

REPORT ON MACHINERY.

No. 19884

Received at London Office

FEB 1922

Date of writing Report *Jan 11 1922* When handed in at Local Office *10 1/2* Port of *New York & Jacksonville*
 No. in Survey held at *1012* Date, First Survey *19 Mar 1920* Last Survey *13 January 1922*
 Reg. Book *11010* on the *Boiler & Machinery* "BYRON D. BENSON" (Number of Visits *62*)
 Master Built at *Tampa, Fla* By whom built *Oscar Daniels Co.* Tons {Gross *8211.98* Net *5108* When built *1922*
 Engines made at *Jersey City, N.J.* By whom made *Vulcan Iron Works, Inc.* when made *1921*
 Boilers made at *Jersey City, N.J.* By whom made *Federal Ship Building Company* when made *1921*
 Registered Horse Power _____ Owners *Indewater Oil Co.* Port belonging to *New York*
 Nom. Horse Power as per Section 28 *5957-596* Is Refrigerating Machinery fitted for cargo purposes *No.* Is Electric Light fitted *Yes*

ENGINES, &c.—Description of Engines *Direct Acting Quadruple Expansion* No. of Cylinders *4* No. of Cranks *4*
 Dia. of Cylinders *24-35-51-75* Length of Stroke *31* Revs. per minute *74* Dia. of Screw shaft *14.88* Material of *Steel*
 as fitted *15.25* 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 *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 *5-9*
 Dia. of *Shaft* as per rule *13.48* Dia. of Crank shaft journals as per rule *14.15* Dia. of Crank pin *14 3/4* Size of Crank web *9 1/2 x 28* Dia. of thrust shaft under
 collars *14 1/2* Dia. of screw *17-9* Pitch of Screw *17-9* No. of Blades *4* State whether motable *Yes* Total surface *100 sq*
 No. of Feed pumps *3* Diameter of ditto *12x8* Stroke *14* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *3 1/2* Stroke *12 1/2* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *1* Sizes of Pumps *8 x 8 1/2 x 12* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *4-3' vertical 4-3' bilge 1-4' donkey suction* In Holds, &c. *8-3' in fore hold. One 7' in fore pump room. One 3' in fore.*
 one 3' in fore hold.
 No. of Bilge Injections *1* sizes *10"* Connected to *condenser or to circulating pump* *Yes* Is a separate Donkey Suction fitted in Engine room & size *Yes 4"*
 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 *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 *below*
 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 _____ 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*
 Is the Screw Shaft Tunnel watertight *Yes* Is it fitted with a watertight door *Yes* worked from _____

BOILERS, &c.—(Letter for record _____) Manufacturers of Steel _____
 Total Heating Surface of Boilers *8418 sq* Forced Draft fitted *Yes* No. and Description of Boilers *3 Single Ended*
 Working Pressure _____ Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____
 Can each boiler be worked separately _____ Area of fire grate in each boiler _____ No. and Description of Safety Valves to
 each boiler _____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____
 Smallest distance between boilers or uptakes and bunkers or woodwork _____ Mean dia. of boilers _____ Length _____ Material of shell plates
 Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams
 long. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps
 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 _____ Outside diameter _____
 Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____
 Material of stays _____ Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____
 Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____
 Area at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness of _____ Back _____ Mean pitch of stays _____
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and
 thickness of girder at centre _____ Strength as per rule _____ Distance apart _____ Number and pitch of stays in each _____
 Working pressure by rules _____ Steam dome: description of joint to shell _____ % of strength of joint _____
 Diameter _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____
 Pitch of rivets _____ Working pressure of shell by rules _____ Crown plates _____ Thickness _____ How stayed _____

SUPERHEATER: Type _____ Date of Approval of Plan _____ Tested by Hydraulic Pressure to _____
 Date of Test _____ Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler _____
 Diameter of Safety Valve _____ Pressure to which each is adjusted _____ Is Easing Gear fitted _____

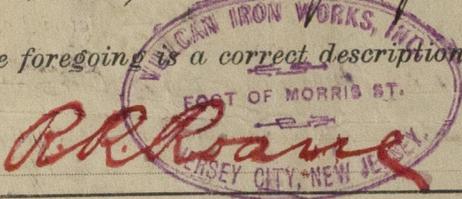
IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:

