

REPORT ON MACHINERY.

No. 1892

Received at London 14 APR 1921

Shipping Report 30th March 1921 When handed in at Local Office 9th April 1921 Port of Bartow-in-Furness
 Survey held at Bartow-in-Furness Date, First Survey 5th Feb 1919. Last Survey 24th March 1921
 on the T.S.S. "SCYTHIA" (Number of Visits 256.)
 Gross 19503.5 Tons Net 12582.2
 Built at Bartow-in-Furness By whom built Vickers Ltd. (Eng. No 493) When built 1921
 made at Bartow-in-Furness By whom made Vickers Ltd. (Eng. No 493) when made 1921
 made at Bartow-in-Furness By whom made Vickers Ltd. when made 1921
 Nom. Horse Power 2528 NHP Owners Cunard Steamship Co. Ltd Port belonging to Liverpool
 Horse Power at Full Power 13500 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted Yes

NE ENGINES, &c.—Description of Engines Brown Curtis Turbines, Double Reduction No. of Turbines Two HP ahead, Two HP astern
Helical Gearing
 of Rotor Shaft Journals, H.P. 4 1/2 I.P. 4 3/4 L.P. 8 1/2 Diameter of Pinion Shaft H.P. & I.P. 5 1/2 L.P. 7, 2nd reduction 20"
 of Journals {H.P. & I.P. 5 1/2 L.P. 7 Distance between Centres of Bearings {H.P. & I.P. 3'-2 1/4" Diameter of Pitch Circle H.P. & I.P. 8.99 L.P. 13.71 2nd Red. 26.04
 of Wheel Shaft {2nd Red. 15 1/2 Distance between Centres of Bearings {2nd Red. 6'-8 3/4" Main Shaft 7'-5 1/2" Diameter of Pitch Circle of Wheel I.P. 64.06 2nd Red. 123.98
 Face {H.P. & I.P. 2 1/2 Diameter of Thrust Shaft under Collars 19 1/8 Diameter of Tunnel Shaft as per rule 17.4
 {2nd Red. 35 as fitted 18
 crew Shafts 2 Diameter of same as per rule 18.6 Diameter of Propeller 20'-0" Pitch of Propeller Set pitch 23'-0"
 as fitted 19 1/2
 blades 4 State whether Moveable Moveable Total Surface 128 ft expanded Diameter of Rotor Drum, H.P. — L.P. — astern —
 is at Bottom of Groove, H.P. — L.P. — Astern — Revs. per Minute at Full Power, Turbine H.P. & I.P. 3220 Propeller 82 for 13500 S.H.P.
 L.P. 1780

DETAILS OF BLADING.

	H.P. & I.P.			L.P.			ASTERN. H.P. & I.P.		
	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 3/8", 2"	22 3/8", 23"	2	1 st 3"	4'-11"	1	H.P. 1 9/16"	2'-10 9/16"	1
"H.P."	1 1/2", 2 1/4"	22 1/2", 23 1/4"	2	2 nd 3"	5'-0"	1	2 3/16"	2'-11 3/16"	1
"	1 7/8", 2 3/8"	22 7/8", 23 3/8"	2	3 rd 3 7/16"	5'-1 7/16"	1	2 13/16"	2'-11 13/16"	1
"	2 1/16", 3 1/8"	2'-3 1/16", 2'-4 1/8"	2	4 th 3 7/8"	5'-2 7/8"	1	L.P. 1 9/16"	5'-7 9/16"	1
"	3 1/2"	2'-4 1/2"	1	5 th 4 5/8"	5'-4 5/8"	1	2 5/16"	5'-8 5/16"	1
"	3 1/2"	2'-5"	1	6 th 5 1/16"	5'-6 1/16"	1	3 1/16"	5'-9 1/16"	1
"L.P."	3 3/4"	2'-5 1/4"	1	7 th 6 1/2"	5'-8 1/2"	1	3 7/8"	5'-9 5/8"	1
"	3 1/8"	2'-5 7/8"	1	8 th 8"	5'-11"	1	4 7/8"	5'-10 7/8"	1
"	4 1/8"	2'-6 1/8"	1	9 th 10 1/8"	6'-2 1/8"	1			
"	4 7/16"	2'-6 5/16"	1	10 th 12"	6'-5"	1			
"	4 3/4"	2'-7 1/4"	1	11 th 12 1/2"	6'-5 1/2"	1			

