

Rpt. 4.

REPORT ON MACHINERY.

No. 1499.

MUR. AUG. 22 1921

NEW YORK JUL 28 1921

Received at London Office

Date of writing Report 15. 7. 1921 When handed in at Local Office 23. 7. 1921 Port of Boston, Mass.

No. in Survey held at Bath, Me. Date, First Survey 8. 11. 20 Last Survey 2. 7. 1921

Reg. Book. on the Steel Screw Steamer "ILLINOIS" (Number of Visits 22) Gross Tons 6702 Net Tons 5092

Master E.O. Larsen Built at Bath, Maine By whom built The Texas Steamship Co. When built 1921. 7

Engines made at Hamilton, Ohio By whom made The Hooven, Owens, Rentschler Company when made 1921

Boilers made at Bath, Me. By whom made The Bath Iron Works. when made 1921.

Registered Horse Power Owners The Texas Co. Port belonging to Port Arthur, Tex.

Nom. Horse Power as per Section 28 549. 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" x 45" x 74" Length of Stroke 51" Revs. per minute 75 Dia. of Screw shaft as per rule 15.05" Material of steel as fitted 15.125" screw shaft

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 ✓ 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 7. 3/4"

Dia. of Tunnel shaft as per rule 13.91" as fitted ✓ Dia. of Crank shaft journals as per rule 14.6" as fitted 15.4" Dia. of Crank pin 15 1/2" Size of Crank webs 30 1/2" x 10 1/2" Dia. of thrust shaft under collars 15 1/4" Dia. of screw 17-6" Pitch of Screw 17-6" No. of Blades 4 State whether moveable Yes Total surface 100 sq. feet.

No. of Feed pumps 2 Diameter of ditto 8" Stroke 26" 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 2 Sizes of Pumps 12 x 10 x 12 6 x 6 x 6 No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room 4 - 3 1/2" 1 - 4 1/2" In Holds, &c. Oil cargo pumping system.

No. of Bilge Injections 1 sizes 10" Connected to ~~condenser~~ circulating pump ✓ Is a separate Donkey Suction fitted in Engine room & size Yes 4"

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 ~~the~~ the deep water line Yes ✓

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 ✓ 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 ✓

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Lukens Steel Co. Coatsville, Pa. ✓

Total Heating Surface of Boilers 7978.8 Is Forced Draft fitted Yes ✓ No. and Description of Boilers 3 Patch Single ended. 3SB

Working Pressure 190 lbs ✓ Tested by hydraulic pressure to 285 Dates of test 3.2.21; 9.2.21 No. of Certificates S. 46:47:48

Can each boiler be worked separately Yes Area of fire grate in each boiler Oil fuel No. and Description of Safety Valves to each boiler / Spring loaded 3 1/2" turn Area of each valve 19.24" Pressure to which they are adjusted 190 lbs. Are they fitted with easing gear Yes ✓

Smallest distance between boilers or uptakes and bunkers or woodwork about 30" Mean dia. of boilers 15'-3" Length 11'-0" Material of shell plates O.H. Steel

Thickness 1 29/64" Range of tensile strength 60000 lb/in² Are the shell plates welded or flanged Flanged Descrip. of riveting: cir. seams Double. long. seams 3 ply - riveted Diameter of rivet holes in long. seams 1 7/16" Pitch of rivets 3 3/4" + 8 1/2" Top of plates on width of butt straps 20 1/2"

Per centages of strength of longitudinal joint rivets. 97.84 plate. 83.08 ✓ Working pressure of shell by rules 202.5 ✓ Size of manhole in shell 12" x 16"

Size of compensating ring 33 3/8 x 37 3/8 No. and Description of Furnaces in each boiler 3 Corrugated Material O.H. Steel Outside diameter 4'-1"

Length of plain part top 10 1/2" bottom 10 1/2" Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint welded No. of strengthening rings = 9

Working pressure of furnace by the rules 205.5 ✓ Combustion chamber plates: Material O.H. Steel Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 7/8" ✓

Pitch of stays to ditto: Sides 6 1/2" ✓ Back 7 3/8" ✓ Top 8 x 6 1/2" ✓ If stays are fitted with nuts or riveted heads both Working pressure by rules 202.5

Material of stays Steel Area at smallest part 1.755" Area supported by each stay 52" Working pressure by rules 202.5 End plates in steam space:

