

REPORT ON MACHINERY.

- 2 JUL 1917

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Received at London Office

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Date of writing Report 10 When handed in at Local Office 10 Port of Northwich
 No. in Survey held at Northwich Date, First Survey 8th Jan'y/15 Last Survey 29th June 1917
 Reg. Book. Harvey (Number of Visits 15) Tons Gross 58.11
 on the Steel S/S. "Cynfal" Net 26.15
 Master Benon Built at Northwich By whom built W. J. Jarwood & Sons When built 4-16
 Engines made at Northwich By whom made do when made 4-16
 Boilers made at do By whom made do when made 4-16
 Registered Horse Power 12.8 Owners The Mayor Alderman & Citizens of Port belonging to Beaumaris
 Nom. Horse Power as per Section 28 22.24 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Compound Surface Condensing No. of Cylinders two No. of Cranks two
 Dia. of Cylinders 9 1/2" x 20" Length of Stroke 15" Revs. per minute 200 Dia. of Screw shaft as per rule 4 1/2" 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 in the propeller boss yes If the liner is in more than one length are the joints burned no 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 fat all the way If two liners are fitted, is the shaft lapped or protected between the liners no Length of stern bush 2" 2 7/8"
 Dia. of Tunnel shaft as per rule 4.153 Dia. of Crank shaft journals as per rule 4.36 Dia. of Crank pin 4 1/2" Size of Crank webs 3 x 7" Dia. of thrust shaft under collars 4 1/2" Dia. of screw 5.6 Pitch of Screw 6" 0" No. of Blades 3 State whether moveable no Total surface 9.3 sq ft.
 No. of Feed pumps one Diameter of ditto 2" Stroke 7" Can one be overhauled while the other is at work no
 No. of Bilge pumps one Diameter of ditto 2" Stroke 7" Can one be overhauled while the other is at work no
 No. of Donkey Engines one Sizes of Pumps 4 x 2 1/2 x 4" Duplex No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room Three 2" Suctions In Holds, &c. one 2" Suction in each hold.
one 2" Suction to after tank and one 2" Suction to fore Peak.
 No. of Bilge Injections one sizes 2" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size yes. 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 no
 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
 What pipes are carried through the bunkers none How are they protected no
 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 no worked from no

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Wates Stewart & Lloyd, Bangor, Lancashire Steel Co
 Total Heating Surface of Boilers 512 1/2 Is Forced Draft fitted no No. and Description of Boilers one Cyl. Multitubular
 Working Pressure 140 lbs Tested by hydraulic pressure to 280 lbs Date of test 7/10/15 No. of Certificate 2005
 Can each boiler be worked separately no Area of fire grate in each boiler 24.5 No. and Description of Safety Valves to each boiler one Spring loaded Area of each valve 5.939 Pressure to which they are adjusted 140 lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 8" 6" Length 8" 0" Material of shell plates steel
 Thickness 5/8" Range of tensile strength 29/33 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2p. D. R.
 long. seams D. B. Straps 1/8" Diameter of rivet holes in long. seams 15/16" Pitch of rivets 2 1/4" x 4 1/2" Top of plates or width of butt straps 9 3/4"
 Per centages of strength of longitudinal joint rivets 109% Working pressure of shell by rules 143 lbs Size of manhole in shell 16" x 12"
 plate 79.2%
 Size of compensating ring 4 1/2" x 1" No. and Description of Furnaces in each boiler two Plain Material Steel Outside diameter 2.8"
 Length of plain part top 5.0" bottom 7.1" Thickness of plates crown 5/8" bottom 5/8" Description of longitudinal joint welded No. of strengthening rings no
 Working pressure of furnace by the rules 155 lbs Combustion chamber plates: Material steel Thickness: Sides 7/8" Back 7/8" Top 5/8" Bottom 5/8"
 Pitch of stays to ditto: Sides 5 1/2" x 9" Back 8" x 8 3/8" Top 8" x 9" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 164 lbs
 Material of stays steel Area at smallest part 1 1/2" x 9" Area supported by each stay 80" Working pressure by rules 145 lbs End plates in steam space:
 Material steel Thickness 13/16" Pitch of stays 14" x 15" How are stays secured nuts & washers Working pressure by rules 150 lbs Material of stays steel
 Area at smallest part 3.43 Area supported by each stay 210" Working pressure by rules 158 lbs Material of Front plates at bottom steel
 Thickness 13/16" Material of Lower back plate steel Thickness 13/16" Greatest pitch of stays as per plan Working pressure of plate by rules 190 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 1/2" x 4 1/2" Material of tube plates steel Thickness: Front 13/16" Back 11/16" Mean pitch of stays 11 1/2"
 Pitch across wide water spaces 13" Working pressures by rules 140 lbs Girders to Chamber tops: Material steel Depth and thickness of girder at centre 6 1/2" x 1 1/4" Length as per rule 2" 2" Distance apart 8" Number and pitch of stays in each two 9"
 Working pressure by rules 166 lbs Steam dome: description of joint to shell none % of strength of joint no
 Diameter no Thickness of shell plates no Material no Description of longitudinal joint no Diam. of rivet holes no
 Pitch of rivets no Working pressure of shell by rules no Crown plates no Thickness no How stayed no

