

REPORT ON MACHINERY.

No. 45250

Received at London Office 23 DEC 1925

Date of writing Report 19 When handed in at Local Office 19. 12. 25 Port of Glasgow
 No. in Survey held at Glasgow Date, First Survey 18-3-25 Last Survey 17-12-1925
 Reg. Book. on the new steel S/S "MAHOUT" (Number of Vents 83.)
 Tons { Gross 7880 Net 4852
 Master Built at Port Glasgow By whom built Wm Hamilton & Co. Ltd. (S/S No 391) When built 1925
 Engines made at Glasgow By whom made W. Rowan & Co. Ltd. (No 821) when made 1925
 Boilers made at Glasgow By whom made W. Rowan & Co. Ltd. (No 821) when made 1925
 Registered Horse Power 1047 Owners T. & J. Brocklebank Ltd. Port belonging to Liverpool
 Shaft Horse Power at Full Power 4441 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

TURBINE ENGINES, &c.—Description of Engines Parsons' Turbines. S.R. Gear No. of Turbines 2
 Diameter of Rotor Shaft Journals, H.P. 8" L.P. 8" Diameter of Pinion Shaft 7.62"
 Diameter of Journals 6 3/4" Distance between Centres of Bearings 2'-8 1/2" Diameter of Pitch Circle 8.199"
 Diameter of Wheel Shaft 16" Distance between Centres of Bearings 6'-2 1/2" Diameter of Pitch Circle of Wheel 145.64"
 Width of Face 40" Diameter of Thrust Shaft under Collars 15 7/8" Diameter of Tunnel Shaft as per rule 14.35"
 No. of Screw Shafts one Diameter of same as per rule 15.85"/6.51" Diameter of Propeller 18'-5" Pitch of Propeller 15'-6"
 No. of Blades 4 State whether Moveable yes Total Surface 1040 ft² Diameter of Rotor Drum, H.P. 2'-3" L.P. 4'-6" Astern 3'-5"
 Thickness at Bottom of Groove, H.P. solid L.P. wheels Astern wheels Revs. per Minute at Full Power, Turbine 1700 Propeller 96

PARTICULARS OF BLADING.

UNITED STATES O.G. FITTED TO STERN TUBE

	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"	2'-5 1/2"	10	2 1/2"	3'-6 1/2"	4	1 1/2"	3'-8 1/2"	2
2ND	1 1/2"	2'-6"	10	2 1/2"	3'-7 3/4"	4	2 1/2"	3'-10"	2
3RD	2"	2'-7"	10	3 1/8"	3'-9 3/8"	4	3 1/2"	4'-0"	2
4TH	2 5/8"	2'-8 1/2"	10	2 1/2"	4'-11"	2	3 1/2"	4'-0"	1
5TH	3 1/2"	2'-10"	10	3 3/8"	5'-0 1/2"	2	3 1/2"	4'-0"	1
6TH				4 1/4"	5'-2 1/2"	1			
7TH	{ H.P. Astern - impulse wheel -			4 5/8"	5'-3 1/4"	1			
8TH	{ 3 rows of blades - 4'-5 3/8"			4 7/8"	5'-5 3/4"	1			

No. and size of Feed pumps 2 @ 13 1/2" x 10" x 24" Main feed (Water) also 1 @ 9 1/2" x 7" x 21" Auxiliary feed
 No. and size of Bilge pumps 7 8" x 18" Bilge 10 8" x 15" auxiliary service, 10 3/4" x 12" x 8" Ballast. all 3 connected to bilge line.
 No. and size of Bilge suction in Engine Room 4 @ 3 1/2" and 2 @ 2 1/2"

In Holds, &c. No. 1 hold - 2 @ 3 1/2" No. 2 hold - 2 @ 3 1/2"
 No. 3 hold - 2 @ 3 1/2" Deep tank 2 @ 3 1/2" No. 4 hold - 2 @ 3 1/2" No. 5 hold - 2 @ 3 1/2" Tunnel well - 1 @ 3 1/2" No. 6 hold - 2 @ 3 1/2"

No. of Bilge Injections 1 sizes 12" Connected to condenser, or to circulating pump b.p. Is a separate Donkey Suction fitted in Engine Room & size yes, 5"
 Are all the bilge suction pipes fitted with valves and hoses & straight tailpipes Are the roses in Engine room always accessible Bilge injection rose accessible
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks both yes

Are they 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 both

Are they 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

What pipes are carried through the bunkers forward hold suction How are they protected under limber boards

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

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

Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from upper deck.

