

# REPORT ON MACHINERY.

No. 16245  
3551

REC'D NEW YORK Dec. 12-1919.

Received at London Office

Survey held at Shanghai Date, First Survey Nov. 25 1918 Last Survey Nov. 24 1919  
on the S.S. Andrew Jackson (Number of Visits 22)

J. L. Jones Built at Gloucester By whom built Pusey & Jones Co When built 1919  
made at Shanghai By whom made General Electric Company when made 1918  
made at Bayonne By whom made Babcock & Wilcox Co when made 1919  
red Horse Power Owners U.S. Shipping Board Port belonging to Gloucester City  
Horse Power at Full Power 2000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

**NE ENGINES, &c.**—Description of Engines Steam Turbine No. of Turbines One  
of Rotor Shaft Journals, H.P. 8 L.P. ✓ Diameter of Pinion Shaft 4"  
of Journals 7.5" Distance between Centres of Bearings 6.3" Diameter of Pitch Circle 4.5"  
of Wheel Shaft 14" Distance between Centres of Bearings 4.5" Diameter of Pitch Circle of Wheel 4.5"  
Face 18.45 Diameter of Thrust Shaft under Collars 14" Diameter of Tunnel Shaft 13.26  
new Shafts one Diameter of same as per rule Diameter of Propeller 17.4 1/2 Pitch of Propeller 13.4  
State whether Moveable Yes Total Surface 84.4 Diameter of Rotor Drum, H.P. ✓ L.P. ✓ Astern ✓  
at Bottom of Groove, H.P. ✓ L.P. ✓ Revs. per Minute at Full Power, Turbine 337 1/2 Propeller 90

## CULARS OF BLADING.

SECTION	ACTIVE H.P.			SECTION	L.P.			SECTION	ACTIVE ASTERN		
	HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.		HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.		HEIGHT OF BLADES.	DIAMETER AT TIP.	NO. OF ROWS.
1	1.25	2'-11 1/2"	2	1	1.25	3'-9"	1	1	1.25	3'-10 1/2"	1
2	2.5	4'-0"	1	2	2.5	4'-2"	1	2	2.5	4'-2"	1
3	6.0	4'-2"	1	3	6.0	4'-2"	1	3	6.0	4'-2"	1
4				4				4			
5				5				5			
6				6				6			
7				7				7			
8				8				8			
9				9				9			
10				10				10			

size of Feed pumps 2 @ 12" x 8" x 24"  
size of Bilge pumps 2 @ 10" x 8 1/2" x 10"  
size of Bilge suction in Engine Room Boiler Room 4. 3 1/2" & 1 spec 3 1/2"  
In Holds, &c. 2 - 3 1/2" in each hold

Bilge Injections 1 sizes 10" Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine Room & size Yes 3 1/2"  
Bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes  
Connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks both  
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  
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  
Pipes are carried through the bunkers Bilge pipes How are they protected Steel covering  
Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes  
Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes  
New Shaft Tunnel watertight Yes Is it fitted with a watertight door Yes worked from top platform

**RS, &c.**—(Letter for record S) Manufacturers of Steel Midvale Steel Co  
Heating Surface of Boilers 8706 Is Forced Draft fitted Yes No. and Description of Boilers 3 BFW water tube  
Pressure 205 lb Tested by hydraulic pressure to 400 lb Date of test 11-9-19 No. of Certificate 369  
Boiler be worked separately Yes Area of fire grate in each boiler 87.5 No. and Description of Safety Valves to ✓  
Double spring loaded Area of each valve 7.06 Pressure to which they are adjusted 210 lb Are they fitted with easing gear Yes  
Distance between boilers or uptakes and bunkers or woodwork 24" Mean dia. of boilers ✓ Length ✓ Material of shell plates ✓  
Range of tensile strength ✓ Are the shell plates welded or flanged ✓ Descrip. of riveting: cir. seams ✓  
Diameter of rivet holes in long. seams ✓ Pitch of rivets ✓ Lap of plates or width of butt straps ✓  
Working pressure of shell by rules ✓ Size of manhole in shell ✓

