

REC'D NEW YORK JUN -6 1921

Rpt. 4.

# REPORT ON MACHINERY.

No. 155

Date of writing Report 9/4/21 When handed in at Local Office 9/4/21 Port of Cleveland Ohio  
 No. in Survey held at Hamilton Ohio Date, First Survey 10/3/21 Last Survey 4/4/1921  
 Reg. Book. on the ENG. N<sup>o</sup> 4911 HULL N<sup>o</sup> 45. (Number of Visits 4)

Received at London Office THU 30 JUN 1921

Master Built at Portland Ore. By whom built Northwest Bridge & Iron Co Tons Gross  
 Engines made at Hamilton Ohio By whom made Hooven Owens & Rentschler Co 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 \_\_\_\_\_

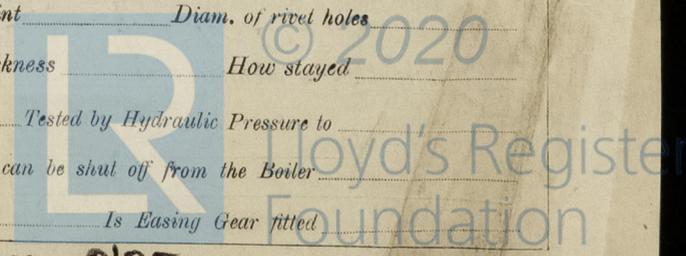
**ENGINES, &c.**—Description of Engines Triple expansion vertical No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 27 1/2 - 46 - 78" Length of Stroke 51 Revs. per minute 77 Dia. of Screw shaft as per rule Material of screw shaft as fitted  
 Is the screw shaft fitted with a continuous liner the 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 web 30 1/2 x 10 1/8" 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 yes  
 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 \_\_\_\_\_ plate \_\_\_\_\_  
**No. and Description of Furnaces in each boiler** \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
 Length of plain part \_\_\_\_\_ top \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ bottom \_\_\_\_\_ 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: 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 \_\_\_\_\_

004394-004404-0185



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. + L.P. pistons. Air pump rod. H.P. valve stem. Set of link block brasses. Set of H.P. piston valve rings. Follower studs for pistons. Cylinder covers + valve chest cover studs.

The foregoing is a correct description,

Hoover Overhauls Co  
Manufacturers.

Dates of Survey while building { During progress of work in shops - - } March 10, 17, 24 April 4.  
{ 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 24/3/21 4/4/21 Slides 24/3/21 4/4/21 Covers 4/4/21 " " donkey " 24/3/21 4/4/21 Pistons 24/3/21 4/4/21 Rods 24/3/21 4/4/21  
Connecting rods 24/3/21 4/4/21 Crank shaft 24/3/21 4/4/21 Thrust shaft 4/4/21 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  
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, used in their manufacture, so far as can be seen, are sound & efficient. When they 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 of L.M.C. (with date)

Certificate (if required) to be sent to

The amount of Entry Fee ... \$ : : When applied for,  
2/5 LMC fee to be Special ... \$ : :  
Credited to Cleveland  
Donkey Boiler Fee ... \$ : :  
Travelling Expenses (if any) \$ 36.75 : :  
acc. N° 1751 \$ 50.00 : :  
Committee's Minute New York JUN 14 1921

E. Hammond

Engineer Surveyor to Lloyd's Register of Shipping.

Assigned See Ped. 634



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