

REPORT ON MACHINERY.

No. 3863

Received at London Office

TUE. JUL. 20 1920

Date of writing Report 10 When handed in at Local Office 19 Port of Philadelphia
 No. in Survey held at Trenton & Gloucester N.J. Date, First Survey April 26 1919 Last Survey June 15 1920.
 Reg. Book. on the New Steel S.S. John Jay (Number of Visits 21)
 Master R. McGuire Built at Gloucester By whom built The Pusey & Jones Coy. When built 1920
 Engines made at Trenton By whom made De Laval Steam Turbine Co. (29653) when made 1919
 Boilers made at Bayonne N.J. By whom made Babcock & Wilcox Coy. when made 1920.
 Registered Horse Power 649. Owners Emergency Steel Corporation Port belonging to Gloucester City
 Shaft Horse Power at Full Power 3000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

URBINE ENGINES, &c.—Description of Engines De Laval Double Reduction Turbine No. of Turbines one
 Diameter of Rotor Shaft Journals, H.P. 9 L.P. 6" Diameter of Pinion Shaft 1st Red 7 1/2": 2nd Red 9"
 Diameter of Journals 1st 6 1/2": 2nd 9" Distance between Centres of Bearings 1st 32 1/2": 2nd 37 1/2" Diameter of Pitch Circle 1st Red 7.4": 2nd 10.25"
 Diameter of Wheel Shaft 1st 9 1/2": 2nd 14 1/2" Distance between Centres of Bearings 1st 35": 2nd 77 1/2" Diameter of Pitch Circle of Wheel 1st 55.6": 2nd 52.75"
 Width of Face 1st 18": 2nd 45" Diameter of Thrust Shaft under Collars 14 3/8" Diameter of Tunnel Shaft as per rule 13.3" as fitted 13 1/2"
 No. of Screw Shafts One Diameter of same as per rule 14.63" as fitted 15" Diameter of Propeller 14 1/2" Pitch of Propeller 13 1/2"
 No. of Blades Four State whether Moveable Immovable Total Surface 94.78" 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 3480 Propeller 90

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				1.150	32.551	2
2ND	1.180	40.0210	1				1.180	33.041	2
3RD	1.460	40.600	1				1.260	32.869	2
4TH	1.771	41.220	1						
5TH	2.750	41.800	1						
6TH	3.150	42.600	1						
7TH	4.725	44.190	1						
8TH	6.300	45.000	1						

No. and size of Feed pumps Two, 12" x 8" x 24" with Automatic Control ✓
 No. and size of Bilge pumps 10 10 x 12 1/2" 1 @ 12 x 8 1/2" x 12" 1 in oil cooler connected to bilge pump 1/2 x 4 x 10. ✓
 No. and size of Bilge suction in Engine Room Four @ 3 1/2" and one Special Bilge Suction ✓
 In Holds, etc. Two @ 3 1/2" in each hold ✓
 No. of Bilge Injections One sizes 10" Connected to condenser, or to circulating pump ✓ 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 pipes ✓ How are they protected Steel casings ✓
 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) Manufacturers of Steel

Total Heating Surface of Boilers Is Forced Draft fitted No. and Description of Boilers
 Working Pressure Tested by hydraulic pressure to Date of test No. of Certificate
 Can each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to
 each boiler Area of each valve Pressure to which they are adjusted Are they fitted with easing gear
 Smallest distance between boilers or uptakes and bunkers or woodwork Mean dia. of boilers Length Material of shell plates
 Thickness 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
 Percentages 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
 of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings
 bottom Thickness of plates bottom
 Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom
 Pitch of stays to dille: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules
 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
 Thickness 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
 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

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W1481-0104

SUPERHEATER. Type See boiler report 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 ✓
Diameter 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:—Two studs & nuts for each size pinion bearing, main gear wheel bearing & pinion bearing one set coupling bolts for shafts one twentieth of total number. bolts for gun case & turbine case joints. Two thermometers for oil circulating systems 1 set bearing bushes for all shaft & pinion bearings. Two thrust shoes complete. one set turbine thrust pads. 1 set liners. One set feed sledge pump valves for each pump 1 set valves for lubricating oil pumps one bucket & rod for lubricating oil pump one escape valve spring assisted bolt nuts in & steel plates. one tail shaft. Two propeller blades. Thruster baskets for fuel oil strainers 3 oil burners 15 oil burner tips. 3 safety valve springs. 36 main holes Hand Hole gaskets 15 hand hole fittings complete & 15 tubes.
The foregoing is a correct description,

De Havilland Steam Turbine Co
by De Havilland, C.E.

Manufacturer.

1919
Dates of Survey while building { During progress of work in shops -- Apr 28 May 13. 23. June 2. 16. 26 During erection on board vessel --- June 1-9-18 Total No. of visits 21. incl. including boilers (see boiler report) Is the approved plan of main boiler forwarded herewith no
Dates of Examination of principal parts—Casings 22.5.19 ^{whels} 16.6.19 Blading 16.6.19 Gearing 22.5.19
Rotor shaft 16.6.19 Thrust shaft 11.5.20 Tunnel shafts 11.5.20 Screw shaft 13.4.20 Propeller 3.5.20
Stern tube 13.4.20 Steam pipes tested 8.6.20 Engine and boiler seatings 2.4.20 Engines holding down bolts 1.6.20
Completion of pumping arrangements 14.6.20 Boilers fired 6.5.20 Engines tried under steam 14.6.20
Main boiler safety valves adjusted 14.6.20 Thickness of adjusting washers Tam nuts
Material and tensile strength of Rotor shaft O. H. Steel 96800 lbs Identification Mark on Do. A. T. T.
Material and tensile strength of Pinion shaft Chrome - Nickel Steel 110,000 lbs Identification Mark on Do. A. T. T.
Material of Wheel shaft Steel Identification Mark on Do. A. T. T. Material of Thrust shaft Steel Identification Mark on Do. W.B. & JR.
Material of Tunnel shafts Steel Identification Marks on Do. W.B. & JR. Material of Screw shafts Steel Identification Marks on Do. W.B. & JR.
Material of Steam Pipes Solid drawn Steel 1/2 inch 30 lb & 1/2 inch 40 lb Test pressure 650 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 S. S. John Adams

General Remarks (State quality of workmanship, opinions as to class, &c.)

The machinery has been built under special survey: the material and workmanship being good. It has been forwarded to The Bureau of Naval Affairs for fitting aboard. The machinery has been satisfactorily installed in the vessel. It has been tested under water pressure & tried under steam & is in good & safe working condition & eligible in my opinion to be classed & have passed L.M.C. 6-20 Fitted for oil fuel F.P. above 150°F. F. 6-20 in the Register Book.

The amount of Entry Fee £ 15.00 : When applied for, 19
Special Due Phila. £ 14.90 : 19
Donkey Boiler Fee £ 1.00 : 19
Travelling Expenses (if any) \$ 10.00 : 19
5.00

A. T. Thomas William Butler
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

New York JUL - 6 1920

Assigned L.M.C. 6-20

MACHINERY DEPT.
WRITTEN
20.7.20

Subject



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