3. SUPERHEATER. Type no Date of Approval of Plan no Tested by Hydraulic Pressure to no
 Date of Test no Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler no
 diameter of Safety Valve no Pressure to which each is adjusted no Is Easing Gear fitted no

IS A DONKEY BOILER FITTED? No

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two check valves. Two Feed Pump valves.
one set of Air Pump valves.
one set of Circulating Pump valves.
one set of Donkey Pump valves.
assorted bolts & nuts. ✓

*Trading between
Bremen*

The foregoing is a correct description,
For W. J. YARWOOD & SONS LTD

Albert Yarwood DIRECTOR

Manufacturer.

Dates of Survey while building
During progress of work in shops -- 1915 Jan 8-26, Feb 17, March 10, April 30, May 28, July 5, Aug 20, Oct 7
During erection on board vessel --- 1916 July 19, Aug 11, Nov 8, 1917 June 1-8-29.
Total No. of visits 15. Is the approved plan of main boiler forwarded herewith yes

Dates of Examination of principal parts—Cylinders 1915 Jan 8-26, Feb 17, March 10, April 30, May 28, July 5, Aug 20, Oct 7
Connecting rods 1915 Jan 8-26, Feb 17, March 10, April 30, May 28, July 5, Aug 20, Oct 7
Stern tube 1915 May 28
Steam pipes tested 1915 April 30
Engine and boiler seatings 1915 Aug 20
Engines holding down bolts 1916 Nov 8
Completion of pumping arrangements 1917 June 8
Boilers fixed 1916, 6 Nov
Engines tried under steam 8 June 1917
Completion of fitting sea connections 1917 1st June
Stern tube 1917 1st June
Screw shaft and propeller 1st June 1917
Main boiler safety valves adjusted 8 Nov 1916. Thickness of adjusting washers Pat 32 Starb 3/8
Material of Crank shaft Steel Identification Mark on Do. 3992 Material of Thrust shaft Steel Identification Mark on Do. 3992
Material of Tunnel shafts Steel Identification Marks on Do. 4043 Material of Screw shafts Iron Identification Marks on Do. 4043
Material of Steam Pipes Solid drawn Copper See Hull Report Test pressure 350 lbs.

Is an installation fitted for burning oil fuel No. Is the flash point of the oil to be used over 150°F. L
Have the requirements of Section 49 of the Rules been complied with ✓
Is this machinery duplicate of a previous case No. If so, state name of vessel L
General Remarks (State quality of workmanship, opinions as to class, &c.)

This Bessel's Machinery has now been built under Special Survey and in accordance with the approved plans. The materials and workmanship are good, and when tried under full working conditions was found to be satisfactory in every respect, and is now in my opinion eligible for the notification *LMC 4-16.

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.17.

J.W.D. 5/2/17

John D. Kes.
Engineer Surveyor to Lloyd's Register of Shipping.

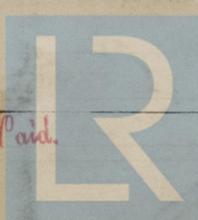
The amount of Entry Fee ... £ 1 : 0 :
Special ... £ 8 : 0 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ 7 : 16 : 9

Committee's Minute LIVERPOOL = 3 JUL 1917

Assigned L.M.C. 6.16

Certificate (if required) to be sent to
The Surveyors are requested not to write on or beyond the space for Committee's Minute.

MACHINERY CERTIFICATE
WRITTEN 4.7.17



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When Fee is Paid.