Rpt. 4.

REPORT ON MACHINERY. No. 1189

Received at London Office

Date of writing Report 6 Sept. 1919 When handed in at Local Office 18 Sept. 1919 Port of Boston

No. in Reg. Book. Survey held at Rockland, Me & Portland, Me Date, First Survey 15 Dec 1917. Last Survey 27 August 1919 (Number of Visits 25)

✓ on the wood twin ✓ screw steamer RIPOGENUS Tons Gross 2278 Net 1312

Master C.H. Saunders Built at Rockland, Me By whom built Francis Cobb S.B. Co When built 1919

Engines made at Portland, Me By whom made The Portland Co. when made 1919

Boilers made at Portland, Me By whom made The Portland Co. when made 1919

Registered Horse Power ✓ Owners Great Northern Paper Co. Port belonging to Searsport, Me.

Nom. Horse Power as per Section 28 226 ✓ Is Refrigerating Machinery fitted for cargo purposes ____ Is Electric Light fitted ____

ENGINES, &c.—Description of Engines twin screw triple expansion No. of Cylinders 3 each engine No. of Cranks 3 each engine

Dia. of Cylinders 15"-22"-38" ✓ Length of Stroke 24" ✓ Revs. per minute 120 Dia. of Screw shaft as per rule ~~8"~~ 7.86 as fitted 8 1/4 Material of screw shaft steel

Is the screw shaft fitted with a continuous liner the whole length of the stern tube no 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 ✓ 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 yes Length of stern bush 36 1/2"

Dia. of Tunnel shaft as per rule ✓ as fitted ✓ Dia. of Crank shaft journals as per rule 7.35 ✓ as fitted 7 1/2 Dia. of Crank pin 7 1/2 Size of Crank webs 14 3/8" x 6" Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9'-6" Pitch of Screw 10'-0" No. of Blades 4 State whether moveable no Total surface 28.6 ☐' each

No. of Feed pumps 2 Diameter of ditto 10" x 7" Stroke 12" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 Diameter of ditto 2" Stroke 12" Can one be overhauled while the other is at work yes. ✓

No. of Donkey Engines One Sizes of Pumps 10 x 10 1/4 x 12 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 2-2" + 2-3" In Holds, &c. 2-4"

No. of Bilge Injections 2 sizes 4" ✓ Connected to ~~condenser, or to~~ circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 8" ✓

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 ✓

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 above

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 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 27 May 1919 of Stern Tube 5 April 1918 Screw shaft and Propeller 27 May 1919

Is the Screw Shaft Tunnel watertight ✓ Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &c.—(Letter for record a) Manufacturers of Steel Lukens I + S. Co. ✓

Total Heating Surface of Boilers 4470 Is Forced Draft fitted no No. and Description of Boilers 2 Scotch

Working Pressure 180 lbs Tested by hydraulic pressure to 270 lbs Date of test 29 April 1919 No. of Certificate 29

Can each boiler be worked separately yes Area of fire grate in each boiler 82.3 ☐' No. and Description of Safety Valves to each boiler 2 spring loaded Area of each valve 9.62 ☐" 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 8" Mean dia. of boilers 14'-4" Length 13'-4" Material of shell plates steel

Thickness 1 5/16 Range of tensile strength 60000 lbs Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double lap long. seams T.R.D.B.S. Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 9 3/4" Lap of plates or width of butt straps outside 13 3/4 inside 22 1/4

Per centages of strength of longitudinal joint rivets 84 plate 85 Working pressure of shell by rules 190 ✓ Size of manhole in shell 11" x 15"

Size of compensating ring 38" x 1 1/8" No. and Description of Furnaces in each boiler 3 Morison Material steel Outside diameter 48 1/2"

Length of plain part top ✓ bottom ✓ Thickness of plates crown 19/32" bottom 19/32" Description of longitudinal joint welded No. of strengthening rings ✓

Working pressure of furnace by the rules 194 ✓ Combustion chamber plates: Material steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 5/8"

Pitch of stays to ditto: Sides 7" x 7" Back 6.66" x 7" Top 7" x 7 1/2" If stays are fitted with nuts or riveted heads Top nuts riveted Working pressure by rules 204 ✓

Material of stays iron Diameter at smallest part 1.39" Area supported by each stay 52 1/2 ☐" Working pressure by rules 180 End plates in steam space:

