

Rpt. 4a.

REPORT ON MACHINERY.

No. 4651.

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No. in Survey held at Manchester Date, First Survey 23rd Jan Last Survey 10th Sept 1920
Reg. Book. (Number of Visits Six)

on the **RATEAU STEAM TURBINES NO'S 1780 & 1781.**
H.P. & L.P. TURBINE SPINDLES, WHEELS AND BLADING.
FOR SWAN HUNTER & WIGHAM RICHARDSON'S NO. 1026.

Master _____ Built at _____ By whom built _____ When built _____
ROTOR PARTS
Machinery made at Manchester By whom made Metropolitan Trainers, S. Co. when made 1920

Wheels made at _____ By whom made _____ when made _____
Registered Horse Power _____ Owners _____ Port belonging to _____

Net Horse Power at Full Power _____ Is Refrigerating Machinery fitted for cargo purposes _____ Is Electric Light fitted _____

TURBINE ENGINES, &c.—Description of Engines **RATEAU IMPULSE H.P. & L.P.** No. of Turbines Two

Diameter of Rotor Shaft Journals, H.P. 6" L.P. 6" Diameter of Pinion Shaft _____

Diameter of Journals _____ Distance between Centres of Bearings _____ Diameter of Pitch Circle _____

Diameter of Wheel Shaft _____ Distance between Centres of Bearings _____ Diameter of Pitch Circle of Wheel _____

Thickness of Face _____ Diameter of Thrust Shaft under Collars _____ Diameter of Tunnel Shaft _____
as per rule _____ as fitted _____

Diameter of Screw Shafts _____ Diameter of same _____ Diameter of Propeller _____ Pitch of Propeller _____
as per rule _____ as fitted _____

Number of Blades _____ State whether Moveable _____ Total Surface _____ 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 _____ Propeller _____

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.
EXPANSION	<u>13/16 & 1/8"</u>	<u>3-2 13/16 & 3/8"</u>	<u>2</u>	<u>2 3/4"</u>	<u>3-8 3/4"</u>	<u>1</u>			
"	<u>1 1/16"</u>	<u>3-3 1/16"</u>	<u>1</u>	<u>3 1/8"</u>	<u>3-9 1/8"</u>	<u>1</u>	<u>2' x 3"</u>	<u>3-4 1/2 x 3-5"</u>	<u>2 on one wheel</u>
"	<u>1 1/4"</u>	<u>3-3 3/4"</u>	<u>1</u>	<u>4 1/8"</u>	<u>3-10 1/8"</u>	<u>1</u>			<u>whole</u>
"	<u>1 7/16"</u>	<u>3-3 7/16"</u>	<u>1</u>	<u>5 3/4"</u>	<u>3-11 3/4"</u>	<u>1</u>			
"	<u>1 11/16"</u>	<u>3-3 11/16"</u>	<u>1</u>	<u>7 3/8"</u>	<u>4-1 3/8"</u>	<u>1</u>	<u>3 1/2 x 6 1/2"</u>	<u>3-5 1/4 & 3-8"</u>	<u>2 wheels</u>
"	<u>2 1/16"</u>	<u>3-4 1/16"</u>	<u>1</u>	<u>10"</u>	<u>4-4"</u>	<u>1</u>			<u>one row</u>
"	<u>2 9/16"</u>	<u>3-4 9/16"</u>	<u>1</u>	<u>12"</u>	<u>4-6"</u>	<u>1</u>			<u>on back</u>

_____ and size of Feed pumps

_____ and size of Bilge pumps

_____ and size of Bilge suction in Engine Room

_____ In Holds, &c.

_____ of Bilge Injections _____ sizes _____ Connected to condenser, or to circulating pump _____ Is a separate Donkey Suction fitted in Engine Room & size _____

_____ all the bilge suction pipes fitted with roses _____ Are the roses in Engine room always accessible _____

_____ all connections with the sea direct on the skin of the ship _____ Are they Valves or Cocks _____

_____ they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates _____ Are the Discharge Pipes above or below the deep water line _____

_____ they each fitted with a Discharge Valve always accessible on the plating of the vessel _____ Are the Blow Off Cocks fitted with a spigot and brass covering plate _____

_____ if pipes are carried through the bunkers _____ How are they protected _____

_____ all Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times _____

_____ the Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges _____

_____ the Screw Shaft Tunnel watertight _____ Is it fitted with a watertight door _____ worked from _____

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 _____

_____ Area of each valve _____ Pressure to which they are adjusted _____ Are they fitted with easing gear _____

_____ Greatest 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 _____

_____ Rivet 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 _____

_____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____

_____ Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____

_____ Height of stays to ditto: 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 _____

_____ Height 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 _____



