Are the sluices on Engine room bulkheads always accessible	
<i>yes</i>	<i>yes</i>	<i>yes</i>	
Are all connections with the sea direct on the skin of the ship	Are they Valves or Cocks		
<i>yes</i>	<i>both</i>		
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates	Are the Discharge Pipes above or below the deep water line		
<i>yes</i>	<i>below</i>		
Are they each fitted with a Discharge Valve always accessible on the plating of the vessel	Are the Blow Off Cocks fitted with a spigot and brass covering plate		
<i>yes</i>	<i>yes</i>		
What pipes are carried through the bunkers	How are they protected		
<i>yes</i>	<i>yes</i>		
Are all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times			
<i>yes</i>			
Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges			
<i>yes</i>			
Is the Screw Shaft Tunnel watertight	Is it fitted with a watertight door	worked from	
<i>yes</i>	<i>yes</i>	<i>top platform in E R.</i>	

BOILERS, &c.—(Letter for record) Manufacturers of Steel

Total Heating Surface of Boilers	Is Forced Draft fitted	No. and Description of Boilers
<i>190 lbs</i>	<i>yes</i>	<i>312 Phila</i>
Working Pressure	Tested by hydraulic pressure to	Date of test
<i>190 lbs</i>	<i>yes</i>	
Can each boiler be worked separately	Area of fire grate in each boiler	No. and Description of Safety Valves to each boiler
<i>yes</i>	<i>2 direct spring loaded</i>	<i>9.62 sq ft</i>
Smallest distance between boilers or uptakes and bunkers or woodwork	Mean dia. of boilers	Length
<i>yes</i>		
Thickness	Range of tensile strength	Are the shell plates welded or flanged
long. seams	Diameter of rivet holes in long. seams	Pitch of rivets
Per centages of strength of longitudinal joint	Working pressure of shell by rules	Size of manhole in shell
Size of compensating ring	No. and Description of Furnaces in each boiler	Material
Length of plain part	Thickness of plates	Description of longitudinal joint
Working pressure of furnace by the rules	Combustion chamber plates: Material	Thickness: Sides
Pitch of stays to ditto: Sides	Back	Top
Material of stays	Area at smallest part	Area supported by each stay
Material	Thickness	Pitch of stays
Area at smallest part	Area supported by each stay	Working pressure by rules
Thickness	Material of Lower back plate	Thickness
Diameter of tubes	Pitch of tubes	Material of tube plates
Pitch across wide water spaces	Working pressures by rules	Girders to Chamber tops: Material
thickness of girder at centre	Length as per rule	Distance apart
Working pressure by rules	Steam dome: description of joint to shell	% of strength of joint
Diameter	Thickness of shell plates	Material
Pitch of rivets	Working pressure of shell by rules	Crown plates

SUPERHEATER. Type *Foster* Date of Approval of Plan _____ Tested by Hydraulic Pressure to *630 lbs.*
 Date of Test *American Bureau of Shipping* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler
 Diameter of Safety Valve *2"* Pressure to which each is adjusted *225 lbs.* Is Easing Gear fitted _____



IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— *Set top end brasses with bolts nuts, 1 set bottom end brass with bolts nuts, 2 main bearing bolts nuts, 1 H. P. valve spindle, 12 junk ring bolts, 1 set coupling bolts, 1 set springs each for H.P. & L.P. pistons, 1 Spring ring for L.P. piston, 2 Safety valve springs, 12 cylinder cover & 12 steam chest cover studs nuts, 6 valves & guards for air pump. Set valves & guards for air pump, 1 set valves-guards & springs for each independent pump fitted. Assorted bolts-nuts-sheet & bar iron, 1 propeller blade.*

The foregoing is a correct description,

Virginia Ship Bldg Corp
per D. W. James Manufacturer.
Plant Mgr

Dates of Survey while building: During progress of work in shops --- *Nov. 7-14-21. Dec. 2-9-23-31. Jan 9-16-20-28 Feb. 3-10-13-26 Mar 5.*
During erection on board vessel --- *-16.*
Total No. of visits *-16.*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
Connecting rods Crank shaft Thrust shaft Tunnel shafts Screw shaft Propeller

Stern tube Steam pipes tested *Feb 13th* Engine and boiler seatings Engines holding down bolts

Completion of pumping arrangements *Feb 26.* Boilers fixed *Feb. 10th* Engines tried under steam *March 5th*

Completion of fitting sea connections *Jan 9th* Stern tube *Dec. 31.* Screw shaft and propeller *Jan 9th*

Main boiler safety valves adjusted *Mar 5th* Thickness of adjusting washers *Star. A 1 1/2. F 1 3/8. Anns S 1 3/8. P 1 3/8. F 1 9/16. A 1 9/16.*

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

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

Material of Steam Pipes *Steel* Test pressure *500 by U.S. Local Inspectors*

Is an installation fitted for burning oil fuel *yes* Is the flash point of the oil to be used over 150°F. *yes*

Have the requirements of Section 49 of the Rules been complied with *yes*

Is this machinery duplicate of a previous case *yes.* If so, state name of vessel *Gunstan Hall - Betty Bell.*

General Remarks (State quality of workmanship, opinions as to class, &c.)

Boilers and machinery have been installed under special survey. Tried out under steam and found to work in satisfactory manner. The machinery in this vessel is eligible in my opinion to have notation in the register book # L.M.C. 3.20. Electric light. forced draft fitted for the burning of oil fuel 7P above 150 degrees

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 3.20 F.D.

FITTED FOR OIL FUEL 3.20 F.P ABOVE 150°F.

Subject to the screw shaft being specially examined at joint of liners before the end of March 1922.

JWD

GRS

The amount of Entry Fee ... £ *\$15.00;* When applied for, *Mar 20 1920.*

Special *Credit Philadelphia \$75.58.* £ *\$235.75.*

Donkey *Baltimore \$75.58.* £ *235.75.* When received, *Philadelphia \$225.00 + \$10.00 Aug. 20. 1919*

" *Baltimore \$75.58.* £ *31.75.* Philadelphia *6.00.*

Travelling Expenses (if any) *Balto. 40.00.* Philadelphia *6.00.*

Committee's Minute *New York MAR 3 U 1920*

Assigned *+ L.M.C. 3.20.*

Subject MACHINERY CERT. WRITTEN 13/4/20.

John. M. Sheriff
Engineer Surveyor to Lloyd's Register of Shipping.



Ans

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