

# REPORT ON MACHINERY.

No. 1624

4a.

REPORT NEW YORK *May 18 1919*  
 of Reporting Report *66-6* 1919 When handed in at Local Office *Oct 4* 1919 Port of *New York N.Y.*  
 in Survey held at *Schenectady N.Y.* Date, First Survey *Nov. 21 1918* Last Survey *Sept 30 1919*  
 on the *S.S. "Abraham Lincoln"* (Number of Vessels *46*)  
 ster *H. A. Reraw* Built at *Gloucester N.J.* By whom built *Pusey & Jones & Co (Cq)* When built *1919*  
 ines made at *Schenectady N.Y.* By whom made *General Electric Company* when made *1918*  
 lers made at *Bayonne* By whom made *Babcock & Wilcox Co (S 790)* when made *1919*  
 icated Horse Power \_\_\_\_\_ Owners *W. S. Shipping Board, Emergency Ship Corp* Port belonging to *Gloucester City N.J.*  
 Horse Power at Full Power *3000* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *yes*

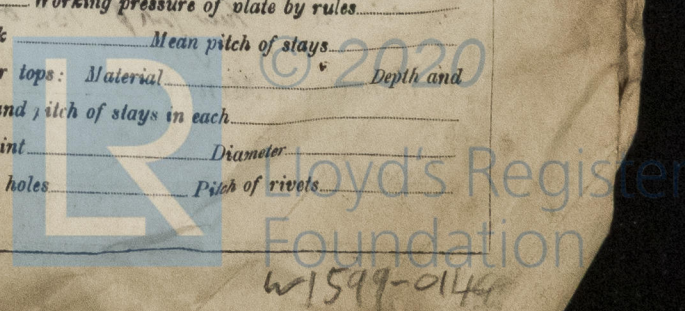
BINE ENGINES, &c.—Description of Engines *Grand Turbine Turbine 1352*  
 ter of Rotor Shaft Journals, H.P. *8* L.P. \_\_\_\_\_ Diameter of Pinion Shaft *7*  
 ter of Journals *H.S.P. 4* Distance between Centres of Bearings *H.S.P. 19 1/2* Diameter of Pitch Circle *H.S.P. 7.133*  
 ter of Wheel Shaft *14* Distance between Centres of Bearings *L.S.P. 63* Diameter of Pitch Circle of Wheel *L.S.P. 10.75*  
 of Face *18.45* Diameter of Thrust Shaft under Collars *14 3/8* Diameter of Tunnel Shaft *as per rule 13.26*  
 f Screw Shafts *one line* Diameter of same *as fitted 15* Diameter of Propeller *17.45* Pitch of Propeller *13.4*  
 f Blades *4* State whether Moveable *yes* Total Surface *84.4* Diameter of Rotor Drum, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_  
 ickness at Bottom of Groove, H.P. \_\_\_\_\_ L.P. \_\_\_\_\_ Astern \_\_\_\_\_ Revs. per Minute at Full Power, Turbine *3374.5* Propeller *90*

H.P.			L.P.			ASTERN.		
ACTIVE HEIGHT OF BLADES.	H.P. DIAMETER AT TIP.	NO. OF ROWS.	ACTIVE HEIGHT OF BLADES.	L.P. DIAMETER AT TIP.	NO. OF ROWS.	ACTIVE HEIGHT OF BLADES.	ASTERN. DIAMETER AT TIP.	NO. OF ROWS.
EXPANSION ..... 75-125	2-11 1/4	2				8125-15	3-3	2
" ..... 625	3-9	1				3375	2-2	1
" ..... 125	3-10 1/2	1						
" ..... 2.5	4-0	1						
" ..... 6.0	4-2	1						
" ..... 18								
" ..... 12								
" ..... 12								

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

of 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"*  
 all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes*  
 all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*  
 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*  
 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*  
 at pipes are carried through the bunkers *Bilge pipes* How are they protected *steel covering*  
 all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times *yes*  
 the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges *yes*  
 the Screw Shaft Tunnel watertight *yes* Is it fitted with a watertight door *yes* worked from *top platform*

