

REPORT ON MACHINERY.

No. 14558
3277

REC'D NEW YORK

Received at London Office.....

Date of writing Report May 17 1919 When handed in at Local Office May 24 1919 Port of NEW YORK N.Y.

No. in Survey held at Schenectady N.Y. Date, First Survey 6-10-17 Last Survey May 10 1919
Reg. Book. on the S.S. Henry Clay (Number of Visits 61)

Master W. A. Harstedt Built at Gloucester By whom built Pusey & Jones Co When built 1919

Engines made at Schenectady N.Y. By whom made General Electric Co. when made 1917

Boilers made at Camden By whom made New York Shipbuilding Corp. when made 1915

Registered Horse Power 2000 Owners U.S. Shipping Board, Emergency Stev. Corp Port belonging to Gloucester N.Y.

Shaft Horse Power at Full Power 3000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines GEARED TURBINES No. of Turbines ONE

Diameter of Rotor Shaft Journals, H.P. 7" L.P. 7" Diameter of Pinion Shaft 7"
Diameter of Journals 4.5 PINION 7" Distance between Centres of Bearings GEAR 4.5" Diameter of Pitch Circle 4.5 PINION 7.833"
Diameter of Wheel Shaft 14" Distance between Centres of Bearings 4.5 PINION 8.5" Diameter of Pitch Circle of Wheel 4.5 PINION 10.75"
Width of Face 18.450" Diameter of Thrust Shaft under Collars 14.34" Diameter of Tunnel Shaft as per rule 13.2"
No. of Screw Shafts one Diameter of same as per rule 14.5 Continuous lines as fitted 15" Diameter of Propeller 17.4 1/2 Pitch of Propeller 13.4
No. of Blades 4 State whether Moveable Yes Total Surface 84-4 sq ft Diameter of Rotor Drum, H.P. L.P. astern
Thickness at Bottom of Groove, H.P. L.P. astern Revs. per Minute at Full Power, Turbine 3374.5 Propeller 90

PARTICULARS OF BLADING.

	ACTIVE			H.P.			L.P.			ASTERN.		
	HEIGHT OF BLADES.	PITCH DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	PITCH DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	PITCH DIAMETER AT TIP.	NO. OF ROWS.	HEIGHT OF BLADES.	PITCH DIAMETER AT TIP.	NO. OF ROWS.
1ST EXPANSION	875-1375	2'-11 1/2"	2				875-1375	3'-3"	9			
2ND	625	3'-9"	1				3375	3'-3"	1			
3RD	1250	3'-10 1/2"	1									
4TH	250	4'-0"	1									
5TH	600	4'-2"	1									
6TH												
7TH												
8TH												

No. and size of Feed pumps 2 @ 12.8 24
No. and size of Bilge pumps 2 @ 10x12x12 10x5 1/2 x 10.
No. and size of Bilge suction in Engine Room 2 - 3 1/2 Boiler room 2 - 3 1/2
In Holds, &c. 10 @ 3 1/2

No. 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
Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes
Are all connections with the sea direct on the skin of the ship Yes 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 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 Bilge suction How are they protected Ceiling
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 Top platform

BOILERS, &c.—(Letter for record (12)) Manufacturers of Steel Carnegie Steel Co

Total Heating Surface of Boilers 7504.5 sq ft Is Forced Draft fitted Yes No. and Description of Boilers 3 Single Ended
Working Pressure 210 lbs Tested by hydraulic pressure to 315 lbs Date of test 23-9-18 No. of Certificate 233
Can each boiler be worked separately Yes Area of fire grate in each boiler 59 sq ft No. and Description of Safety Valves to each boiler Double spring loaded Area of each valve 9.6 sq ft Pressure to which they are adjusted 210 lbs Are they fitted with easing gear Yes
Smallest distance between boilers or uptakes and bunkers or woodwork 11" Mean dia. of boilers 14.11" Length 11.6" Material of shell plates Steel
Thickness 7/16 1 1/4 1 3/4 Range of tensile strength 71680 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DR Lap
long. seams DR LR Diameter of rivet holes in long. seams 19/16" Pitch of rivets 10 5/16" Lap of plates or width of butt straps 22 3/4"

Per centages of strength of longitudinal joint plates 84.8 Working pressure of shell by rules 225 Size of manhole in shell 12 x 16
Size of compensating ring 3 1/2 x 3 1/2 x 1 3/4 No. and Description of Furnaces in each Boiler 3 Corrugated Material Steel Outside diameter 3.1 1/4