Material O.H. Steel Thickness 15" + 5/8" ✓ Pitch of stays 16 3/4" x 16 1/2" How are stays secured nuts Working pressure by rules 244.2 Material of stays Steel

Area at smallest part 6.492" Area supported by each stay 276" Working pressure by rules 244.2 Material of Front plates at bottom O.H. Steel

Thickness 15" Material of Lower back plate O.H. Steel Thickness 15" ✓ Greatest pitch of stays 16 3/4" 13 1/2" WWSpace Working pressure of plate by rules 253

Diameter of tubes 2 1/2" Pitch of tubes 3 1/2" + 3 5/8" Material of tube plates Steel Thickness: Front 15" ✓ Back 13" ✓ Mean pitch of stays 7 1/8" ✓

Pitch across wide water spaces 13 1/2" Working pressures by rules 285 lbs Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 1/4" x 7 1/2" dble ✓ Length as per rule 3'-0" Distance apart 8" centres Number and pitch of stays in each 4-6 1/2" pitch ✓

Working pressure by rules 237.2 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 ✓

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

002320-002329-0084

Lloyd's Register Foundation

IS A DONKEY BOILER FITTED?

No

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: six coupling bolts + nuts: set of valves for air, tide and feed pumps: Set of rings for H.P, M.P + L.P. pistons: valve stem, link blocks, trusses + two eccentric straps complete: Air pump rod + tail rod: 1 Crank: Set of piston follower studs + springs: Spare cylinder cover + valve chest cover + 1 tail shaft: 2 propeller blades.

The foregoing is a correct description,

The Texas Steamship Co
per Geo B Doak Mgr

Manufacturer.

Dates of Survey while building: During progress of work in shops -- 1920 - Nov. 8-24: Dec. 8-16-21: 1921 - Jan. 7-14-21-27: Feb. 3-9: March 4-25: April 15: May 12: June 14-16-18-21-28: July 1-2. Total No. of visits 22

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders ✓ Slides ✓ Covers ✓ Pistons ✓ Rods ✓ Connecting rods ✓ Crank shaft ✓ Thrust shaft ✓ Tunnel shafts ✓ Screw shaft 15/4/21 Propeller 15/4/21 Stern tube 30/3/21 Steam pipes tested 16-6-21 Engine and boiler seatings 4-3-21 Engines holding down bolts 12-5-21 Completion of pumping arrangements 18-6-21 Boilers fixed 14-6-21 Engines tried under steam 28-6-21 Completion of fitting sea connections 21-6-21 Stern tube 25-3-21 Screw shaft and propeller 15-4-21 Main boiler safety valves adjusted 28-6-21 Thickness of adjusting washers lock nuts. Material of Crank shaft Steel Identification Mark on Do. W.S. Material of Thrust shaft Steel Identification Mark on Do. W.S. Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts Steel Identification Marks on Do. F.W. Material of Steam Pipes steel Test pressure 750 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 No If so, state name of vessel S.S. 'REMPER'

General Remarks (State quality of workmanship, opinions as to class, &c. The machinery + boilers of this vessel have been built and fitted on board under Special Survey, and in accordance with the rules, and approved plans.

The boilers have been fitted to burn liquid fuel, in accordance with the requirements of the Rules for high flash point fuel.

The machinery and boilers have been satisfactorily tried under steam, and they are eligible in my opinion to receive the record of + L.M.C - 7-21, and the notations in the Register Book - "Fitted for Oil Fuel, F.P. above 150°F." and "F.D" for forced draft.

Cleveland Report No 151, herewith.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 7.21.FD. CL Fitted for Oil Fuel 7.21 F.P. above 150°F

Roell
J.M. 29/8/21

Wm Stewart

Engineer Surveyor to Lloyd's Register of Shipping

The amount of Entry Fee ... \$ 30.00 When applied for, 25-7-1921
Boston 3/5 Special ... \$ 307.25
Cleveland 2/5 Special ... \$ 205.00
Elec. Light ... \$ 175.00
Travelling Expenses (if any)

Committee's Minute New York AUG - 2 1921

Assigned + L.M.C. 7.21

MACHINERY CERT
WRITTEN in duplicate
8/9/21 (dated 22/8/21)



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6702
and
Regis
recom
been
Recor
"Fit
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Certificate (if required) to be sent to
The Surveyors are requested not to write on or below the space for Committee's Minute.