Material steel Thickness 1" Pitch of stays 15" How are stays secured Double nuts Working pressure by rules 199 ✓ Material of stays iron

Diameter at smallest part 2 5/8" Area supported by each stay 225 ☐" Working pressure by rules 180 Material of Front plates at bottom steel

Thickness 25/32" Material of Lower back plate steel Thickness 3/4" Greatest pitch of stays 7" x 6.66" Working pressure of plate by rules 290

Diameter of tubes 3" Pitch of tubes 4" x 4 1/8" Material of tube plates steel Thickness: Front 25/32" Back 25/32" Mean pitch of stays 10 3/16"

Pitch across wide water spaces 13" Working pressures by rules 210 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 7" x 1 5/8" Length as per rule 27" Distance apart 7 1/2" Number and pitch of stays in each 3-7"

Working pressure by rules 209 Superheater or Steam chest; how connected to boiler none Can the superheater be shut off and the boiler worked separately ✓ Diameter ✓ Length ✓ Thickness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diam. of rivet holes ✓ Pitch of rivets ✓ Working pressure of shell by rules ✓ Diameter of flue ✓ Material of flue plates ✓ Thickness ✓ Stiffened with rings ✓ Distance between rings ✓ Working pressure by rules ✓ End plates: Thickness ✓ How stayed ✓ Working pressure of end plates ✓ Area of safety valves to superheater ✓ Are they fitted with easing gear ✓

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 casing 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 Radius of do. Stayed by

Diameter of uptake ✓ Thickness of uptake plates Thickness of water tubes Dates of survey

SPARE GEAR. State the articles supplied :— Two connecting rod top end bolts + nuts, Two connecting rod bottom end bolts + nuts, One set main bearing bolts + nuts, One set of shaft coupling bolts. One set of feed + bilge pump valves Assorted nuts, bolts + iron One spare tail shaft, one connecting rod brass.

Sign here

The foregoing is a correct description,

The Portland Co. Manufacturer.

By Geo. F. Reynolds Gen. Manager.

Dates of Survey while building — During progress of work in shops — 1917 Dec 15 1918 Jan 12 Feb 4 Mar 19 June 21 July 18, Oct 18, Nov 8, 19 1919 Jan 7, Mar 1, 13, Apr 7, 10, 29

During erection on board vessel — 1919 Feb 27 Mar 26 Apr 5, 17, May 27, June 3, 9, 23 July 22 Aug 27

Total No. of visits 25

Is the approved plan of main boiler forwarded herewith Yes ✓

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 15/12/17 Slides 19/3/18 Covers 19/3/18 Pistons 19/3/18 Rods 12/1/18

Connecting rods 12/1/18 Crank shaft 12/1/18 Thrust shaft 13/3/19 Tunnel shafts ✓ Screw shaft 13/3/19 Propeller 13/3/19

Stern tube 26/3/19 Steam pipes tested 22/6/19 Engine and boiler seatings 9/6/19 Engines holding down bolts 22/6/19

Completion of pumping arrangements 22/6/19 Boilers fixed 22/6/19 Engines tried under steam 27/8/19

Main boiler safety valves adjusted 27/8/19 Thickness of adjusting washers Lock nuts fitted

Material of Crank shaft Steel Identification Mark on Do. F245 Material of Thrust shaft Steel Identification Mark on Do. F245

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. F245

Material of Steam Pipes Copper One steel Test pressure 360 lbs + 550 lbs.

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

The machinery + boilers of this vessel have been built under Special Survey in accordance with the Rules + approved plans + the workmanship + material are good. They have been satisfactorily tried under full power at sea + they are now in good condition + eligible, in my opinion, to receive the notation + L.M.C. 8.19 (in red) in the Register Book.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 8.19.

MACHINERY CERTIFICATE WRITTEN. 11.11.19

Rcd 15/10/19

Certificate (if required) to be sent to Boston

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

The amount of Entry Fee .. £ $ 15.00 When applied for, ... 19.....

Special .. .. .. £ 160.00

Donkey Boiler Fee .. .. £ : : When received, 24/9/ 19

Travelling Expenses (if any) £ : :

John S. Heck.

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

Committee's Minute

Assigned + LMC 8.19 Subject