

600 lbs
US
US

Rpt. 4a.

REPORT ON MACHINERY

No. 5010
MON. AUG. 14 1922

RETAIN

Received at London Office

Date of writing Report 19 When handed in at Local Office 12th Aug 1922 Port of MANCHESTER
 No. in Survey held at MANCHESTER Date, First Survey 12th Aug 1921 Last Survey 10th July 1922
 Reg. Book. on the Turbine No 1960/1 and Double Reduction Gearing No 2000 for S.S. "British Commander" No 282 (Number of Visits 19)
 Master Built at Dundee By whom built Galedon S & Eng. Co. Ltd. When built
 Engines made at Manchester By whom made Metropolitan-Vickers Electrical Co. Ltd. when made 1922
 Boilers made at By whom made when made
 Registered Horse Power Owners Port belonging to
 Shaft Horse Power at Full Power 3200 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted

admission table
lock valves
ge pumps

TURBINE ENGINES, &c.—Description of Engines Rateau Impulse H.P. & L.P. No. of Turbines Two
 Diameter of Rotor Shaft Journals, H.P. 5" L.P. 5" Diameter of Pinion Shaft 1st Reduction 3 1/2" 2nd Reduction 5 1/4"
 Diameter of Journals 1st Red: 6" 2nd Red: 10" Distance between Centres of Bearings 1st Red: 17 1/2" 2nd Red: 24 1/2" Diameter of Pitch Circle 1st Red: 6.7941" 2nd Red: 11.6491"
 Diameter of Wheel Shaft 1st Red: 10" 2nd Red: 19" Distance between Centres of Bearings 1st Red: 3-6" 2nd Red: 5-11" Diameter of Pitch Circle of Wheel 1st Red: 43.1002" 2nd Red: 73.2677"
 Width of Face 1st Red: 20" 2nd Red: 40" Diameter of Thrust Shaft under Collars 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 3125 Propeller 72.9

10.14.18
Ag. 2.8.14.2
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30-6-22
12-9-22
22

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 1/2"	3-2 1/2"	2	1 5/16"	3-3 5/16"	1	1"	3-2 3/4"	2
2ND	1 1/16"	3-2 7/8"	1	1 3/16"	3-3 1/2"	1	2 1/8"	3-5 7/8"	2
3RD	7/8"	3-2 7/8"	1	2 5/16"	3-4 1/16"	1	L.P.	L.P.	L.P.
4TH	7/8"	3-2 7/8"	1	4 3/16"	3-6 3/16"	1	L.P.	L.P.	L.P.
5TH	1"	3-3"	1	6 3/8"	3-8 3/8"	1	2 1/2"	3-0 1/2"	1
6TH				8 1/4"	3-10 1/4"	1	6 3/16"	3-4 3/16"	1
7TH				10 3/16"	4-0 3/16"	1			
8TH									

30-6-22
12-9-22
22

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

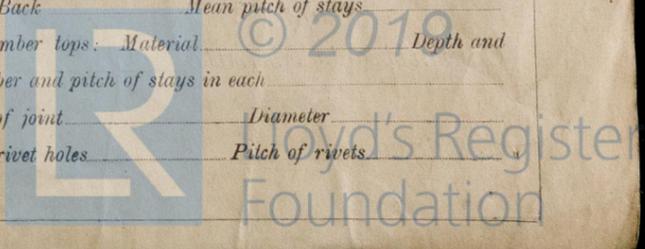
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the
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1.C. 12-2

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

19/12/22
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W351-0059



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:-

Turbines: 2 sets of bearing bushes for rotor. 2 bolts (or studs) + nuts for casing joint. 1 set of coupling bolts. 1 set of Michell Thrust pads. 2 Bolts + nuts (or studs) for each size fitted to rotor bearings, 2 for each bearing. 1 gland box complete. Diaphragm gland rings. Gears. 1 primary pinion + flexible shaft. 1 set of bearing bushes main shaft. 2 ditto for 1st + 2nd Red? pinions. 1 ditto for 1st Red? wheel shaft. 2 Bolts (or studs) + nuts for each size + for each bearing fitted. 1 set of coupling bolts. 2 "gear case joint bolts (or studs) + nuts.

General. 3 thermometers. 1 spring for each size fitted. Lubricating Pumps: 1 set of valves, 1 Bucket, 1 pumprod, 1 piston rod. Roto plunger Pump: 1 set plungers, 1-centre block, 1 Rotor bearing plate. Oil cooler 1- nest of tubes.

The foregoing is a correct description.

Simpson, Eugene D.O. Manufacturer. METROPOLITAN-VICKERS ELECTRICAL CO. LTD.

1921
Dates of Survey while building
During progress of work in shops
During erection on board vessel
Total No. of visits
Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts-Casings 9.2.22 9.2.22 Rotors and Blading 10.2.22 Gearing
Rotor shaft 10.2.22 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 shaft S.H. Ingot Steel 36.5 32.5 tm/lc. Identification Mark on Do.
Material and tensile strength of Pinion shaft Nickel Steel 1st Rd. 54.3 50.5 2nd Rd. 48.6 47.5 tm/lc. Identification Mark on Do.
Material of Wheel shaft S.H. Ingot Steel 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 Yes If so, state name of vessel Dickinsons 860.

General Remarks (State quality of workmanship, opinions as to class, &c. These turbines and D.R. gearing have been built under special survey and the materials tested in accordance with the Rules of this Society and the approved plans. The materials and workmanship so far as can be seen are sound and good. The steam trial and subsequent examination found satisfactory. This machinery is eligible in our opinion to be classed with record + L.M.C.

Mark on coupling of Main Shaft :-
Lloyds
No. 13599
10.7.22
A

The amount of Entry Fee ... £ : :
Special ... £ 30-4-0
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for by Mch 23/1/22
When received. PAID PER. SECRETARY'S Ltr. of 14/10/19.22

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

Committee's Minute FRI. 29 DEC. 1922

Assigned

