

REPORT ON MACHINERY.

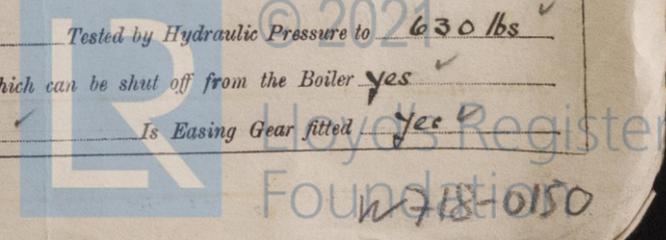
Date of writing Report Dec 6th 1917 When handed in at Local Office Dec 6th 1917 Port of Seattle Wash USA
 No. in Survey held at Seattle Date, First Survey August 3rd 1917 Last Survey October 22 1917
 Reg. Book INDIANA (Number of Visits 21)
 on the Steel Screw Steamer "NICKERBOCKER" (Builder's yard No. 9) Tons { Gross 5742.6
 Net 4409.1
 Master J. M. Lane Built at Seattle By whom built Skinner & Eddy Corporation When built 1917
 Engines made at Schenectady NY By whom made General Electric Company when made 1917
 Boilers made at Seattle By whom made Commercial Boiler Works when made 1917
 Registered Horse Power 2500 Owners US Shipping Board & Emergency Fleet Corp Port belonging to Seattle
 Nom. Horse Power as per Section 28 417 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Curtis Turbine Double Reduction Gear No. of Cylinders 1 Turbine 1 No. of Cranks —
 Dia. of Cylinders — Length of Stroke — Revs. per minute 90 Propeller ✓ Dia. of Screw shaft 13-8 as per rule 13-8 Material of Steel
 as fitted 14 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 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 4-7"
 Dia. of Tunnel shaft 12-4 as per rule 12-4 Dia. of Crank shaft journals 12-4 as per rule 12-4 Dia. of Crank pin — Size of Crank webs — Dia. of thrust shaft under
 collars 13-4 Dia. of screw 16-5 Pitch of Screw 13-6" No. of Blades 4 State whether moveable yes Total surface 80.5
 No. of Feed pumps 2 Diameter of ditto 8 Stroke 18 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 1 Duplex Diameter of ditto 5-3/4 Stroke 6 Can one be overhauled while the other is at work —
 No. of Donkey Engines 1 Duplex Sizes of Pumps 12" x 8-1/2" x 12" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 4-3-1/2 Boilers 4-3-1/2 In Holds, &c. 2-3-1/2 No. 1 Hold. 2-3-1/2 No. 2 Hold
4-3-1/2 No. 3 Hold. 1-3-1/2 Shaft tunnel
 No. of Bilge Injections 1 sizes 10 Connected to — 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 None
 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 Below
 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 Bridge Fresh Water Fire Sanitary Steam & Exhaust to deck Machinery How are they protected Wood Casings
 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 yes Is it fitted with a watertight door yes worked from Engine room platform in line of upper deck

BOILERS, &c.—(Letter for record New York Aug 5-1916) Manufacturers of Steel Lukens Steel Company
 Total Heating Surface of Boilers 8055 Is Forced Draft fitted No No. and Description of Boilers 3 Single ended Scotch Marine
 Working Pressure 210 Tested by hydraulic pressure to 315 Date of test Sept. 20th No. of Certificate —
 Can each boiler be worked separately yes Area of fire grate in each boiler 65 No. and Description of Safety Valves to
 each boiler 2 Ashton Area of each valve 9.6 Pressure to which they are adjusted 210 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers 12 Mean dia. of boilers 14-10 1/2 Length 11-0 Material of shell plates Steel
 Thickness 1 1/2 Range of tensile strength 28 to 32 Tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams Double
 long. seams Triple Diameter of rivet holes in long. seams 1 7/16 Pitch of rivets 10" Lap of plates or width of butt straps 22 3/8
 Per centages of strength of longitudinal joint 95 Working pressure of shell by rules 228 Size of manhole in shell 12" x 16"
 plate 24.4 rivets 95 Size of compensating ring Flanged No. and Description of Furnaces in each boiler 3 Morrison Material Steel Outside diameter 48 7/8
 Length of plain part — Thickness of plates 2 1/32 Description of longitudinal joint Welded No. of strengthening rings —
 Working pressure of furnace by the rules 222 Combustion chamber plates: Material Steel Thickness: Sides 1/16 Back 1/16 Top 4/16 Bottom 15/16
 Pitch of stays to ditto: Sides 7" x 8" Back 7 1/4" x 7 3/4" Top 7" x 8" If stays are fitted with nuts or riveted heads 1 1/2" riveted Working pressure by rules 214
 Material of stays Wardman Area at smallest part 1 3/8 = 1.722 Area supported by each stay 56.25 Working pressure by rules 225 End plates in steam space:
 Material Steel Thickness 1 1/4 Pitch of stays 16 3/8 x 1 1/2 How are stays secured Double Nuts Working pressure by rules 243 Material of stays Steel
 Area at smallest part 8.29 Area supported by each stay 286.5 Working pressure by rules 300 Material of Front plates at bottom Steel
 Thickness 1 3/16 Material of Lower back plate Steel Thickness 1 3/16 + 1/2 Greatest pitch of stays 12 Working pressure of plate by rules 350
 Diameter of tubes 3" Pitch of tubes 4" x 4 1/2 Material of tube plates Steel Thickness: Front 1 3/16 Back 1 3/16 Mean pitch of stays 8 1/2 x 12
 Pitch across wide water spaces 13 Working pressures by rules 268 Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 11" x 1 1/2 Length as per rule 34 Distance apart 8 Number and pitch of stays in each 4-7" centers
 Working pressure by rules 292 Steam dome: description of joint to shell None % 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 Foster Date of Approval of Plan — Tested by Hydraulic Pressure to 630 lbs
 Date of Test Buffalo NY. 29th July 1917 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler yes
 Diameter of Safety Valves 1 1/2" Pressure to which each is adjusted 211 lbs Is Easing Gear fitted yes