Propeller shaft & nut: 2 propeller blades: 1 set of slide & nut for one blade: 1 set of coupling bolts & nuts: 1 stern nut & complete: 1 section of crank shaft: 1 propeller brace: 1 set of packing rings for H.P. & 2nd M.P. pistons: 1 thrust block & nut: 1 eccentric strap complete: 1 set of crank pin & brasses: 1 set of top end brasses: 2 top end bolts & nuts: 2 bottom end bolts & nuts: 2 main bearing bolts & nuts: 1 set of coupling bolts for intermediate shafting: 12 guide cover studs & nuts: 1 valve spindle & link block: Relief valve springs for H.P. 1st & 2nd M.P. & guides: metallic packs for piston & valve rods: 1 air pump rod & bucket: 1 set of valves & seats for bilge pumps: 1 set of valves and seats for air pump & 20 plain & 5 slide valves for main boilers: 25 condenser tubes & 100 ferrules: 1 set of bolts & nuts: 1 set of iron rods of mixed steel & a quantity of hand tools.

The foregoing is a correct description,



Manufacturer.

Dates of Survey while building: During progress of work in shops - New York 1920 - Mar. 19, 29, Apr. 1, 15, 22, May 3, 13, 25, 28, Jun. 14, 21, Jul. 6, 14, 26, Aug. 9, 21, 26, Sep. 10, 24, 25, 28, Oct. 4, 13. During erection on board vessel - 1921 - Jan. 3, 10, 17, 19, 21, June 7, 17, Aug. 9, 21, 28, 30, Sept. 3, 15, 17, 27, Oct. 3, 6, 18. Total No. of visits 62.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts: Cylinders 23/2/20, Slides 28/2/20, Covers 28/2/20, Pistons 3/4/21, Rods 3/4/21, Connecting rods 28/2/20, Crank shaft 7/12/20, Thrust shaft 28/5/20, Tunnel shafts 25/5/20, Screw shaft 28/5/20, Propeller 25/5/20, Stern tube 25/5/20, Steam pipes tested 18/10/21, Engine and boiler seatings 26/8/21, Engines holding down bolts 18 Oct 1921, Completion of pumping arrangements 13rd Dec 1921, Boilers fixed 3 Oct 1921, Engines tried under steam 21 Dec 1921, Completion of fitting sea connections 15th Sept 1921, Stern tube 30/8/21, Screw shaft and propeller 15 Sept 1921, Main boiler safety valves adjusted 10/Jan/22, Thickness of adjusting washers. Material of Crank shaft J. Steel, Identification Mark on Do. 668, Material of Thrust shaft J. Steel, Identification Mark on Do. 668, Material of ~~main~~ shafts J. Steel, Identification Marks on Do. 668, Material of Screw shafts J. Steel, Identification Marks on Do. 668, Material of Steam Pipes Steel, Test pressure 675 lbs.

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: Sect. 49 Report 1922.

General Remarks (State quality of workmanship, opinions as to class, &c.): The Boiler and Machinery of this vessel have been constructed under Special Survey and in accordance with the Rules & approved plans. The materials and workmanship are good and efficient. The Machinery has now been disconnected for shipment.

The above machinery has been satisfactorily installed on board & on completion was tried under full working conditions & found satisfactory. Safety valves have been adjusted under steam to 270 lbs in the case of main boilers & to 180 lbs for donkey boiler.

In the opinion of the undersigned the vessel is eligible for the record of **L.M.C. (with date)** in the Register.

It is submitted that this vessel is eligible for THE RECORD. F.L.M.C. - 1.22. F.D. C.L. Fitted for Oil Fuel, 1.22, F.P. above 150°F.

The amount of Entry Fee ... \$30.00: When applied for, Special 14/3/21 ... \$523.92: When received, Donkey Boiler Fee ... \$523.92: Travelling Expenses (if any) £ See correspondence re fees attached. 3.6.22

Committee's Minute New York JAN 31 1922. Assigned + L.M.C. - 1.22. MACHINERY CERT WRITTEN 24.6.22 dated 9.3.22. J. J. Williams, Engineer Surveyor to Lloyd's Register of Shipping.



Certificate (if required) to be sent to the Surveyors are requested to write on or below the space for Committee's Minute.

If not, state whether, and when, one will be sent.

50, 8, 13. - Copyable Int.