OILERS, &c.—(Letter for record (r)) Manufacturers of Steel The Steel Co. of Scotland. Lanarkshire Steel Co. The Scottish I & S Co.

Total Heating Surface of Boilers 15000 ft² Is Forced Draft fitted yes No. and Description of Boilers four single ended 4 SB

Working Pressure 200 Tested by hydraulic pressure to 350 Date of test 1. 10. 25 No. of Certificate 16920 16941

Can each boiler be worked separately yes Area of fire grate in each boiler 68.32 sq ft No. and Description of Safety Valves to each boiler 2 opening High lift Area of each valve 9.620" Pressure to which they are adjusted 305 Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers 25" dia. of boilers 17'-0" Length 12'-6" Material of shell plates steel

Thickness 1 1/2" Range of tensile strength 30 to 34 tons Are the shell plates welded or flanged no Descrip. of riveting: cir. seams Centre T.R. laps

mg. seams 10.5. T.R. Diameter of rivet holes in long. seams 1 1/8" & 1 1/2" Pitch of rivets 10 1/8" & 10 1/2" Lap of plates or width of butt straps 23 1/2 & 22 1/2

Per centages of strength of longitudinal joint rivets 89.7 & 86.2 Working pressure of shell by rules 202 & 201 Size of manhole in shell 19 1/2" x 15 1/2"

of compensating ring flanged 12" x 10" No. and Description of Furnaces in each Boiler 4 Bighton Material steel Outside diameter 3'-6 1/2"

Length of plain part top Thickness of plates crown 39" Description of longitudinal joint welded No. of strengthening rings none

Working pressure of furnace by the rules 211 Combustion chamber plates: Material steel Thickness: Sides 1 1/2" Back 3/4" Top 1 1/2" Bottom 1 1/2"

Pitch of stays to ditto: Sides 9" x 8 1/8" Back 8 3/4" x 8 1/8" Top 9" x 8 1/8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 200

Material of stays Iron Diameter at smallest part 1.760" Area supported by each stay 750" Working pressure by rules 203 End plates in steam space

Material steel Thickness 1 3/8" Pitch of stays 24" x 17 1/2" How are stays secured 10 N. Working pressure by rules 200 Material of stays steel

Area at smallest part 8.2947.06" Area supported by each stay 428 & 3830" Working pressure by rules 210 & 205 Material of Front plates at bottom steel

Thickness 3/8" Material of Lower back plate steel Thickness 5 1/4" Greatest pitch of stays 13 1/2" x 8 7/8" Working pressure of plate by rules 202

Diameter of tubes 2 1/2" Pitch of tubes 3 3/4" x 3 3/8" Material of tube plates steel Thickness: Front 3/32" Back 25/32" Mean pitch of stays 10 3/32"

Pitch across wide water spaces 13 1/2" Working pressures by rules 207 Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 2 @ 9 5/8" x 7/8" Length as per rule 37 7/8" Distance apart 8 1/8" Number and pitch of stays in each 3 @ 9"

Working pressure by rules 202 Steam dome: description of joint to shell none % 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 none ✓ 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? no ✓

If so, is a report now forwarded? —

SPARE GEAR. State the articles supplied: 2 bolts and nuts for each size of rotor bearing. 2 bolts and nuts for main wheel bearing. 2 bolts and nuts for pinion bearings. 8 tunnel shaft coupling bolts and nuts. 20 total no. of bolts and nuts for each gear case joint. 20 total no. of bolts and nuts for each turbine casing joint. two main gear wheel bushes. two sets of bearing bushes for rotors. two end pinion bushes. one centre pinion bush. one pinion steady bush. 38 rotor and sleeve strips for glands. 12 pads and 8 liners for turbine adjusting blocks. 1 rod with piston and bucket. 1 valve chest. and 12 valves for main feed pump. one set of bilge pump valves: one bucket, piston and rod and one set of valves for lubricating oil pump. Relief valve springs. bolts and bar iron of various sizes.

