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## REPORT ON MACHINERY.

No. 8269.

Received at London Office

THU. NOV. 11 1920

Writing Report 10. 11. 1920 When handed in at Local Office 10. 11. 1920 Port of DUNDEE.

Survey held at Dundee

Date, First Survey 20. 11. 1919. Last Survey 5. 11. 1920.

Book. on the S.S. "ROWAN PARK"

Number of Visits 46.

Gross  
Tons  
Net

Built at Grangemouth By whom built Grangemouth Works &amp; Co. Ltd. When built

Machinery made at Dundee

By whom made Cooper &amp; Glegg Ltd (No 209) when made 1920

Machinery made at Dundee

By whom made Cooper &amp; Glegg Ltd (No 402/3) when made 1920

Registered Horse Power

Owners Denholm Shipping Co Ltd (J &amp; J Denholm) Port belonging to Greenock

Horse Power as per Section 28 228 230 Is Refrigerating Machinery fitted for cargo purposes Is Electric Light fitted Yes

MACHINERY, &amp;c.—Description of Engines Triple Expansion

No. of Cylinders 3 No. of Cranks 3

No. of Cylinders 21. 35. 54 Length of Stroke 36 Revs. per minute 76 Dia. of Screw shaft as per rule 11.8 as fitted 12.38 Material of Steel

The screw shaft fitted with a continuous liner the whole length of the stern tube Yes Is the after end of the liner made water tight

The propeller boss Yes If the liner is in more than one length are the joints burned If the liner does not fit tightly at the part

Between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive If two

The shafts are fitted, is the shaft lapped or protected between the liners Length of stern bush 4' 1 1/2"

Dia. of Tunnel shaft as per rule 10.29 as fitted 10.8 Dia. of Crank shaft journals as per rule 11 as fitted 11 Dia. of Crank pin 11 1/8 Size of Crank webs 8 x 4 1/2 Dia. of thrust shaft under

Crank pins 11 Dia. of screw 14' 9" Pitch of Screw 15' 6" No. of Blades 4 State whether moveable No Total surface 45 sq. ft.

No. of Feed pumps 2 Diameter of ditto 3 1/4 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 Diameter of ditto 3 1/2 Stroke 18 Can one be overhauled while the other is at work Yes

No. of Donkey Engines Three Sizes of Pumps BALLAST: 9 x 11 x 10 GENERAL: 4 x 5 x 8 FEED: 4 x 2 3/4 x 5 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room 2 @ 2 3/4" In stokehold, 2 @ 2 3/4" In Holds, &amp;c. F. Bar 1 @ 2 1/2" In hold 2 @ 2 3/4" Tunnel well 1 @ 2 1/2" At bulk 1 @ 2 1/2"

No. of Bilge Injections 1 sizes 4 1/4 Connected to condenser, or to circulating pump Yes Is a separate Donkey Suction fitted in Engine room &amp; size Yes, 3"

Are all the bilge suction pipes fitted with roses Yes Are the roses in Engine room always accessible Yes Are the sluices on Engine room bulkheads always accessible

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

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 Above

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

That pipes are carried through the bunkers Bilge suction pipes How are they protected Wood sheathing

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 Top platform in S.R.

MILERS, &amp;c.—(Letter for record Y) Manufacturers of Steel JOHN SPENCER &amp; SONS, D. COLVILLE &amp; SONS, STEEL COMPANY OF SCOTLAND.

Total Heating Surface of Boilers 3496 sq. ft. Is Forced Draft fitted No. No. and Description of Boilers Two single ended marine

Working Pressure 180 lb. sq. in. Tested by hydraulic pressure to 300 lb. sq. in. Date of test 19. 10. 20 No. of Certificate 986

Can each boiler be worked separately Yes Area of fire grate in each boiler 56 3/8 sq. ft. No. and Description of Safety Valves to

Each boiler 2 Spring loaded Area of each valve 4.04 sq. in. Pressure to which they are adjusted 185 lb. sq. in. Are they fitted with easing gear Yes

Smallest distance between boilers or uptakes and bunkers 9" Mean dia. of boilers 14' 6" Length 10' 6" Material of shell plates Steel

Thickness 1 1/4" Range of tensile strength 58,320 lbs. Are the shell plates welded or flanged Descrip. of riveting: cir. seams B.R.