size of Feed pumps One turbo feed pumps 150,000 Galls. per hour, Two Reciprocating pumps 15 1/2" x 11 1/2" x 26" stroke
 size of Bilge pumps Two Main Engine Pumps 7 1/2 dia x 15 stroke Two steam pumps 8" x 9" x 9" stroke, Motor pump in B.R. 9 1/2 x 9" stroke
 size of Bilge suction in Engine Room 5'-3 1/2", 2'-2", 3 Cofferdam suction 3 1/2", 1 Emergency suction 6" bore
 led to motor pump 6'-3 1/2" suction in shaft tunnel In Holds, &c. Two in each hold for 3 1/2" bore, Two in after holds 3 1/2" bore
 or Room: 3'-3 1/2", 3 Savelle suction 3 1/2" bore, 1 Cofferdam suction 3 1/2", 1 Emergency suction 6" bore & one direct suction 3 1/2"
 Bilge Injections 2 sizes 15" Connected to condenser, or to circulating pump Pump Is a separate Donkey Suction fitted in Engine Room & size Yes - 3 1/2" bore
 the bilge suction pipes fitted with roses Yes - See items to complete. Are the roses in Engine room always accessible Yes
 connections with the sea direct on the skin of the ship 4 or Inlet Well, Yes. Are they Valves or Cocks Both.
 ey fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates Yes. Are the Discharge Pipes above or below the deep water line Below
 ey each fitted with a Discharge Valve always accessible on the plating of the vessel Yes. Are the Blow Off Cocks fitted with a spigot and brass covering plate Yes.
 pipes are carried through the bunkers None How are they protected ✓
 Pipes, Cocks, Valves, and Pumps in connection with the machinery and all boiler mountings accessible at all times Yes.
 e Bilge Suction Pipes, Cocks, and Valves arranged so as to prevent any communication between the sea and the bilges Yes.
 Screw Shaft Tunnel watertight Yes. Is it fitted with a watertight door Yes, Stone-Lloyd worked from Deck of Engine Room.

ERS, &c.—(Letter for record (r)) Manufacturers of Steel Messrs. Beadmore & Co, Spencer & Co, Bessemer & Co,
 Heating Surface of Boilers 291634 ft Is Forced Draft fitted Yes. No. and Description of Boilers 3 Double Ended 3 Single Ended Multi
 ing Pressure 220 lbs Tested by hydraulic pressure to 385 lbs Date of test 24/3/20, 14/4/20, 5/5/20 No. of Certificate s. 295, 296, 297,
 each boiler be worked separately Yes. Area of fire grate in each boiler 140.8 DEB. 85.4 DEB. No. and Description of Safety Valves to
 boiler Spring loaded Simple DEB. Area of each valve 12.56" x 9.62" Pressure to which they are adjusted 225 lbs Are they fitted with easing gear Yes.
 test distance between boilers or uptakes and bunkers or woodwork 1'-9" Mean dia. of boilers 14'-6" Length 22'-6", 11'-6" Material of shell plates Steel
 ness 1 2/32" Range of tensile strength 30/34 tons Are the shell plates welded or flanged No Descrip. of riveting: cir. seams DEB, DR & TR LAF
 seams T.R. Double Butt Diameter of rivet holes in long. seams 1 2/32" Pitch of rivets 10/32" Lap of plates or width of butt straps 23 5/8"
 entages of strength of longitudinal joint rivets 88.9% Working pressure of shell by rules 223 lbs Size of manhole in shell 21" x 17"
 plates 84.2% SEB. 4-Motison
 of compensating ring 40" x 36 1/2" x 1 2/32" No. and Description of Furnaces in each Boiler DEB. 8-Motison Material Steel Outside diameter 4'-0 7/8"
 th of plain part top Thickness of plates 11/16" Description of longitudinal joint Weld No. of strengthening rings ✓
 bottom
 king pressure of furnace by the rules 221 lbs Combustion chamber plates: Material Steel Thickness: Sides 23/32" Back 23/32" Top 23/32" Bottom 13/16"
 h of stays to ditto: Sides 9 7/8" x 8" Back 10" x 7 7/8" Top 9 7/8" x 8" If stays are fitted with nuts or riveted heads Both Working pressure by rules 225 lbs.
 rial of stays Iron Diameter at smallest part 1.606" Area supported by each stay 78.75" Working pressure by rules 230 lbs End plates in steam space
 rial Steel Thickness 1/4" Pitch of stays 18" x 17 7/8" How are stays secured Double Nuts Working pressure by rules 220 lbs Material of stays Steel
 meter at smallest part 3" Area supported by each stay 317.25" Working pressure by rules 244 lbs Material of Front plates at bottom Steel
 kness. 1" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 18" x 7" Working pressure of plate by rules 268 lbs
 meter of tubes 2 3/4" Pitch of tubes 4" x 4" Material of tube plates Steel Thickness: Front 1" Back 15/16" Mean pitch of stays 10"
 h across wide water spaces 17 3/4" Working pressures by rules 240 lbs Girders to Chamber tops: Material Steel Depth and
 ckness of girder at centre 9" x 1 1/2" Length as per rule 30.35" Distance apart 8" Number and pitch of stays in each 2-9 7/8"
 rking pressure by rules 290 lbs Steam dome: description of joint to shell None % of strength of joint ✓ Diameter ✓
 ckness of shell plates ✓ Material ✓ Description of longitudinal joint ✓ Diameter of rivet holes ✓ Pitch of rivets ✓
 rking pressure of shell by rules ✓ Crown plates: Thickness ✓ How stayed ✓

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