

Rpt. 4.

REPORT ON MACHINERY.

No. 992

Received at London Office

Date of writing Report Sep. 4 1920 When handed in at Local Office Sep 16 1920 Port of Seattle Wash. U.S.A.No. in Survey held at Lacoma Wash. Date, First Survey February 9th Last Survey August 6th 1920
Reg. Book. (Number of Visits 21)FIRST ENTRY on the Steel Screw Steamer "RED HOOK" (Builder's Yard No. 33) Tons { Gross 4752
Net 4274Master A. G. Lawson Built at Lacoma By whom built Todd Dry Dock & Construction Corp. When built 1920Engines made at Lacoma By whom made Todd Dry Dock & Construction Corp. when made 1920Boilers made at Lacoma By whom made Todd Dry Dock & Construction Corp. when made 1920Registered Horse Power 2300 Owners Todd Dry Dock & Construction Corp. Port belonging to Lacoma Wash.Nom. Horse Power as per Section 28 472 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines

Triple ExpansionNo. of Cylinders 3 No. of Cranks 3No. of Cylinders 24-40-70 Length of Stroke 48 Revs. per minute 75 Dia. of Screw shaft 14.28 as per rule 13.65 Material of Steel
as fitted 14.67 screw shaftIs 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 tightthe 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 partbetween the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive yes If twobearings are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 4'-9"Dia. of Tunnel shaft 12.65 as per rule 13.3 Dia. of Crank shaft journals 13.3 as fitted 13.3 Dia. of Crank pin 13.3 Size of Crank webs 7 1/2 x 25 Dia. of thrust shaft undercollars 13 3/8 Dia. of screw 17-6" Pitch of Screw 15'-0" No. of Blades 4 State whether moveable No Total surface 85.6 sqNo. of Feed pumps 2 Diameter of ditto 12" x 18" Stroke 18" Can one be overhauled while the other is at work yesNo. of Bilge pumps 2 Diameter of ditto 8" Stroke 20" Can one be overhauled while the other is at work yesNo. of Donkey Engines 1 Sizes of Pumps Duplex 10" x 8" x 12" No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room 3-3 1/2" Boiler Room 2-3 1/2" In Holds, &c. No. 1 Hold 2-3 1/2" No. 2 Hold 2-3 1/2"No. 3 Hold 2-3 1/2" No. 4 Hold 2-3 1/2" After Peak 1-3"No. of Bilge Injections 1 sizes 10" Connected to condenser circulating pump yes Is a separate Donkey Suction fitted in Engine room & size yes 3 1/2"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 NoneAre all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves and CocksAre 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 BelowAre 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 yesThat pipes are carried through the bunkers None How are they protected yesAre all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges yesIs the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Upper deckMILERS, &c.—(Letter for record New York (S) 15-1920 Manufacturers of Steel Illinois Steel Co.Total Heating Surface of Boilers 6831 Is Forced Draft fitted yes No. and Description of Boilers 3 Scotch MarineWorking Pressure 190 lbs Tested by hydraulic pressure to 285 lbs Date of test June 23-1920 No. of Certificate ✓Can each boiler be worked separately yes Area of fire grate in each boiler 56.37 sq No. and Description of Safety Valves toeach boiler 2-3 1/2" spring loaded Area of each valve 9.62 sq Pressure to which they are adjusted 190 lbs Are they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers 12" Mean dia. of boilers 13'-10 3/8" Length 11.9 1/2' Material of shell plates SteelThickness 1 3/8" Range of tensile strength 58000 to 73000 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double LapLong. seams Triple Butt Diameter of rivet holes in long. seams 13/8" Pitch of rivets 9 3/16" Lap of plates or width of butt straps 14"-20 1/2"Percentages of strength of longitudinal joint rivets 97.96 Working pressure of shell by rules 223 Size of manhole in shell Head 12" x 16"Plate 85.03 No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 46 1/8"Length of plain part top Thickness of plates bottom 9 1/16" Description of longitudinal joint Welded No. of strengthening rings ✓Working pressure of furnace by the rules 195 Combustion chamber plates: Material Steel Thickness: Sides 4 1/16" Back 4 1/16" Top 4 1/16" Bottom 7 1/8"Pitch of stays to ditto: Sides 7" x 6 1/2" Back 7 1/2" x 7" Top 7 1/2" x 8 1/4" If stays are fitted with nuts or riveted heads Top & Sides Nuts Working pressure by rules 221Material of stays Steel Area at smallest part 1.22 Area supported by each stay 53.37 sq Working pressure by rules 205 End plates in steam space:Material Steel Thickness 1 5/32" Pitch of stays 17 1/2" x 17 1/2" How are stays secured Double Nuts Working pressure by rules 195 Material of stays SteelArea at smallest part 6.49 Area supported by each stay 306.25 Working pressure by rules 220 Material of Front plates at bottom SteelThickness 3 1/2" Material of Lower back plate Steel Thickness 4 1/16" Greatest pitch of stays 1 Stay Only Working pressure of plate by rules 237Diameter of tubes 2 1/2" Pitch of tubes 3 5/8" x 3 5/8" Material of tube plates Steel Thickness: Front 3 1/4" Back 3 1/4" Mean pitch of stays 7 1/4"Pitch across wide water spaces 14 1/16" Working pressures by rules 231.4 Girders to Chamber tops: Material Steel Depth andThickness of girder at centre 11" (8+13) Length as per rule 2'-10" Distance apart 10'-8 1/2" Number and pitch of stays in each 3 Centre 7 1/2" Sides 8 3/4"-10"Working pressure by rules 231 Steam dome: description of joint to shell None % of strength of joint

