

Rpt. 4.

REPORT ON MACHINERY.

No. 632

Received at London Office FRI. 10 JUN. 1921

Date of writing Report **May 6 1921** When handed in at Local Office **May 11 1921** Port of **Portland, Oregon**

No. in Survey held at **Portland, Oregon** Date, First Survey **July 21 '20** Last Survey **April 29 1921**

Reg. Book. **on the Steel Single Screw Oil Tank Steamer "SWIFTEAGLE"** (Number of Visits **42**)

Master **Built at Portland, Ore. By whom built Northwest Bridge & Iron Co. When built 1921**

Engines made at **Hamilton, Ohio** By whom made **Hooven, Owens & Rentschler Co.** when made **1921**

Boilers made at **Portland, Oregon** By whom made **Smith-Bowles Boiler Co.** when made **1921**

Registered Horse Power **Owners Swiftsure Oil Transport Co.** Port belonging to **New York**

Nom. Horse Power as per Section 28 **662** Is Refrigerating Machinery fitted for cargo purposes **No** Is Electric Light fitted **Yes**

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3

Dia. of Cylinders **27 1/2", 46", 78"** Length of Stroke **51"** Revs. per minute **72** Dia. of Screw shaft as per rule **15.6"** Material of screw shaft **Steel**

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'-5"**

Dia. of Tunnel shaft as per rule **14.6"** Dia. of Crank shaft journals as per rule **15.3"** Dia. of Crank pin **16 1/2"** Size of Crank webs **30 1/2" x 10-1/8"** Dia. of thrust shaft under collars **16"** Dia. of screw **18 ft.** Pitch of Screw **18 ft.** No. of Blades **4** (State whether moveable **Yes**) Total surface **98.56 sq. ft.**

No. of Feed pumps **2** Diameter of ditto **12" x 8"** Stroke **24"** Can one be overhauled while the other is at work **Yes**

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 in E.R. **2** Sizes of Pumps **14" x 9" x 12", 6" x 7" x 6"** No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room **3 of 3 1/2"** In Holds, &c. **Fwd. 2 of 3". In Fwd. Pump Room 2 of 3"**

In Main Pump Room **2 of 3 1/2"**

No. of Bilge Injections **1** sizes **10"** Connected to condenser, or to circulating pump **Cir. P.** 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 **Yes**

Are all connections with the sea direct on the skin of the ship on Sea Stools **Yes** Are they Valves or Cocks **Valves and Cocks**

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 **Yes**

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**

The Screw Shaft Liner is fitted in three lengths burned together to full depth of Liner. **Yes**

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

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Illinois Steel Company

Total Heating Surface of Boilers **9690** Is Forced Draft fitted **Yes** No. and Description of Boilers **3 Scotch Single Ended**

Working Pressure **210 lbs.** Tested by hydraulic pressure to **315 lbs.** Dates of tests **3:4:21, 3:10:21, 3:15:21** Nos of Certificates **225, 226, 231.**

Can each boiler be worked separately **Yes** Area of fire grate in each boiler **Oil Burning** No. and Description of Safety Valves to each boiler **2-4" spring loaded** Area of each valve **12.56 sq. in.** Pressure to which they are adjusted **210 lbs.** Are they fitted with easing gear **Yes**

Smallest distance between boilers or uptakes and bunkers or woodwork **11 ft. to** Mean dia. of boilers **15'-5 1/2"** Length **11'-9"** Material of shell plates **Steel**

Thickness **1-5/8"** Range of tensile strength **60,000 to 71,680 lbs.** Are the shell plates welded or flanged **flanged** Hds. **D.R.**

long. seams **Triple Riveted** Diameter of rivet holes in long. seams **1-11/16"** Pitch of rivets **10" & 5"** Lap of plates or width of butt straps **24"**

Per centages of strength of longitudinal joint rivets **97.49** Working pressure of shell by rules **228.5 lbs.** Size of manhole in shell **12" x 16"**

Size of compensating ring **Hd. Flanged** in **No. and Description of Furnaces in each boiler 3 Morrison** Material **Steel** Outside diameter **51-3/8"**

Length of plain part top **11/16"** Thickness of plates crown **11/16"** Description of longitudinal joint **Yes** No. of strengthening rings **Yes**

Working pressure of furnace by the rules **234.2** Combustion chamber plates: Material **Steel** Thickness: Sides **11/16"** Back **11/16"** Top **11/16"** Bottom **1"**

Pitch of stays to ditto: Sides **7 3/4" x 7 1/4"** Back **7 1/2" x 7 1/2"** Top **8 3/4" x 7 1/4"** If stays are fitted with nuts or riveted heads **Riveted Hds.** Working pressure by rules **215**

Material of stays **Steel** Area at smallest part **1.755 sq. in.** Area supported by each stay **56.25** Working pressure by rules **249** End plates in steam space: Material **Steel** Thickness **1 1/4"** Pitch of stays **17 1/2" x 18 1/2"** How are stays secured **Double Nuts** Working pressure by rules **215.8** Material of stays **Steel**

Area at smallest part **8.94** Area supported by each stay **323.75** Working pressure by rules **287** Material of Front plates at bottom **Steel**

Thickness **13/16"** Material of Lower back plate **Steel** Thickness **11/16"** greatest pitch of stays **7" x 13"** Working pressure of plate by rules **234**

