

REC'D NEW YORK JUN - 6 1921

Rpt. 4.

## REPORT ON MACHINERY.

No. 634

Received at London Office

Date of writing Report May 26 1921 When handed in at Local Office May 27 1921 Port of Portland, Oregon

No. in Survey held at Portland, Oregon

Date, First Survey July 21 '20

Last Survey May 20 1921

Reg. Book.

(Number of Visits 42)

on the Single Screw Oil Tank Steel Steamer "SWIFTLIGHT"

Tons Gross 8206.61

Net 5091.70

When built 1921

Master

Built at Portland, Ore.

By whom built Northwest Bridge &amp; Iron Co.

when made 1921

Engines made at Hamilton, Ohio

By whom made Hooven, Owens &amp; Rentschler Co.

when made 1921

Boilers made at Portland, Oregon

By whom made Smith-Bowles Boiler Co.

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, &amp;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 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

If two

liners are fitted, is the shaft lapped or protected between the liners

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 1/4"

Size of Crank webs

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

Independent

Diameter of ditto 12"x8"

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"x9"x12", 6"x7"x6"

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room 3 of 3 1/2"

In Holds, &amp;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 &amp; 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

Are all connections with the sea direct on the skin of the ship on Sea Stools

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

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

Is the Screw Shaft Tunnel watertight

Is it fitted with a watertight door

worked from

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

## BOILERS, &amp;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.

Date of test 22.3.21

No. of Certificate 232, 233, 237

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.

Bunker

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 71680 lbs.

Are the shell plates welded or flanged flgd

Descrip. of riveting: cir. seams D.R.

long. seams Triple Riveted

Diameter of rivet holes in long. seams 1-11/16"

Pitch of rivets 10"x5"

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 Morison

Material Steel

Outside diameter 51-3/8"

Length of plain part top 11/16"

Thickness of plates crown 11/16"

Description of longitudinal joint

No. of strengthening rings

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"x7 1/2"

Back 7 1/2"x7 1/2"

Top 8 3/4"x7 1/2"

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 sq. in.

Working pressure by rules 249

End plates in steam space:

Material Steel

Thickness 1 1/4"

Pitch of stays 17 1/2"x18 1/2"

How are stays secured 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 1 1/8"

Material of Lower back plate Steel

Thickness 11/16"

Greatest pitch of stays 7"x13"

Working pressure of plate by rules 234

Diameter of tubes 2 1/2"

Pitch of tubes 3 1/2"x3-5/8"

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"x3/4"

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

% 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

SUPERHEATER. 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

Pressure to which each is adjusted

Diameter of Safety Valve

Is Easing Gear fitted



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 and Nuts, 2 Bottom End Brasses with Bolts and Nuts, 2 Main Bearing Bolts and Nuts, 2 Sets of Coupling Bolts and Nuts, set of Valves for Air, Circulating, Feed and Bilge Pumps, set of Rings for H.P., I.P. and 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  
W. C. Cullers

Manufacturer.

Dates of Survey while building { During progress of work in shops - - } July 21, Aug. 11, 26, Sept. 13, 20, 23, Oct. 16, 20, 27, Dec. 7, 20, Feb. 25, 28, Mar. 2, 7, 9, 10,  
 { During erection on board vessel - - - } 12, 15, 17, 18, 22, 23, 26, 28, 30, 31, Apr. 13, 15, 18, 19, 22, 26, 29, May 3, 9, 11, 12, 14, 18, 19, 20  
 Total No. of visits 42

Is the approved plan of main boiler forwarded herewith ☒

" " " donkey " " "

**Dates of Examination of principal parts**—Cylinders ☒ Slides ☒ Covers ☒ Pistons ☒ Rods ☒  
 Connecting rods ☒ Crank shaft May 20 Thrust shaft May 9 Int. Tunnel shafts May 9 Screw shaft May 9 Propeller May 9  
 Stern tube Apr. 1 Steam pipes tested May 3 & 9 Engine and boiler seatings May 3 Engines holding down bolts May 12  
 Completion of pumping arrangements May 10 Boilers fixed May 6 Engines tried under steam May 18  
 Completion of fitting sea connections Apr. 15 Stern tube Apr. 18 Screw shaft and propeller May 3  
 Main boiler safety valves adjusted May 18 Thickness of adjusting washers  
 Material of Crank shaft Steel Identification Mark on Do. Lloyd's G.D. Material of Thrust shaft Steel Identification Mark on Do. Lloyd's 3645 GD  
 Material of Tunnel shafts Steel Identification Marks on Do. Lloyd's 4817 CW Material of Screw shafts Steel Identification Marks on Do. Lloyd's 4815 CW  
 Material of Steam Pipes O. H. Lapwelded Steel Test pressure 630 lbs. Spare Do. 4802, 19.7.20 CW  
 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. "Swifteagle"

**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 ~~FLMC~~ 5-21 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 5-21 F.D.C.L.  
 Fitted for Oil Fuel 6-21 FP above 150°F

MACHINERY DEPT.  
 WRITTEN  
 14/7/21  
 Hakes 30/6/21

Recl  
 8/7/21

ARR

The amount of Entry Fee ... \$ 30.00 : When applied for,  
 Special ... \$ 541.00 : May 25 1921  
 Donkey Boiler Fee ... £ : :  
 Travelling Expenses (if any) \$ 100.00 : 1.6.1921

When received,

1.6.1921

Committee's Minute New York JUN 14 1921

Assigned

+ LMC-5-21

Engineer Surveyor to Lloyd's Register of Shipping.



Lloyd's Register  
 Foundation