

REPORT ON MACHINERY.

No. 12301

Received at London Office

Date of writing Report 8th Nov. 1919 When handed in at Local Office 11th Nov. 1919 Port of Alardeen
 No. in Survey held at Alardeen Date, First Survey 5th Aug. 1919 Last Survey 4th November 1919
 Reg. Book. on the Machinery + Boiler for the S.S. "Tarnwater" (Number of Visits 14)
 Master H.A. Ingemma Built at Alardeen By whom built John Lewis & Sons N: 70 When built 1919
 Engines made at Alardeen By whom made John Lewis & Sons N: 151 when made 1919
 Boilers made at Alardeen By whom made John Lewis & Sons N: 111 when made 1919
 Registered Horse Power 105 Owners The Mason Shipping Co. Ltd. Port belonging to Pinnerpool
 Nom. Horse Power as per Section 28 105 Is Refrigerating Machinery fitted for cargo purposes No Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 14" x 24" x 39" Length of Stroke 27" Revs. per minute 98 Dia. of Screw shaft as per rule 8.1" Material of screw shaft Iron
 Is 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
 Is the propeller boss fitted with a continuous liner the whole length of the stern tube Yes If the liner is in more than one length are the joints burned length 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 No space If two
 liners are fitted, is the shaft lapped or protected between the liners Length of stern bush 3.03 1/4"
 Dia. of Tunnel shaft as per rule 7.17" Dia. of Crank shaft journals as per rule 7.53" Dia. of Crank pin 7.51" Size of Crank webs 10 1/2" x 5 1/2" Dia. of thrust shaft under
 collars 7.51" Dia. of screw 10.0" Pitch of Screw 14.0" No. of Blades 4 State whether moveable No Total surface 40 ft²
 No. of Feed pumps 2 Diameter of ditto 2 3/4" Stroke 13 1/2" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 2 3/4" Stroke 13 1/2" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps Ballast 1 x 8 1/2" x 5 1/2" x 5 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room 2 No. of 2" Boilers room 1 of 2" In Holds, &c. 2 No. of 2"
 No. of Bilge Injections 1 sizes 4" Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size Yes 2 1/2"
 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 None
 Are all connections with the sea direct on the skin of the ship Yes Are they Valves or Cocks 13 off
 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
 What pipes are carried through the bunkers Suctions from hold Ballast tank How are they protected Strong wood casings
 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 None Is it fitted with a watertight door worked from

OILERS, &c.—(Letter for record E) Manufacturers of Steel David Colville & Son
 Total Heating Surface of Boilers 1894 Is Forced Draft fitted No No. and Description of Boilers One single ended
 Working Pressure 180 lbs Tested by hydraulic pressure to 360 lbs Date of test 22-10-19 No. of Certificate 976
 Can each boiler be worked separately Yes Area of fire grate in each boiler 54 ft² No. and Description of Safety Valves to
 each boiler 2 No. Spring loaded Area of each valve 5.94 ft² Pressure to which they are adjusted 185 lbs Are they fitted with easing gear Yes
 Smallest distance between boilers or uptakes and bunkers or woodwork No side bunkers Mean dia. of boilers 13.9" Length 10.6" Material of shell plates S
 Thickness 1 1/8" Range of tensile strength 28632 lbs Are the shell plates welded or flanged No Descrip. of riveting: cir. seams d.r. lap
 Long. seams k.r. d.r. s. Diameter of rivet holes in long. seams 1 3/16" Pitch of rivets 8 1/4" Lap of plates or width of butt straps 17 1/8"
 Per centages of strength of longitudinal joint rivets 88.14 Working pressure of shell by rules 183.8 Size of manhole in shell 16 x 12
 Size of compensating ring No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 40 1/4"
 Length of plain part top 6.8" Thickness of plates crown 25 1/32 Description of longitudinal joint welded No. of strengthening rings none
 bottom 6.8" Thickness 25 1/32 Back 11 1/16 Top 25 1/32 Bottom 25 1/32
 Working pressure of furnace by the rules 188.9 Combustion chamber plates: Material S Thickness: Sides 25 1/32 Back 11 1/16 Top 25 1/32 Bottom 25 1/32
 Pitch of stays to ditto: Sides 9 1/4" x 9 1/4" Back 9 1/4" x 9 1/4" Top 9 1/4" x 11 1/2" If stays are fitted with nuts or riveted heads double nuts Working pressure by rules 184.8
 Material of stays S Area at smallest part 2.07 ft² Area supported by each stay 88.36 Working pressure by rules 210.8 End plates in steam space:
 Material S Thickness 1 3/16" Pitch of stays 19 1/2" x 18 1/2" How are stays secured d.m.d.w. Working pressure by rules 184.9 Material of stays S
 Area at smallest part 6.33 ft² Area supported by each stay 360.75 Working pressure by rules 182.5 Material of Front plates at bottom S
 Thickness 1 1/32 Material of Lower back plate S Thickness 1 3/16 Greatest pitch of stays 14 1/4" Working pressure of plate by rules 254
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 3/8" Material of tube plates S Thickness: Front 1 1/32 Back 1 1/16 Mean pitch of stays 8.87"
 Pitch across wide water spaces 14 1/2" Working pressures by rules 182.5 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 10 x 5 1/8 d.w. Length as per rule 29 5/8" Distance apart 11 1/2" Number and pitch of stays in each 2 No. 9 1/4"
 Working pressure by rules 191.8 Steam dome: description of joint to shell None % 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