Long. seams T.R. B.B.S. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 1' 6 3/4"

Percentage of strength of longitudinal joint rivets 92 plate 85.2 Working pressure of shell by rules 180.5. Size of manhole in shell 16" x 12"

Size of compensating ring 13 1/6" saddle No. and Description of Furnaces in each boiler 3 Monmouth Material Steel Outside diameter 3' 9"

Length of plain part top 14' 7" Thickness of plates crown 14' 7" bottom 13' 32" Description of longitudinal joint welded No. of strengthening rings

Working pressure of furnace by the rules 183. Combustion chamber plates: Material Steel. Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 13/16"

Pitch of stays to ditto: Sides 9 x 7 1/8" Back 8 3/4 x 8" Top 7 1/8 x 8 3/4" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 192

Material of stays Iron Area at smallest part 1.99 Area supported by each stay 40.8 Working pressure by rules 211 End plates in steam space:

Material Steel Thickness 1 5/32" Pitch of stays 15 1/8 x 18 How are stays secured B.R. Working pressure by rules 183 Material of stays Steel

Area at smallest part 5.79 Area supported by each stay 330 Working pressure by rules 182 Material of Front plates at bottom Steel

Thickness 1 3/32" Material of Lower back plate Steel Thickness 29/32" Greatest pitch of stays 8 3/4 x 15 Working pressure of plate by rules 189

Diameter of tubes 3 1/2" Pitch of tubes 47 8 x 5 1/2" Material of tube plates Steel Thickness: Front 1 1/32" Back 29/32" Mean pitch of stays 12 3/8"

Pitch across wide water spaces 14 1/2" Working pressures by rules 188. r 187 Girders to Chamber tops: Material Steel Depth and

Thickness of girder at centre 8 x 1" (2) Length as per rule 2' 4" Distance apart 8 3/4" Number and pitch of stays in each 4 x 8"

Working pressure by rules 225 Steam dome: description of joint to shell % of strength of joint

Diameter Thickness of shell plates Material Description of longitudinal joint Diam. 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

W338-0073

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Lloyd's Register  
Foundation

# IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—2 Top end bolts & nuts. 2 Bottom end bolts & nuts. 2 main bearing bolts & nuts. Set of coupling bolts & nuts. Set of valves air, circulating, feed & bilge pumps. One propeller. 6 pump ring bolts. Spare main & dky check valves. Spare safety valve spring. Assorted bolts & nuts, & iron of various sizes.

The foregoing is a correct description,

FOR COOPER & CO. LIMITED.

*M. D. Cooper*

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1919 Nov. 20. 24. DEC. 11. 29. 1920 JAN. 4. 10. 21. 25. 24. FEB. 9. 13. 19. 24. MAR. 8. 16. 23. 29. APR. 4. 16. 22. During erection on board vessel -- OCT. 11. 12. 18. 19. 25. 26. 28. NOV. 3. 5. Total No. of visits 46.

Is the approved plan of main boiler forwarded herewith

Returned to Dundee

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 16.6.20 Slides 24.6.20. Covers 16.6.20 Pistons 24.6.20 Rods 24.6.20 Connecting rods 24.6.20 Crank shaft 17.5.20 Thrust shaft 24.6.20 Tunnel shafts 1.6.20. Screw shaft 24.6.20 Propeller 12.10.20 Stern tube 24.6.20. Steam pipes tested 3/11/20. Engine and boiler seatings 3/11/20 Engines holding down bolts 28/10/20. Completion of pumping arrangements 8.11.20 Boilers fixed 28/10/20. Engines tried under steam 8.11.20.

Completion of fitting sea connections 2.8.20 Stern tube 2.8.20. Screw shaft and propeller 12.10.20

Main boiler safety valves adjusted 8.11.20. Thickness of adjusting washers PORT. P 3/16 S 3/32. STARBOARD P 3/32 S 3/32

Material of Crank shaft Steel Identification Mark on Do. 894 F.H.M. Material of Thrust shaft Steel Identification Mark on Do.

Material of Tunnel shafts Steel Identification Marks on Do. Material of Screw shafts Steel Identification Marks on Do.

Material of Steam Pipes 20. Copper 4 1/2" Bore & 6 W.G. Test pressure 360 lbs sq. in.

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 duplicate of a previous case. If so, state name of vessel "FIR PARK" (Gen. Rpt. 8223).

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

These engines & boilers have been built under special survey & in accordance with the approved plans. The materials and workmanship are sound & good.

The vessel has left for Framingham where the following will be done to render the machinery eligible for record of + blue. (with date) 1. Pumping arrangements to be tried on various compartments. 2. Spare gear to be checked.

Glasgow Surveyors advised.

The engines have been tried under steam with satisfactory results. On trials some leakage was observed on bottom of front end seam of both boilers. It was

\* Please return approved plan to Dundee, for dealing with boilers NO 404/5.

arranged that this will be overhauled and made good on return in 3 or 4 weeks

It is submitted that this vessel is eligible for THE RECORD. & L.M.C.

See Gls Rpt. 406

The amount of Entry Fee ... £ 2 : 0 : When applied for, Special ... £ 31 : 8 : 10/11/1920 Donkey Boiler Fee ... £ : : When received, Travelling Expenses (if any) £ : : 28.12.1920

*John H. Mackenzie*  
Engineer Surveyor to Lloyd's Register of Shipping.  
*R. W. Coombe*

Committee's Minute  
Assigned See Gls Rpt. 40679