

## REPORT ON MACHINERY.

REC'D NEW YORK

Received at London Office

Date of writing Report 30 May 1917 When handed in at Local Office 2 June 1917 Port of Schoit. Mich  
No. in Survey held at Toledo. Ohio. Date, First Survey 5 May 1916 Last Survey 29 May 1917  
Reg. Book. on the Steel Screw Steamer "Horace. S. Wilkinson" (Number of Visits 35)  
Master                      Built at Toledo. Ohio By whom built Toledo Shipbuilding Co Tons                      Gross                      Net                       
Engines made at Toledo. Ohio By whom made Toledo S. B. Co. (Yard No 137) when made 1917  
Boilers made at Toledo Ohio By whom made Marine Boilers Works. when made 1917  
Registered Horse Power                      Owners Edwards Steam Ship Co Port belonging to Oswego  
Nom. Horse Power as per Section 28 402 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Quadruple Expansion Jet Condensing No. of Cylinders 4 No. of Cranks 4  
Dia. of Cylinders 20 1/2 x 30 1/2 x 43 x 61 Length of Stroke 42 Revs. per minute                      Dia. of Screw shaft as per rule 13.47 Material of S  
as fitted 13.47 screw shaft                       
Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liner Is the after end of the liner made water tight  
in the propeller boss ✓ 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 4'-7"  
Dia. of Tunnel shaft as per rule 11.56 Dia. of Crank shaft journals as per rule 12.13 Dia. of Crank pin 12 1/2 Size of Crank webs 18 x 8 Dia. of thrust shaft under  
collars 12 3/4 Dia. of screw 15'-6" Pitch of Screw 14'-0" No. of Blades 4 State whether moveable Yes Total surface 90 sq  
INDEPENDENT No. of Feed pumps 2 Diameter of ditto DUPLEX Stroke 8 x 5 x 12 Can one be overhauled while the other is at work Yes  
No. of Bilge pumps One Diameter of ditto 5 1/2 Stroke 10 Can one be overhauled while the other is at work ✓  
No. of Donkey Engines 7 ALL DUPLEX 14 x 7 1/2 x 12: 5 1/2 x 3 1/4 x 5: No. and size of Suctions connected to both Bilge and Donkey pumps  
Sizes of Pumps 6 x 4 x 6: 12 x 8 x 8: 8 x 5 x 12 In Engine Room Two 4" dia. Bilge ejectors 2" dia In Holds, &c. Two 8" dia + 2-3" syphons  
+ 2 Gang pumps 8 x 8 with 7 plungers 16" dia  
In Eng Room 1-3" syphon. In Boilers Room 2-3" syphons  
No. of Bilge Injections ✓ sizes ✓ Connected by condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine room & size Yes 4-4 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 Yes on wells Are they Valves or Cocks Both  
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 Facilitate piece to Ship's side Are the Blow Off Cocks fitted with a spigot and brass covering plate above water line  
What pipes are carried through the bunkers Hold suction How are they protected Strong steel casing  
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 no Is it fitted with a watertight door worked from