Diameter of rivet holes

Thickness of shell plates

Material

Description of longitudinal joint

Thickness

How stayed

SUPERHEATER. Type

Date of Approval of Plan

Tested by Hydraulic Pressure to

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

6920-171100-411200

007714-007721-0363

No.

If so, is a report now forwarded?

3-HP, IP and LP Piston Blocks
11- IP Piston Springs

20 L.P. Piston springs
2 Connecting rod top end bearings
1 Connecting rod bottom end (crank pin) bearing
1 Solid 4 blade cast iron propeller
a quantity of assorted bolts, nuts &
screws of various sizes

The foregoing is a correct description,

2nd Dry Dock & Const. Corp.

J. A. Evers, Genl. Mgr.

Manufacturer.

Dates of Survey while building { During progress of work in shops - - Feb 9. April 2-14-19-30 May 12. 20-29 June 14-23. 29 (11)
 { During erection on board vessel - - - June 20-23-29 July 10-12-21-26-28-30. Aug 6 (10)
 Total No. of visits 21 Is the approved plan of main boiler forwarded

Is the approved plan of main boiler forwarded herewith copy

“ “ “ *donkey* “ “ “

Dates of Examination of principal parts—Cylinders June 14 Slides June 23 Covers June 14 Pistons May 29 Rods April 14
Connecting rods April 14 Crank shaft June 14-23 Thrust shaft May 20 Tunnel shafts April 14 Screw shaft April 14 Propeller May 3
Stern tube June 14 Steam pipes tested July 21 Engine and boiler seatings June 20 Engines holding down bolts July 21
Completion of pumping arrangements July 21 Boilers fixed July 10 Engines tried under steam Aug 6
Completion of fitting sea connections June 20 Stern tube June 20 Screw shaft and propeller June 20
Main boiler safety valves adjusted July 28 Thickness of adjusting washers P $1\frac{1}{32}$ - $1\frac{1}{32}$ C $1\frac{3}{8}$ - $1\frac{2}{32}$ S $\frac{5}{8}$ - $1\frac{5}{8}$

Material of Crank shaft	Steel	Identification Mark on Do.	263-72 AB	Material of Thrust shaft	Steel	Identification Mark on Do.	200-71
Material of Tunnel shafts	Steel	Identification Marks on Do.	209 7-1-19	Material of Screw shafts		Identification Marks on Do.	
Material of Steam Pipes	Steel			Test pressure	570 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..... If so, state name of vessel

Cascade

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

The Engines and Boilers have been built and installed under special survey and in accordance with the approved plans together with shafts auxiliaries, pipes, fittings and sea connections. The material and workmanship are both of good quality. On completion the machinery was tried under steam and found satisfactory.

Note The Engines and Boilers were originally intended for a vessel to be built for the United States Shipping Board to be classed by the American Bureau of Shipping and for that reason the materials for Boilers, shafts and engine forgings were tested by the American Bureau Certificates for which are herewith attached

The vessel eligible, in my opinion, to have the record of \pm LNC 8.
and fitted for oil fuel 8.20 FP above 150° F.

MACHINERY CERT.
WRITTEN, 13.10.20

The amount of Entry Fee ...	\$ 15 : 00 :	} When applied for.
Special ...	\$ 218 : 00 :	
Donkey Boiler Fee ...	£ : :	
Travelling Expenses (if any) ...	\$ 84 : 00 :	
		Sep-16-1920
		When received, 5/10/20

When applied for,

Sep-16 1920

When received,

S.S. "RED HOOK" NO. 33.

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York SEP 28 1920

Assigned $\frac{1}{2}$ Lm C8.20

Note:-

The builders state that they have so far, been unable to get certificates of the tests of material from the American Bureau of Shipping expect to have them in the near future. I record of all marks and numbers in the plat for reference.

James Fowler.