Diameter of tubes **2 1/2"** Pitch of tubes **3 1/2" x 3-5/8"** Material of tube plates **Steel** Thickness: Front **13/16"** Back **13/16"** Mean pitch of stays **8-7/8"**

Pitch across wide water spaces **13 1/2"** Working pressures by rules **242** Girders to Chamber tops: Material **Steel** Depth and thickness of girder at centre **11 1/2" x 3/4"** Length as per rule **35"** Distance apart **8 3/4"** Number and pitch of stays in each **4 at 7 1/4"**

Working pressure by rules **223** Steam dome: description of joint to shell **Yes** % of strength of joint **Yes**

Diameter **Yes** Thickness of shell plates **Yes** Material **Yes** Description of longitudinal joint **Yes** Diam. of rivet holes **Yes**

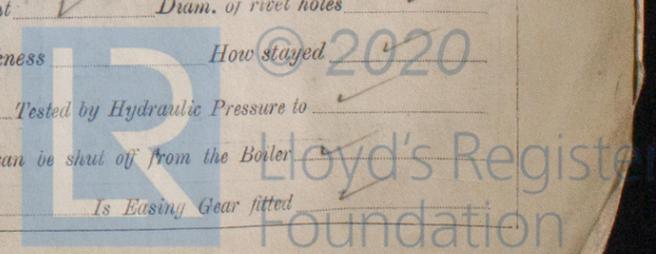
Pitch of rivets **Yes** Working pressure of shell by rules **Yes** Crown plates **Yes** Thickness **Yes** How stayed **Yes**

SUPERHEATER. Type **Yes** Date of Approval of Plan **Yes** Tested by Hydraulic Pressure to **Yes**

Date of Test **Yes** Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler **Yes**

Diameter of Safety Valve **Yes** Pressure to which each is adjusted **Yes** Is Easing Gear fitted **Yes**

WS89-0208



IS A DONKEY BOILER FITTED? No If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:— 2 Top End Brasses with Bolts & Nuts, 2 Bottom End Brasses with Bolts & Nuts, 2 Main Bearing Bolts & Nuts, 2 Sets of Coupling Bolts & Nuts, set of Valves for Air Circulating, Feed and Bilge Pumps, set of rings for H.P. I.P. & L.P. Pistons, Air Pump Rod, Main Valve Spindle, set of Link Block Brasses, set of H.P. Piston Valve Rings, Studs for Pistons, Cylinder Covers, Valve Chests, 1 Spare Propeller Shaft, 1 Propeller Boss and 2 Blades, 50 Condenser Tubes and 100 Ferrules, 20 Boiler Tubes, a quantity of assorted Bolts and Nuts and iron of various sizes.

The foregoing is a correct description,

Northwest Bridge Iron Co.
By R. Merrill Manufacturer.

Dates of Survey while building: During progress of work in shops -- July 21, Aug. 11, 26, Sept. 13, 23, Oct. 16, 20, 27, Dec. 7, 20, Feb. 2, 4, 21, 25, 28, Mar. 1, 2, 4, 8, 9, 10, 12, 15, 19, 21, 23, 25, 28, 30, 31, Apr. 2, 4, 6, 7, 8, 16, 19, 22, 27, 28, 29.
During erection on board vessel ---
Total No. of visits 42.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders Slides Covers Pistons Rods
Connecting rods Crank shaft Apr. 29 Thrust shaft Apr. 16 Tunnel shafts Apr. 16 Screw shaft Apr. 1 Propeller Apr. 8
Stern tube Mar. 25 Steam pipes tested Apr. 16 Engine and boiler seatings Apr. 8 Engines holding down bolts Apr. 16
Completion of pumping arrangements Mar. 30 Boilers fixed Apr. 10 Engines tried under steam Apr. 27
Completion of fitting sea connections Apr. 2 Stern tube Mar. 21 Screw shaft and propeller Apr. 8
Main boiler safety valves adjusted Apr. 27 Thickness of adjusting washers Check Nuts
Material of Crank shaft Steel Identification Mark on Do. Lloyd's G.D. 4811, 20:8:20 Material of Thrust shaft Steel Identification Mark on Do. Lloyd's 3646 G.D. 4818 C. 23:8:20
Material of Tunnel shafts Steel Identification Marks on Do. C.W. Material of Screw shafts Steel Identification Marks on Do. Spare Do. 4805 C. 30:7:20
Material of Steam Pipes O. H. Lapwelded Steel Test pressure 630 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 S. S. "SWIFTSOUT"

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Triple Expansion Engines have been constructed under Special Survey at Hamilton Ohio, and installed at Portland, Oregon.
The Boilers have been constructed and installed at Portland, Oregon, under Special Survey in accordance with the Rules.
It is submitted that the record of +LMC 4-21 Electric Light be made in the Register Book in the case of this Vessel.

It is submitted that this vessel is eligible for THE RECORD. + LMC. 4.21 FD CL
Fitted for Oil Fuel 4.21. FP above 150°F

Rel
16/6/21
J.P.R.

The amount of Entry Fee ... \$ 30.00 : When applied for,
Special ... \$ 541.00 : May 2 19 21
Donkey Boiler Fee ... \$:
Travelling Expenses (if any) \$ 100.00 : When received, May 10 21

J. A. Yates
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York MAY 24 1921

Assigned + LMC 4.21

CERTIFICATE WRITTEN 10-6-21



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