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Carnegie Steel Co.  
Total Heating Surface of Boilers 6033 sq Is Forced Draft fitted Yes No. and Description of Boilers Three Mult. Cyl. Single ended  
Working Pressure 220 lbs Tested by hydraulic pressure to 330 lbs Date of test 20-22 & 28 Nov 1916 No. of Certificate 27-28-29  
Can each boiler be worked separately Yes Area of fire grate in each boiler 44 sq No. and Description of Safety Valves to  
each boiler Two spring loaded Area of each valve 12.56 sq Pressure to which they are adjusted 220 lbs Are they fitted with easing gear Yes  
Smallest distance between boilers or uptakes and bunkers or woodwork 4'-0" dia. of boilers 13'-0" Length 11'-0" Material of shell plates S  
Thickness 1 1/16 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams L. S. R  
long. seams T. R. D.H. Strap Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 8 5/8 Long plates width of butt straps 20 1/2  
Per centages of strength of longitudinal joint 97.3 rivets 83.3 plate Working pressure of shell by rules 246 lbs Size of manhole in shell 15 x 11  
Size of compensating ring 30 x 30 x 1 1/16 No. and Description of Furnaces in each boiler Two Corrugated Material S Outside diameter 53"  
Length of plain part top Thickness of plates crown 23 Description of longitudinal joint weld No. of strengthening rings ✓  
bottom 32 Working pressure of furnace by the rules 228 Combustion chamber plates: Material S Thickness: Sides 5/8 Back 5/8 Top 1 1/16 Bottom 5/8  
Pitch of stays to ditto: Sides 6 1/2 x 6 1/2 Back 6 1/2 x 6 1/2 Top 7 1/2 x 5 1/2 If stays are fitted with nuts or riveted heads Riveted heads Working pressure by rules 236  
Material of stays S Area at smallest part 1.26 sq Area supported by each stay 42.25 Working pressure by rules 239 End plates in steam space:  
Material S Thickness 1 1/16 Pitch of stays 15 x 14 3/4 How are stays secured 8 bl nuts Working pressure by rules 228 Material of stays S  
Area at smallest part 5.4 sq Area supported by each stay 221.25 Working pressure by rules 254 Material of Front plates at bottom S  
Thickness 3/4 Material of Lower back plate S Thickness 1 1/16 Greatest pitch of stays 13 1/2 x 5 1/2 Working pressure of plate by rules 240  
Diameter of tubes 2 1/2 Pitch of tubes 3 3/4 x 3 1/2 Material of tube plates S Thickness: Front 3/4 + dbl Back 5/8 Mean pitch of stays 7 1/4  
Pitch across wide water spaces 13 1/4 Working pressures by rules 230 Girders to Chamber tops: Material S Depth and  
thickness of girder at centre 8 3/8 x 1 1/2 Length as per rule 27 3/4 Distance apart 7 1/2 Number and pitch of stays in each Four 5 1/2  
Working pressure by rules 275 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 ✓  
Material of Safety Valve ✓ Pressure to which each is adjusted ✓ Is Easing Gear fitted ✓



IS A DONKEY BOILER FITTED?

No

If so, is a report now forwarded?

✓

SPARE GEAR. State the articles supplied:—

✓

The foregoing is a correct description,

THE TOLEDO SHIPBUILDING CO.,

*N. B. Caldwell*

Vice Pres. & Genl Mgr.

Manufacturer.

Dates of Survey while building  
During progress of work in shops -- 1916  
During erection on board vessel -- 1917  
Total No. of visits 35

Is the approved plan of main boiler forwarded herewith

Yes ✓

" " " donkey " " " ✓

Dates of Examination of principal parts—Cylinders 20-7-16 Slides 20-10-16 Covers 29-9-16 Pistons 29-9-16 Rods 2-8-16

Connecting rods 20-10-16 Crank shaft 5-12-16 Thrust shaft 5-12-16 Tunnel shafts ✓ Screw shaft 5-12-16 Propeller 26-3-17

Stern tube 26-3-17 Steam pipes tested 25-4-17 Engine and boiler seatings 18-4-17 Engines holding down bolts 11-5-17

Completion of pumping arrangements 23-5-17 Boilers fixed 11-5-17 Engines tried under steam 23-5-17

Completion of fitting sea connections 18-4-17 Stern tube 18-4-17 Screw shaft and propeller 18-4-17

Main boiler safety valves adjusted 23-5-17 Thickness of adjusting washers P 1/2" V. 1/16" C 1/16" V. 3/4" V. S 2 1/2" V. 9/16" V.

Material of Crank shaft S Identification Mark on Do. LLOYDS No 23. T.S.D. Material of Thrust shaft S Identification Mark on Do. LLOYDS No 23. T.S.D.

Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts S Identification Marks on Do. —

Material of Steam Pipes Seamless steel. 1/2" + 3/8" thick 7" + 5" dia Test pressure 660 lbs

Is an installation fitted for burning oil fuel No ✓ Is the flash point of the oil to be used over 150° F. ✓

Have the requirements of Section 49 of the Rules been complied with ✓

Is this machinery duplicate of a previous case No ✓ If so, state name of vessel ✓

General Remarks (State quality of workmanship, opinions as to class, &c. The engines and boilers of this vessel

have been built under Special Survey. The materials and workmanship are

sound and good.

The machinery has been fitted on board in an efficient manner

tried under working conditions and found satisfactory, and

is eligible in my opinion to be classed in the Register Book

with record of L.M.C. 5.17.

The amount of Entry Fee ... \$15.00 : When applied for,  
Special ... \$201.00 : 19  
Donkey Boiler Fee ... £ : When received,  
Travelling Expenses (if any) \$38.00 : 11.6.17

*J. H. Selles*

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York JUN 5 1917

Assigned

+ Lmb 5.17

subject re  
MACHINERY CERTIFICATE  
WRITTEN. 9.7.17



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Foundation