

Rpt. 4a.

REPORT ON MACHINERY.

No. 4651.

MON. SEP. 13 1920

Received at London Office

Date of writing Report 14 Sept 1920 When handed in at Local Office 14 Sept 1920 Port of **MANCHESTER**

No. in Survey held at Manchester
Reg. Book.

Date, First Survey 23rd Jan.

Last Survey 14 Sept. 1920.

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.

Gross
Tons
Net

Master ROTOR PARTS

Built at

By whom built

When built

Engines made at Manchester

By whom made Metropolitan Electric & Co.

when made 1920.

Boilers 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 as per rule as fitted Diameter of Propeller Pitch of Propeller

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

DETAILS 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" x 1 1/8"</u>	<u>3'-2 13/16"</u>	<u>2</u>	<u>2 3/4"</u>	<u>3'-8 1/4"</u>	<u>1</u>	<u>H.P.</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 1/4"</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>L.P.</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" x 3'-8 1/2"</u>	<u>2 wheels one row on each</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>2 9/16"</u>	<u>3'-4 9/16"</u>	<u>1</u>	<u>12"</u>	<u>4'-6"</u>	<u>1</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

all 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

each boiler be worked separately Area of fire grate in each boiler No. and Description of Safety Valves to

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

least 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

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

length of plain part top crown Thickness of plates Description of longitudinal joint No. of strengthening rings

bottom bottom 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

SUPERHEATER. Type _____ 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?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

The foregoing is a correct description,

METROPOLITAN-VICKERS ELECTRICAL CO. LTD.

Manufacturer.

J. Simpson Esq. D.O.

Dates of Survey while building
During progress of work in shops --
During erection on board vessel --
Total No. of visits

Jan 23. May 25. June 16. 17. 23. Sept 10. Total visits 6.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings

Rotors 16.6.20. Blading 23.6.20. Gearing

Rotor shaft 16.6.20. Thrust shaft

Tunnel shafts

Screw shaft

Propeller

Stern tube

Steam pipes tested

Engine and boiler seatings

Engines holding down bolts

Completion of pumping arrangements

Boilers fired

Engines tried under steam

Main boiler safety valves adjusted

Thickness of adjusting washers

Material and tensile strength of Rotor shaft

Forged mild steel H.P. 34.9 tons L.P. 38.8 tons

Identification Mark on Do. U590. U591

Material and tensile strength of Pinion shaft

Identification Mark on Do.

Material of Wheel shaft

Identification Mark on Do.

Material of Thrust shaft

Identification Mark on Do.

Material of Tunnel shafts

Identification Marks on Do.

Material of Screw shafts

Identification Marks on Do.

Material of Steam Pipes

Test pressure

Is an installation fitted for burning oil fuel

Is the flash point of the oil to be used over 150°F.

Have the requirements of Section 49 of the Rules been complied with

Is this machinery a duplicate of a previous case

If so, state name of vessel

General Remarks

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

These spindles, wheels & blading have been constructed under Special Survey and the materials used in accordance with the Rules of the Society; the materials and workmanship so far as could be seen are sound and good. These items have been dispatched to Messrs. Swan, Hunter & Wiggin & Richardson. Two to be fitted in casings and the turbines completed by them. Job No 1026.

The amount of Entry Fee ... £

Special (as per Rule 11) ... £

Donkey Boiler Fee ... £

Travelling Expenses (if any) ... £

When applied for,

When received,

22.7.21

Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

TUE. 19 JUL. 1921

Assigned



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