ILERS, &c.—(Letter for record \_\_\_\_\_) Manufacturers of Steel \_\_\_\_\_  
 Heating Surface of Boilers *8706* Is Forced Draft fitted *yes* No. and Description of Boilers *3 Babcock & Wilcox*  
 Working Pressure *205 lb* Tested by hydraulic pressure to *410 lb* Date of test *11.9.19* No. of Certificate *368*  
 each boiler be worked separately *yes* Area of fire grate in each boiler *87.5* No. and Description of Safety Valves to \_\_\_\_\_  
 be given boiler *double spring loaded* Area of each valve *7.06* Pressure to which they are adjusted *210 lb* Are they fitted with easing gear *yes*  
 allest distance between boilers or uptakes and bunkers or woodwork *24"* Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_  
 ickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are the shell plates welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_  
 g. seams \_\_\_\_\_ Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_  
 centages of strength of longitudinal joint \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_  
 of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each Boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_  
 Top \_\_\_\_\_ Length of plain part \_\_\_\_\_ Thickness of plates \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_  
 233 \_\_\_\_\_ Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_  
 163 \_\_\_\_\_ of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_  
 153 \_\_\_\_\_ Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space \_\_\_\_\_  
 Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_  
 Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_  
 ickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_  
 Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_  
 1/2 inch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_  
 21, ickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of stays in each \_\_\_\_\_  
 Working pressure by rules \_\_\_\_\_ Steam dome: description of joint to shell \_\_\_\_\_ % of strength of joint \_\_\_\_\_ Diameter \_\_\_\_\_  
 ickness of shell plates \_\_\_\_\_ Material \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ Diameter 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 Plan in New York Tested by Hydraulic Pressure to 600 lb  
 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  
 Diameter of Safe'y 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 size of rotor bearing: 2 studs & nuts main gear bearing: 2 studs & nuts pinion bearing: 1 set of coupling bolts: 50 of total  
Number of bolts & nuts for each gear case joint & turbine casing joint: 2 thermometers  
oil cooling system: 1 set of bearing bushes for gear wheel, rotor & pinion shafts: 1 set of  
packing rings for each gland of rotor shaft complete: 1 set of turbine thrust collars: 1  
of feed & bilge pump valves: 1 set of valves for lubricating oil pump: a quantity of anchor  
bolts & nuts: bars & plates of mild steel: 2 ordinary thrust horse-shoes: 2 propeller bla

The foregoing is a correct description,

General Electric Co.

Manufacturer.

per S. Berg

Pusey & Jones Co. Chief Engineer

Dates of Survey while building  
 During progress of work in shops -- Aug 30, Sept 6, 17, 20, 24, Oct 2, 7  
 During erection on board vessel -- Nov 21, Dec 18, 19, 31, 1919, Jan 2, 17, 20, 22, Feb 5, 10, 12, 18, Mar 15, 19, 31, Apr 5, 16, 25, May 5, 8, 16, 21, 27, 29, Jun 20, 27, July 3, 4, 14, 15, 18, 23, 25, 31, Aug 7, 8, 26, Sep 3, 9, 11, 19, 24, 26, 30  
 Total No. of visits 46  
 Is the approved plan of main boiler forwarded herewith no

Dates of Examination of principal parts—Casings 30.8.18 Rotors 6.9.18 Blading 17.9.18 Gearing 2.10.18

Rotor shaft 6.9.18 Thrust shaft 19.3.19 Tunnel shafts 22.1.19 Screw shaft 12.2.19 Propeller 18.2.19

Stern tube 18.2.19 Steam pipes tested 18.8.19 Engine and boiler seatings 30.6.19 Engines holding down bolts 11.9.19

Completion of pumping arrangements 25.9.19 Boilers fired 11.9.19 Engines tried under steam 25.9.19

Main boiler safety valves adjusted 19.9.19 Thickness of adjusting washers Lock nuts

Material and tensile strength of Rotor shaft Steel 85,000 lb. 2" diameter Identification Mark on Do. T.G.D.

Material and tensile strength of Pinion shaft " 80,000 " 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. 12.2.19

Material of Tunnel shafts Steel Identification Marks on Do. 11.10.19, 28.9 Material of Screw shafts Steel Identification Marks on Do. 35

Material of Steam Pipes Steel Test pressure 645 lbs per sq. in.

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 "Indianapolis" (ex-boat)

**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 correct and good. The engines have been shipped to Philadelphia 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 the vessel will be eligible for a record of + L.M.C. 9-19. Fitted for oil fuel 9-19. Flash point about 150°F. in the Register Book.

The amount of Entry Fee ... \$ 15.00 When applied for, 19  
 Due New York ... \$ 145.00  
 Due Philadelphia ... \$ 57.50 When received, 19  
 Donkey Boiler Fee ... \$ 10.00  
 Travelling Expenses (New York) \$ 15.00

Committee's Minute New York OCT 21 1919

Assigned + L.M.C. 9-19 subject

MACHINERY CERT  
 WRITTEN 10-11-19



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