

REPORT ON MACHINERY.

Received at London Office

REC'D NEW YORK March 18 1919
 Date of writing Report March 15 1919 When handed in at Local Office March 14 1919 Port of Philadelphia
 No. in Survey held at Trenton & Chester Date, First Survey Feb 11 1918 Last Survey March 3 1919
 Reg. Book. S.S. "South Bend" (Number of Visits 4)
 on the S.S. "South Bend" Tons } Gross 8439
 Net 5453
 Master W. D. Lenz Built at Chester By whom built Pen Ship. Co When built 1918
 Engines made at Trenton By whom made De Laval Steam Turbine Co (27255-59) when made 1918
 Boilers made at Phoenixville, Pa. By whom made Heine Safety Boiler Co when made 1918
 Registered Horse Power _____ Owners United States Shipping Board Port belonging to Washington
 Shaft Horse Power at Full Power 5500 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted yes

TURBINE ENGINES, &c.—Description of Engines De Laval ^{Single} Reduction Beared Turbines No. of Turbines 4
 Diameter of Rotor Shaft Journals, H.P. 6" L.P. 6" Diameter of Pinion Shaft 5"
 Diameter of Journals 5" Distance between Centres of Bearings 27 3/8" Diameter of Pitch Circle 5.4"
 Diameter of Wheel Shaft 13 5/8" Distance between Centres of Bearings 60" Diameter of Pitch Circle of Wheel 119.8
 Width of Face 2 @ 29" Diameter of Thrust Shaft under Collars 13.75 Diameter of Tunnel Shaft as per rule 12.1 "12.05"
 as fitted 12.625
 No. of Screw Shafts 2 Diameter of same as per rule 12.89 "12.98"
 as fitted 12.625 Diameter of Propeller 15'-0" Pitch of Propeller 14.6
 No. of Blades 3 State whether Moveable No Total Surface 62.7 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 2440 Propeller 110

PARTICULARS OF BLADING.

	H. P.			L. P.			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.
1ST EXPANSION	1.150	32.551	2	4.772	50.081	1	1.660	39.134	2
2ND "	1.150	33.041	1	2.166	50.873	1	1.150	39.824	2
3RD "	1.150	32.364	1	2.756	52.051	1	0.695	42.668	2
4TH "	1.150	33.148	1	3.150	51.573	1			
5TH "	1.150	33.728	1	4.015	53.313	1			
6TH "	1.150	34.208	1	4.724	54.833	1			
7TH "	1.150	34.688	1	6.200	55.723	1			
8TH "									

No. and size of Feed pumps 2 - 15" x 11" x 24"
 No. and size of Bilge pumps 3 - 10" x 8 1/2" x 10" 1 - 7 1/2" x 5" x 6" 1 - 7 1/2" x 8 1/2" x 6"
 No. and size of Bilge suction in Engine Room 4 Bilge rooms 4 - 3 1/2" 2 - 2 1/2" in turbine recess
 In Holds, &c. No's 1-2-3-4-5-6 - 2 - 3 1/2" in each
 No 7 hold 1 - 3 1/2" - No 8 hold 2 - 3 1/2" Sumell wells. 2 - 3 1/2"
 No. of Bilge Injections 2 sizes 10" Connected to condenser, or to circulating pump ump Is a separate Donkey Suction fitted in Engine Room & size 4 1/2" x 5"
 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 Above
 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 None How are they protected yes
 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 & top deck aft.

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Worth Bros & Co & Lukens Steel Co
 Total Heating Surface of Boilers 15520 Is Forced Draft fitted yes No. and Description of Boilers Four main Water tube (Skene) Boilers
 Working Pressure 225 lbs Tested by hydraulic pressure to 450 lbs Date of test 11-11-18 No. of Certificate 258
 Can each boiler be worked separately yes Area of fire grate in each boiler 49 1/2 No. and Description of Safety Valves to each boiler 2 Spring Loaded Area of each valve 9.62 Pressure to which they are adjusted 225 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 54" Mean dia. of drums 4'-6 1/2" Length 17'-4" Material of shell plates sk
 Thickness 3/16 Range of tensile strength 58000 to 72000 Are the shell plates welded or flanged No Descrip. of riveting: cir. seams D.L.
 long. seams FR DBS Diameter of rivet holes in long. seams 1 1/16 Pitch of rivets 7 3/4 Lap of plates or width of butt straps 1-18 1/2 to 0-11 1/2
 Per centages of strength of longitudinal joint rivets 111 Working pressure of shell by rules 305.6 Size of manhole in shell 15" x 11"
 plates 86.2
 Size of compensating ring flanged No. and Description of Furnaces in each Boiler 3 Material _____ Outside diameter _____
 Length of plain part top _____ crown _____ bottom _____ Description of longitudinal joint _____ No. of strengthening rings _____
 Working pressure of furnace by the rules water tube Combustion Chamber plates: Material sk Thickness: Sides 3/4 Back 3/4 Top 3/4 Bottom 3/4
 Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads Riveted Working pressure by rules 418
 Material of stays sk Diameter at smallest part 1 9/16 Area supported by each stay 33.2 Working pressure by rules 391.6 End plates in steam space _____
 Material sk Thickness 3/4 Pitch of stays _____ How are stays secured Dished Working pressure by rules 225 Material of stays _____
 Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____
 Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____
 Diameter of tubes 4 1/2 Pitch of tubes 7 1/2 x 4 1/2 Material of tube plates sk Thickness: Front and Back 3/4 Mean pitch of stays 4.66 x 7.25
 Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and thickness 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 _____
 Thickness 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 _____

