

Rpt. 4.

# REPORT ON MACHINERY.

No. 150

Date of writing Report 24/2/21 1921 When handed in at Local Office 24/2/21 1921 Port of Cleveland Ohio Received at London Office WED MAY 11 1921  
 No. in Survey held at Hamilton Ohio Date, First Survey 18<sup>th</sup> Dec. 1920 Last Survey 23<sup>rd</sup> Feb 1921  
 Reg. Book. on the ENG. No 4909. HULL No 43 (Number of Visits.....) Tons } Gross  
 Net

Master \_\_\_\_\_ Built at Portland Oreg. By whom built Northwest B. & O. Coy. When built \_\_\_\_\_  
 Engines made at Hamilton O. By whom made Horven Owens & Rentschler Coy. when made 1921  
 Boilers made at \_\_\_\_\_ By whom made \_\_\_\_\_ when made \_\_\_\_\_  
 Registered Horse Power \_\_\_\_\_ Owners \_\_\_\_\_ Port belonging to \_\_\_\_\_  
 Nom. Horse Power as per Section 28 \_\_\_\_\_ Is Refrigerating Machinery fitted for cargo purposes \_\_\_\_\_ Is Electric Light fitted \_\_\_\_\_

**ENGINES, &c.**—Description of Engines Triple Expansion Vertical No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27 1/2" x 46" x 78" Length of Stroke 51 Revs. per minute 77 Dia. of Screw shaft \_\_\_\_\_ as per rule \_\_\_\_\_ Material of screw shaft \_\_\_\_\_ as fitted \_\_\_\_\_  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_ Is the after end of the liner made water tight in the propeller boss \_\_\_\_\_  
 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 \_\_\_\_\_  
 Dia. of Tunnel shaft \_\_\_\_\_ as per rule 14.6" Dia. of Crank shaft journals \_\_\_\_\_ as per rule 15.3" Dia. of Crank pin 16 1/4" Size of Crank webs 30 1/2" x 10 1/2" Dia. of thrust shaft under collars 16" Dia. of screw \_\_\_\_\_ Pitch of Screw \_\_\_\_\_ No. of Blades \_\_\_\_\_ State whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_  
 No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
 No. of Bilge pumps 2 Diameter of ditto 5" Stroke 24" Can one be overhauled while the other is at work eps  
 No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_  
 In Engine Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_  
 No. of Bilge Injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate Donkey Suction fitted in Engine room & size \_\_\_\_\_  
 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 \_\_\_\_\_  
 Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_  
 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 \_\_\_\_\_  
 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 \_\_\_\_\_  
 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 \_\_\_\_\_  
 Are the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_  
 Is the Screw Shaft Tunnel watertight \_\_\_\_\_ Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

**BOILERS, &c.**—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_  
 Total Heating Surface of Boilers \_\_\_\_\_ Is Forced Draft fitted \_\_\_\_\_ No. and Description of Boilers \_\_\_\_\_  
 Working Pressure 210\* 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 \_\_\_\_\_ rivets \_\_\_\_\_ 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 \_\_\_\_\_ top \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_  
 bottom \_\_\_\_\_ Thickness \_\_\_\_\_ bottom \_\_\_\_\_  
 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: Front \_\_\_\_\_ 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 \_\_\_\_\_ Length 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 \_\_\_\_\_

**UPERHEATER.** 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 \_\_\_\_\_



W272-0099

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— Two top end bushes, with bolts + nuts. Two bottom end bushes, with bolts + nuts. Two main bearing bolts + nuts. Two sets of coupling bolts + nuts. Set of valves for air + bilge pumps. Set of rings for H.P. I.P. + S.P. pistons. Air pump rod. H.P. valve stem. Set of link block brasses. Set of H.P. piston valve rings. Follows studs for pistons. Cylinder cover + valve chest cover studs.

The foregoing is a correct description,

Hooven Owens Reuschling & Co. Manufacturers.

Dates of Survey while building: During progress of work in shops -- 1920 18 Dec. 1921 4 Jan. 18 Jan. 25 Jan. 8 Feb. 15 Feb. 23 Feb. During erection on board vessel --- Total No. of visits

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts: Cylinders 4/1/21, 18/1/21, 25/1/21. Slides 4/1/21, 15/2/21. Covers 15/2/21. Pistons 4/1/21, 15/2/21. Rods 4/1/21, 15/2/21. Connecting rods 15/2/21. Crank shaft 15/2/21. Thrust shaft 23/2/21. Tunnel shafts. Screw shaft. Propeller. Stern tube. Steam pipes tested. Engine and boiler seatings. Engines holding down bolts. Completion of pumping arrangements. Boilers fixed. Engines tried under steam. Completion of fitting sea connections. Stern tube. Screw shaft and propeller. Main boiler safety valves adjusted. Thickness of adjusting washers. Material of Crank shaft Steel. Identification Mark on Do. LLOYDS. Material of Thrust shaft Steel. Identification Mark on Do. LLOYDS 3143. Material of Tunnel shafts. Identification Marks on Do. Material of Screw shafts. Identification Marks on Do. Material of Steam Pipes. Test pressure. Is an installation fitted for burning oil fuel. 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. If so, state name of vessel.

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

The above Engines have been built under Special Survey. The materials + workmanship employed in their manufacture, so far as can be seen, are sound + efficient. When the Engines have been satisfactorily installed in the vessel proved satisfactory under working conditions + spare gear supplied as required by the Rules; this vessel will be eligible in my opinion for Record # L.M.C. (with date)

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

The amount of Entry Fee ... \$ : : When applied for, 3/5-L.M.C. fee to be Special ... \$ : : 19. Credited to Cleveland Donkey Boiler Fee ... \$ : : When received, Travelling Expenses (if any) \$ 89.90 : : 19.

G. Hammond.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York, APR 19, 1921

Assigned.

See P.O. Rpt 626



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