W338-0084

IS A DONKEY BOILER FITTED?

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:-

1 pair top and 2 bottom end bolts & nuts, 2 main bearing and 1 set coupling bolts & nuts, One set each Air, Circulating, Feed & Bilge pump valves, One set main and donkey check valves, One safety valve spring. Bolts & nuts assorted, and iron of various sizes.

The foregoing is a correct description,

For JOHN LEWIS & SONS, LTD.,

James S. Donald

Manufacturer.

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

1919 Aug. 5-15-26 Sept. 9-23 Oct. 14-21-22-28

Sept. 30 Oct. 10-24 Nov. 3-4

14

Is the approved plan of main boiler forwarded herewith

plan forwarded with Report No. 12284

" " " donkey " " "

Dates of Examination of principal parts—Cylinders 5-8-19 Slides 5-8-19 Covers 5-8-19 Pistons 5-8-19 Rods 5-8-19
Connecting rods 5-8-19 Crank shaft Dundee Thrust shaft 26-8-19 Tunnel shafts ✓ Screw shaft 26-8-19 Propeller 26-8-19
Stern tube 26-8-19 Steam pipes tested 28-10-19 Engine and boiler seatings 9-9-19 Engines holding down bolts 30-9-19
Completion of pumping arrangements 3-11-19 Boilers fixed 24-10-19 Engines tried under steam 4-11-19
Completion of fitting sea connections 9-9-19 Stern tube 9-9-19 Screw shaft and propeller 9-9-19
Main boiler safety valves adjusted 4-11-19 Thickness of adjusting washers port 13/32 blank 11/32
Material of Crank shaft S Identification Mark on Do. 860 (DUN) Material of Thrust shaft S Identification Mark on Do. 1176A
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts S Identification Marks on Do. 1177A
Material of Steam Pipes Copper 3 3/4 Bore, No. 5, B.H.G. Test pressure 360 lbs ✓

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

yes

Is this machinery duplicate of a previous case

yes

If so, state name of vessel

S. S. "Speland". Alm. Rpt. No. 12284

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

The machinery & boiler have been constructed under special survey in accordance with the provisions letter the Rules and approved plan. The materials and workmanship are good. They have now been securely fitted in the vessel and tried under steam with satisfactory results and are eligible in my opinion to have the notation of L.M.C. 11-19 in the Register Book.

It is submitted that
this vessel is eligible for
THE RECORD.

+ L.M.C. 11.19.

878 14/11/19.

W. Wilson

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The amount of Entry Fee ... £ 2 : 0 :
Special ... £ 15 : 15 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : :
When applied for, 11-11-1919
When received, 29/11/19

W. Wilson
Engineer Surveyor to Lloyd's Register of Shipping.

Committee's Minute

Assigned

+ L.M.C. 11.19.



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Foundation