In a Report also sent on the Hull of the Ship



IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

TURBINE SPARES

- 1 High speed Pinion with shaft and coupling ✓
- 1 Complete set labyrinth packing rings for turbine heads and diaphragms. ✓
- 1 Lubricating oil pump complete ready for immediate use. ✓

- 1 Tail shaft ^{LLOYD'S 17-10-17} ✓
- 1 Set (8) Coupling bolts ✓
- 40 Condenser tubes ✓
- A quantity of bolts, nuts and iron of various sizes. ✓
- 1 Propeller blade ✓
- 1 Set feed pump valves ✓
- 1 Set bilge pump valve ✓
- 20 Boiler tubes ✓

ELECTRIC SPARES

- 1 Armature
- 1 Field coil
- 2 Set brushes
- 1 Set brush holders
- 1 " Main bearings
- 1 " Crank pin brasses
- 1 Piston
- 1 Set wrist pin brasses
- 1 " Piston rings
- 1 Piston rod and nut
- 1 Piston valve
- 1 Valve stem with nut
- 1 Governor spring

The foregoing is a correct description,

Skinner + Eddy Corporation,
by E. M. McCallum Ch. Engr. Manufacturer.

Dates of Survey while building { During progress of work in shops -- August 3-9-16-23. Sept. 5-11-14
 { During erection on board vessel --- Sept. 5-14-15-20-25-27. Oct. 2-5-11-15-17-18-20-22
 Total No. of visits 21

Is the approved plan of main boiler forwarded herewith Copy
 " " " donkey " " "

Dates of Examination of principal parts—	Cylinders	Slides	Covers	Pistons	Rods
Connecting rods	—	—	—	—	—
Crank shaft	—	—	—	—	—
Thrust shaft	Sept 11	—	—	—	—
Tunnel shafts	—	—	—	—	—
Screw shaft	Sept 5	—	—	—	—
Propeller	Sept 11	—	—	—	—
Stern tube	Sept 5-14	—	—	—	—
Steam pipes tested	Oct 18	—	—	—	—
Engine and boiler seatings	Sept 14	—	—	—	—
Engines holding down bolts	Oct 17	—	—	—	—
Completion of pumping arrangements	Oct 18	—	—	—	—
Boilers fixed	Oct 2	—	—	—	—
Engines tried under steam	Oct 20	—	—	—	—
Completion of fitting sea connections	Sept 5-14	—	—	—	—
Stern tube	Sept 5-14	—	—	—	—
Screw shaft and propeller	Sept 5-11	—	—	—	—
Main boiler safety valves adjusted	Oct 22	—	—	—	—
Thickness of adjusting washers	S. 578-.561 C. 554-.472 P. 556-.529	—	—	—	—
Material of Crank shaft	—	—	—	—	—
Identification Mark on Do.	—	—	—	—	—
Material of Thrust shaft	Steel	—	—	—	—
Identification Mark on Do.	—	—	—	—	—
Material of Tunnel shafts	Steel	—	—	—	—
Identification Marks on Do.	—	—	—	—	—
Material of Screw shafts	Steel	—	—	—	—
Identification Marks on Do.	—	—	—	—	—
Material of Steam Pipes	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 "JEANNETTE SKINNER" - "LIEUTENANT DeMUSSE" ✓

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

The Turbine and reduction gears inspected during construction by a Surveyor to the Society, shipped to this port and installed on board with all shafting, fittings, auxiliaries and connections under special survey in accordance with the approved plans.

The Boiler built with all mountings and fittings and installed under special survey in accordance with the approved plans. The material and workmanship are both of good quality. The machinery seen tried under steam and found satisfactory.

The Machinery and Boilers eligible in my opinion to have the record of + LMC 10.17 made in the Register Book, and fitted for oil fuel 10.17 F.P. above 150°F. in the case of this vessel.

MARKS	Turbine Case	Rotor Shaft	High speed gear shaft	High speed gear shaft	Pinion Shaft	Main Gear Shaft
LLOYD'S		519851	PORT. # 2571	STAR. 80.519056	SD 519811	FOR? 50 519826
8-15-17		1653519	519072	1650395	D 1680392	DR 1658542
T&D		07983	1823502	SN 99767	87842-5	SW 92644-2
Pressures		52940	2-16-17	9-30-16	# 2571	2-18-17
400		(50)	SW 50983	88704		AFT 50 519826
100		(49)	# 2571	# 2571		D 1658542
15			50 519245	519098		SW 92644-2
			1680395-G1	1823502		2-18-17
			F 5952	88265-2		LLOYD'S FINAL SURVEY
			SW 65800	44799-D		T&D
				# 2571		4-11-17
						# 12465
						# 2571
						NOT IN SERIAL

The amount of Entry Fee ...	\$ 73 : 05 :	When applied for,
Special ...	\$ 204 : 25 :	Dec 1st 1917
Donkey Boiler Fee ...	£ : :	When received,
Travelling Expenses (if any) ...	\$ 41 : 00 :	— 19

James Fowler
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York DEC 18 1917

Assigned + LMC 10.17
 Fitted for oil fuel 10.17 F.P. above 150°F.
 Elec. light

MACHINERY CERTIFICATE
 WRITTEN, 22/1/17



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