The foregoing is a correct description,

For David Rowan & Co. Ltd.

Manufacturer.

Archd. W. Grierson,

1925. Mar 18. 22. Apr 2. 3. 8. 16. 24. May 1. 4. 22. 28. 29. June 1. 2. 4. 8. 15. 16. 22. 23. July 2. 6. 7. 9. 14. 15. 20. 31. Aug 4. 10. 13. 17. 18. 19. 20. 25. 29. Sept. 2. 4. 7. 10. 15. 17. 22. 23. 24. Oct. 1. 2. 5. 13. 14. 15. 20. 21. 22. 23. 26. 27. 29. 30. Nov. 2. 4. 5. 6. 9. 10. 13. 16. 18. 19. 20. 23. 24. 25. 26. 27. 30. Dec 1. 2. 9. 11. 17.

Dates of Survey while building

During progress of work in shops --

During erection on board vessel --

Total No. of visits

83

Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Casings 15-7-25 Rotors 30-7-25 Blading 7-9-25 Gearing 10-9-25

Rotor shaft 30-7-25 Thrust shaft 2-9-25 Tunnel shafts 4-9-25 Screw shaft 25-3-25 Propeller 17-8-25

Stern tube 10-8-25 Steam pipes tested 24-10-25 Engine and boiler seatings 29-10-25 Engines holding down bolts 30-11-25

Completion of pumping arrangements 11-12-25 Boilers fired 26-11-25 Engines tried under steam 17-12-25

Main boiler safety valves adjusted 9-12-25 Thickness of adjusting washers P 3/8. S 5/16. P 5/16. S 1/4. P 5/16. S 1/4. P 3/8. S 1/4.

Material and tensile strength of Rotor shafts 5m. Ingot steel HP-34 tons LP-37.4 tons Identification Mark on Do. LLOYDS N° 170 L.C.D. 30-7-25

Material and tensile strength of Pinion shafts Nickel steel 42.16 & 41.16 tons 38.8 & 38.6 tons Identification Mark on Do. LLOYDS N° 177 L.C.D. 68-21

Material of Wheel shaft 5m. I. steel Identification Mark on Do. LLOYDS N° 171 L.C.D.

Material of Thrust shaft 5m. I. steel Identification Mark on Do. LLOYDS N° 177 L.C.D. 29-25

Material of Tunnel shafts 5m. I. steel Identification Marks on Do. LLOYDS N° 821 L.C.D. 4-9-25

Material of Screw shaft 5m. I. steel Identification Marks on Do. LLOYDS N° 175 L.C.D. 25-25

Material of Steam Pipes Lap welded steel Test pressure 600 lbs per sq. in.

Is an installation fitted for burning oil fuel no 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 "Maidan" (Sh. Rpt. P 4494)

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

The workmanship and materials are good.

The machinery has been constructed under Special Survey, in accordance with the Rules, satisfactorily fitted in the vessel, tried under steam and found good.

It is eligible in my opinion for Classification and the Record + LMC 12, 25.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 12.25. FD. OR. NHP 1047

2 Steam turbines S.R. geared to 1 screw shaft.

The amount of Entry Fee ... £ 6 : -

Special ... £ 126 3: 6

Donkey Boiler Fee ... £ :

Travelling Expenses (if any) ... £ :

When applied for, 17.12.25

When received, 19.12.25

Committee's Minute GLASGOW 22 DEC 1925

Assigned + LMC 12, 25

S. C. Duns.

Engineer Surveyor to Lloyd's Register of Shipping.