Compensating ring No. and Description of Furnaces in each Boiler Material ✓ Outside diameter ✓  
Plain part Thickenss of plates Description of longitudinal joint ✓ No. of strengthening rings ✓  
Pressure of furnace by the rules ✓ Combustion chamber plates: Material ✓ Thickness: Sides ✓ Back ✓ Top ✓ Bottom ✓  
Stays to ditto: Sides ✓ Back ✓ Top ✓ If stays are fitted with nuts or riveted heads ✓ Working pressure by rules ✓  
Diameter at smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ End plates in steam space ✓  
Thickness ✓ Pitch of stays ✓ How are stays secured ✓ Working pressure by rules ✓ Material of stays ✓  
At smallest part ✓ Area supported by each stay ✓ Working pressure by rules ✓ Material of Front plates at bottom ✓  
Material of Lower back plate ✓ Thickness ✓ Greatest pitch of stays ✓ Working pressure of plate by rules ✓  
Pitch of tubes ✓ Material of tube plates ✓ Thickness: Front ✓ Back ✓ Mean pitch of stays ✓  
Working pressures by rules ✓ Girders to Chamber tops: Material ✓ Depth and ✓  
Length as per rule ✓ Distance apart ✓ Number and pitch of stays in each ✓  
Steam dome: description of joint to shell ✓ % of strength of joint ✓ Diameter ✓  
Material ✓ Description of longitudinal joint ✓ Diameter of rivet holes ✓ Pitch of rivets ✓  
Crown plates: Thickness ✓ How stayed ✓



SUPERHEATER. Type *Forster* Date of Approval of Plan *Plan in New York* Tested by Hydraulic Pressure to *600*  
Date of Test *11-9-19* Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler *Yes* 5c.  
Diameter of Safety Valve *1 1/2"* Pressure to which each is adjusted *210 lbs* Is Easing Gear fitted *Yes*

IS A DONKEY BOILER FITTED? *None* If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: *2 Studs & nuts for each side of rotor bearing; 2 Studs & nuts for main gear bearing; 2 Studs & nuts pinion bearing; 1 set of Coupling bolts; 1/20 of number of bolts & nuts for each gear case joint & turbine casing joint; 2 Thermometers for oil cooling system; 1 set of bearing bushes for gear wheel, rotor & pinion shaft; 1/2 set of packing rings for each gland of rotor shaft complete; 1 set of turbine thrust collar; 1 set of fuel & bilge pump valves; 1 set of valves for lubricating oil pump; a quantity of assorted bolts & nuts; bars & plates of mild steel; 2 ordinary thrust collars; 2 propellers*

The foregoing is a correct description,

*General Electric Co.*  
*per H. A. Berg*

Manufacturer.

*C. B. Groff*  
*Chief Engineer*  
*Purey & Jones*

Dates of Survey while building { During progress of work in shops -- *1918. Sept. 10, 17, 20. Oct. 2, 11, 15, 22, 28.*  
During erection on board vessel -- *1918. Nov. 25, 1919. Feb. 5, 14, 18. Mar. 7, 9. Apr. 3, 16. May 8, 16, 20. June 27. July 15, 17, 31. Aug. 7, 26. Sept. 3, 11, 30.*  
Total No. of visits *32*

Is the approved plan of main boiler forwarded herewith *in New York*

Dates of Examination of principal parts—Casings *10.9.18* Rotors *17.9.18* Blading *20.9.18* Gearing *22.10.18*

Rotor shaft *10.9.18* Thrust shaft *28.10.19* Tunnel shafts *28.10.19* Screw shaft *30.9.19* Propeller *30.9.19*

Stern tube *7-8.19* Steam pipes tested *10-11.19* Engine and boiler seatings *7-8.19* Engines holding down bolts *13-11.19*

Completion of pumping arrangements *20.11.19* Boilers fixed *11-9.19* Engines tried under steam *20.11.19*

Main boiler safety valves adjusted *19-11.19* Thickness of adjusting washers *Lock nuts*

Material and tensile strength of Rotor shaft *Steel 80,000 lbs. 2" diameter* Identification Mark on Do. *T.G.D.*

Material and tensile strength of Pinion shaft *" 85,000 "* Identification Mark on Do. *T.G.D.*

Material of Wheel shaft *Steel* Identification Mark on Do. *T.G.D.* Material of Thrust shaft *Steel* Identification Mark on Do. *W.J.F.*

Material of Tunnel shafts *Steel* Identification Marks on Do. *W.J.F.* Material of Screw shafts *Steel* Identification Marks on Do. *W.C.*

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 a duplicate of a previous case *Yes* If so, state name of vessel *"Daniel Webster"*

General Remarks (State quality of workmanship, opinions as to class, &c. *These engines have been constructed under special survey in accordance with the approved plans. The materials and workmanship are sound and good. The engines have been forwarded to Philadelphia Pa. to be fitted on board.*

*Philadelphia* The machinery and boilers of this vessel have been securely fitted on board and proved satisfactory under steam trial. It is submitted that

Vessel be eligible for a record of + LMC-11-19 Fitted for oil fuel - 11-

Flash point above 150°F in the Register Book.

The amount of Entry Fee ... *\$15.00* When applied for, *19*

Donkey Boiler Fee ... *£* When received, *19/2/20*

Travelling Expenses (if any) *Philad \$10.00*

Committee's Minute

Assigned *+ LMC-11-19 subject*

MACHINERY DEPT. WRITTEN 5.1.20

Engineer Surveyor to Lloyd's Register of Shipping.

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