

# REPORT ON MACHINERY.

No. 4557  
MON APR 12 1920

Received at London Office

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Date of writing Report 1. 4. 1920. When handed in at Local Office 10. 4. 1920. Port of Manchester.

Survey held at Manchester. Date, First Survey 20. 11. 19. Last Survey 29. 3. 1920.

Reg. Book. on the RATEAU STEAM TURBINES Nos 1727 & 1728. (Number of Visits 14.)

Built at Pt Glasgow By whom built Lithgow's Ltd no 729 When built 1920

Engines made at Manchester. By whom made Metropolitan Tickers & Co. when made 1920.

Boilers made at Glasgow By whom made W Rowan & Co Ltd no 713 when made 1920

Registered Horse Power Owners J. Brocklebank Ltd. Port belonging to

Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

DESCRIPTION OF ENGINES RATEAU IMPULSE H.P. & L.P. No. of Turbines 200.

Diameter of Rotor Shaft Journals, H.P. 4 1/2" L.P. 4 1/2" Diameter of Pinion Shaft

Distance between Centres of Bearings Diameter of Pitch Circle

Diameter of Pitch Circle of Wheel

Diameter of Thrust Shaft under Collars Diameter of Tunnel Shaft as per rule as fitted

Pitch of Propeller

State whether Moveable Total Surface Diameter of Rotor Drum, 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	1 1/8" x 2 1/8"	3-2 3/8" x 3-4"	2	3 1/8"	3-5 1/8"	1	H.P.		
"	1 1/16"	3-3 1/16"	1	3 7/8"	3-5 7/8"	1	2-3	3-3 1/4" x 3-4 1/2"	2.
"	1 5/16"	3-3 5/16"	1	4 3/4"	3-6 3/4"	1			not used
"	1 3/4"	3-3 3/4"	1	5 1/2"	3-7 1/2"	1	L.P.		
"	2 1/4"	3-4 1/4"	1	6 3/8"	3-8 3/8"	1	3" x 5 7/8"	3-1" x 3-3 7/8"	2.
"				8 1/4"	3-10 1/4"	1			not used
"				10 3/16"	4-0 3/16"	1			not used

size of Feed pumps

size of Bilge pumps

size of Bilge suction in Engine Room

In Holds, &c.

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

Are the roses in Engine room always accessible

Are they Valves or Cocks

Are the Discharge Pipes above or below the deep water line

Are the Blow Off Cocks fitted with a spigot and brass covering plate

How are they protected

Are the machinery and all boiler mountings accessible at all times

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

Is it fitted with a watertight door worked from

Manufacturers of Steel

Is Forced Draft fitted No. and Description of Boilers

Tested by hydraulic pressure to Date of test No. of Certificate

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

Are they fitted with easing gear

Mean dia. of boilers Length Material of shell plates

Are the shell plates welded or flanged Descrip. of riveting: cir. seams

Lap of plates or width of butt straps

Working pressure of shell by rules Size of manhole in shell

No. and Description of Furnaces in each Boiler Material Outside diameter

Thickness of plates crown bottom Description of longitudinal joint No. of strengthening rings

Combustion chamber plates: Material Thickness: Sides Back Top Bottom

If stays are fitted with nuts or riveted heads Working pressure by rules

Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space

Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Area supported by each stay Working pressure by rules Material of Front plates at bottom

Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

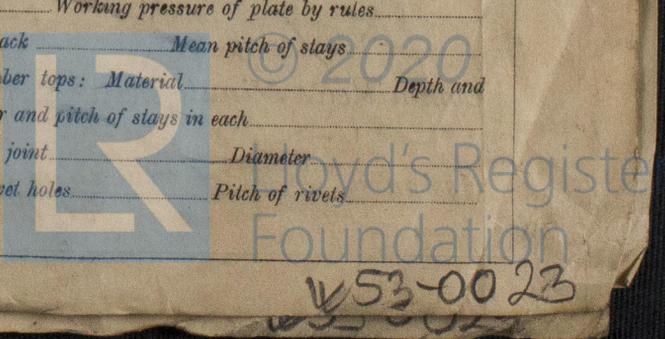
Working pressures by rules Girders to Chamber tops: Material Depth and

Length as per rule Distance apart Number and pitch of stays in each

Steam dome: description of joint to shell % of strength of joint Diameter

Description of longitudinal joint Diameter of rivet holes Pitch of rivets

Crown plates: Thickness How stayed



53-00 23

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:— *One sealing gland box, one spare Thrust bearing one set of bearing bushes for rotor, one escape valve spring for each size fitted, one complete spare governor lead, one set of coupling bolts for each size, for turbine couplings, 5 spare condenser tubes & packers, one set of spare tubes suitable for use with any of the three oil coolers, a quantity of assorted bolts & nuts.*

The foregoing is a correct description,  
 METROPOLITAN-VICKERS ELECTRICAL CO. LTD. Manufacturer.  
*7/4/20. J. Simpson*

Dates of Survey while building { During progress of work in shops -- } *25<sup>th</sup> Nov 1919 various dates to 29<sup>th</sup> March 1920. Total visits*  
 { During erection on board vessel --- }  
 Total No. of visits \_\_\_\_\_

Dates of Examination of principal parts—Casings *25.11.19* Rotors *16.2.20.* Blading *12.1.20.* Gearing \_\_\_\_\_  
 Rotor shaft *31.12.18.* 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 fixed \_\_\_\_\_ Engines tried under steam \_\_\_\_\_

Main boiler safety valves adjusted \_\_\_\_\_ Thickness of adjusting washers \_\_\_\_\_  
 Material and tensile strength of Rotor shafts *Field test 33.2 tons & 33.4 tons* Identification Mark on Do. *U455, U4*

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.) *The steam turbines H.P. & L.P. have been built under survey and materials tested in accordance with the rules. The materials & workmanship, so far as can be seen are sound & good and eligible in my opinion to be classed with this Society with record of L.M.C.*

GLASGOW  
 Certificate (if required) to be sent to \_\_\_\_\_  
 (The Surveyors are requested not to write on or below the space for Committee's Minute.)

The amount of Entry Fee ... £ *12-12-9* When applied for, \_\_\_\_\_  
*Pen reduced to Metropolitan Tickers.* \_\_\_\_\_  
 Special ... £ \_\_\_\_\_  
 Donkey Boiler Fee ... £ \_\_\_\_\_ When received, \_\_\_\_\_  
 Travelling Expenses (if any) £ \_\_\_\_\_ *11.8.20*

*J. H. Kopp*  
 Engineer Surveyor to Lloyd's Register of Shipping

Committee's Minute \_\_\_\_\_ GLASGOW \_\_\_\_\_ 29 SEP 1920  
 Assigned *See Glasgow Report N° 40400.*

