

Rpt. 4a.

REPORT ON MACHINERY.

No. 4268

Received at London Office.....

Date of writing Report 10 When handed in at Local Office 11th Feb. 1919 Port of Manchester

No. in Survey held at Manchester Date, First Survey 17th Nov. 1917 Last Survey 18th Jan 1919

Reg. Book. on the RATEAU STEAM TURBINES and DOUBLE REDUCTION GEAR (Number of Visits 42)

NOW FITTED S/S Guebville ex Way Grape Tons { Gross 2372
Net 1423

Master Built at Chips low By whom built Wm. Smith & Co When built 1920

Engines made at Manchester By whom made B. Westinghouse & Co. Ltd. when made 1919-1.

GEAR Andersson David Brown & Sons 1919-1.

Boilers made at By whom made when made

Registered Horse Power Owners Port belonging to

Shaft Horse Power at Full Power 1000 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

TURBINE ENGINES, &c.—Description of Engines RATEAU IMPULSE, HP and LP and DR. GEAR No. of Turbines Two

Diameter of Rotor Shaft Journals, H.P. 4" L.P. 4" Diameter of Pinion Shaft 1st - 3³/₄" 2nd - 6³/₄"

Diameter of Journals 1st - 3³/₄" 2nd - 6³/₄" Distance between Centres of Bearings 1st - 22" 2nd - 48" Diameter of Pitch Circle 1st - 5.99" 2nd - 9.92"

Diameter of Wheel Shaft 1st - 6³/₄" 2nd - 11¹/₂" Distance between Centres of Bearings 1st - 48" 2nd - 48" Diameter of Pitch Circle of Wheel 1st - 56.348" 2nd - 68.205"

Width of Face 1st - 8³/₄" 2nd - 20" Diameter of Thrust Shaft under Collars 11¹/₂" Diameter of Tunnel Shaft as per rule as fitted

No. of Screw Shafts Diameter of same as per rule as fitted Diameter of Propeller Pitch of Propeller

No. 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 4500 Propeller 70

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 | 1/2" x 1 1/2" | 27 1/2" x 28 1/2" | 2 | 1 1/8" | 28 1/8" | 1 | HP 1 1/16" x 2 3/8" | 28 1/16" x 29 3/8" | 2 |
| 2ND | 5/8" | 27 5/8" | 1 | 1 5/8" | 28 5/8" | 1 | | | |
| 3RD | 5/8" | 27 5/8" | 1 | 2 5/8" | 29 5/8" | 1 | LP 1 1/16" | 28 1/16" | 1 |
| 4TH | 5/8" | 27 5/8" | 1 | 4 3/16" | 31 3/16" | 1 | " 3 1/2" | 32 1/2" | 1 |
| 5TH | | | | 6 1/4" | 33 1/4" | 1 | | | |
| 6TH | | | | | | | | | |
| 7TH | | | | | | | | | |
| 8TH | | | | | | | | | |

No. and size of Feed pumps

No. and size of Bilge pumps

No. and size of Bilge suction in Engine Room

In Holds, &c.

No. of Bilge Injections sizes Connected to condenser, or to circulating pump Is a separate Donkey Suction fitted in Engine Room & size

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

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

Are 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

Are 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

What pipes are carried through the bunkers How are they protected

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

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

Is 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 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

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell plates

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

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

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

Pitch 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

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

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 set pads each for nickel thrust and turbine thrust blocks, one set bearing bushes each for turbine rotor, low speed gear wheel shaft, intermediate gear shaft, and for pinion shaft. One spare pinion with flexible coupling, one spare rotor plunger pump, one set valves for lubricating pump, one bucket rod for lubricating pump, one escape valve of each size fitted, 5% condenser tubes & ferrules, one impeller & shaft, one air pump rod, bucket & valves, one set coupling bolts, Assorted bits & nuts.

The foregoing is a correct description,

THE BRITISH WESTINGHOUSE ELECTRIC & MFG. CO., LTD.,
TRAFFORD PARK, MANCHESTER.

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

from 17. Nov. 1917 various dates to 18. January 1919. 42 visits.

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Casings 14 Jan 1918 Rotors 8 Feb 1918 Blading 12 Mar 1918 Gearing various dates 1918

Rotor shaft 20 Feb 1918 Thrust shaft 26 June 1918 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 forged steel 32.0 tons and 31.5 tons. Identification Mark on Do. U404 & U405

Material and tensile strength of Pinion shaft nickel steel 42.0 tons. 46.0 tons. Identification Mark on Do. 465. 462.

Material of Wheel shaft forged steel Identification Mark on Do. Material of Thrust shaft nickel steel 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 No If so, state name of vessel

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

The Steam turbines and gear have been built under Survey, the materials and workmanship so far as could be seen are sound and good and eligible in my opinion to be classed with this Society with record of LMC

Identification marks on couplings

| H.P. turbine | L.P. turbine | Gear. |
|-------------------------|-------------------------|-----------------|
| LLOYDS SET 5 1654 | LLOYDS SET 5 1655 | LLOYDS SET 5 |

This Machinery has now been fitted on the S/S Guelbiller to the Grapes Repts Rpt No 1986

A. Campbell
Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £
Special ... £ 28 : 11 : 4
Donkey Boiler Fee ... £
Travelling Expenses (if any) £
When applied for, 19
When received, 22/6/20

Committee's Minute

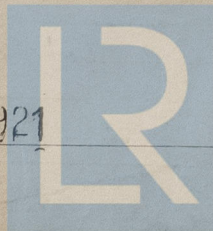
FRI. JUN. 18 1920

FRI. OCT. 15 1920

Assigned

TUE. JAN. 18 1921

TUE. FEB. 8 1921



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