Length of plain part top 5 1/8" Thickness of plates crown 5/8" Description of longitudinal joint Weld No. of strengthening rings 1
Working pressure of furnace by the rules 213 Combustion chamber plates: Material Steel Thickness: Sides 5/8" Back 5/8" Top 7/8" Bottom 1"
Pitch of stays to ditto Sides 7 1/4 x 7 Back 7 x 7 Top 7 1/4 x 7 1/4 Are stays fitted with nuts or riveted heads Nuts Working pressure by rules 252 lbs
Material of stays Iron Diameter at smallest part 1.99 Area supported by each stay 53.47 sq ft Working pressure by rules 250 lbs End plates in steam space
Material Steel Thickness 1 3/32 Pitch of stays 6 1/2 x 15 1/2 How are stays secured Nuts Working pressure by rules 233 Material of stays Steel
Diameter at smallest part 6.49 Area supported by each stay 253.5 sq ft Working pressure by rules 263 Material of Front plates at bottom Steel
Thickness 1 1/16 Material of Lower back plate Steel Thickness 1 1/8 Greatest pitch of stays 14 1/4 Working pressure of plate by rules 256
Diameter of tubes 2 1/2 Pitch of tubes 3 1/8 x 3 1/2 Material of tube plates Steel Thickness: Front 1 1/16 Back 1 1/16 Mean pitch of stays 8.875
Pitch across wide water spaces 12 3/4 Working pressures by rules 245 Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 9 - 2 @ 1" Length as per rule 2 11" Distance apart 7 1/4 Number and pitch of stays in each 4 @ 7 1/4
Working pressure by rules 256 Steam dome: description of joint to shell 1" % of strength of joint 100 Diameter 20 1/4
Thickness of shell plates 1 1/8 Material Steel Description of longitudinal joint Weld Diameter of rivet holes 19/16 Pitch of rivets 10 5/16
Working pressure of shell by rules 256 Crown plates: Thickness 1 1/8 How stayed Weld

W1467-0028

SUPERHEATER. Type Foster Date of Approval of Plan New York Tested by Hydraulic Pressure to 645 lbs
 Date of Test 12-2-18 Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler Yes
 Diameter of Safety Valve 1/2" Pressure to which each is adjusted 210 lbs Is Easing Gear fitted Yes

IS A DONKEY BOILER FITTED? No If so, is a report now forwarded? Yes

SPARE GEAR. State the articles supplied:— 2 Studs and nuts for each size of rotor bearing: 2 studs and nuts main gear wheel bearings: 2 studs and nuts pinion bearing: 1 set of coupling bolts 1/20 of total number of bolts and nuts for each gear case and turbine casing joint: 2 Thermometers for oil circulating system: 1 set of bearing bushes for gear wheel rotor pinion and shaft: 1/2 set of packing rings for each gland of rotor shaft complete: 1 set of turbine thrust collars: 1 set of feed helge pump valves: 1 set of valves for lubricating oil pump: a quantity of assorted bolts & nuts: 2 propeller blades

The foregoing is a correct description,
Ed Dickinson Manufacturer. Joseph L. Stull General Supt. The Pukey and Jones Co. Gloucester, Mass.

Dates of Survey while building: During progress of work in shops -- Oct 31 Nov 13 14 20 23 27 28 Dec 5 6
 During erection on board vessel --- Apr 7 6 6 Dec 7 1918 May 9 July 9 Sept 20 Oct 11 16 17 18 28 29 31 Nov 14 15 18 Dec 12 20 23 24 27 1919 Jan 6
 Total No. of visits 61 Is the approved plan of main boiler forwarded herewith Yes duplicate
 " " " donkey " " " None

Dates of Examination of principal parts—Casings Rotors Blading Gearing
 Rotor shaft Thrust shaft 27-12-18 Tunnel shafts 24-12-18 Screw shaft 31-10-18 Propeller 15-11-18
 Stern tube 14-11-18 Steam pipes tested 4-3-19 Engine and boiler seatings 29-10-18 Engines holding down bolts 22-4-19
 Completion of pumping arrangements 24-4-19 Boilers fired 12-12-18 Engines tried under steam 1-5-19
 Main boiler safety valves adjusted 1-5-19 Thickness of adjusting washers Lock nuts
 Material and tensile strength of Rotor shaft STEEL 80,000 LBS 7" MINIMUM Identification Mark on Do. T.G.D.
 Material and tensile strength of Pinion shaft " 100,000 " 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.C. 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 No 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"

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. The boilers have been constructed under Special Survey. The material workmanship are sound & good and were tested by hydraulic pressure with satisfactory results. The machinery of this vessel has been well fitted aboard and proved satisfactory on steam trial. It is submitted that above vessel will be eligible for a record of + LMC. 5-19 in Register Book.

The amount of Entry Fee	When applied for
Special Philadelphia \$169.00	19
New York 84.00	
Donkey Boiler Fee 24.50	When received
Travelling Expenses (if any) Philadelphia 6.00	25-9-19

H. P. Bond & J. Adamson A. T. Tho
 Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute New York JUN 17 1919

Assigned + LMC. 5-19
 MACHINERY CERTIFICATE WRITTEN 3-7-19

Rpt. 13. REC'D RE

Port of G
 No. in Reg. Book on the Built
 Owners
 Yard No.

DESCRIPTION OF
2-15
 Capacity of Dynamo
 Where is Dynamo
 Position of Main S
 Positions of auxilia

If fuses are fitted circuits Yes
 If vessel is wired on
 Are the fuses of no
 Are all fuses fitted
 are permanent

Are all switches and
 Total number of light
 A 121
 B 30
 C 10
 D
 E
 1 Mast head
 2 Side li
 9

If arc lights, what pr
 S.S.

It is su
 this vessel
 1 Gearing

DESCRIPTION OF
 Joints in cables, how ma

Are all the joints of cabl
 positions, none bei
 Are there any joints in
 How are the cables led
 1ea

