

REPORT ON MACHINERY.

No. 28425
TUE. APR. 20, 1915

Received at London Office

of writing Report 3rd April 15 when handed in at Local Office 10/4/15 Port of Hull
 Date, First Survey Nov. 9/14 Last Survey 31. 3. 1915
 in Survey held at Hull
 Book Life on the steel sea K. "WELBECK" (Number of Vols) 1084
 Gross Tons 302
 Net Tons 157
 When built 1915
 Built at Selby By whom built Cochrane & Sons Ltd
 Engines made at Hull By whom made C. W. Holmes & Co Ltd when made 1915
 Boilers made at Hull By whom made C. W. Holmes & Co Ltd when made 1915
 Registered Horse Power _____ Owners E. G. Grant Port belonging to Grimsby
 Nom. Horse Power as per Section 28 84 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted yes

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders 3 No. of Cranks 3
 Dia. of Cylinders 13" 23" 37" Length of Stroke 24" Revs. per minute 112 Dia. of Screw shaft 7.64 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 yes 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 yes If two
 liners are fitted, is the shaft lapped or protected between the liners yes Length of stern bush 2-11 1/2"
 Dia. of Tunnel shaft 6.84 Dia. of Crank shaft journals 7.19 Dia. of Crank pin 7 3/8 Size of Crank web 7 1/2 x 11 1/2 Dia. of thrust shaft under
 rollers 7 3/8 Dia. of screw 9 3/8 Pitch of Screw 11 1/2 No. of Blades 4 State whether moveable no Total surface 32 1/2
 No. of Feed pumps 1 Diameter of ditto 2 3/4 Stroke 14 1/4 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 1 Diameter of ditto 2 3/4 Stroke 14 1/4 Can one be overhauled while the other is at work yes
 No. of Donkey Engines One Sizes of Pumps 6" x 4 1/4" x 6" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room 2-2" One forward, one aft In Holds, &c. 4-2" Forecastle Mainhold,
Forward slushwell, aft slushwell, 2 1/2" suction from all bilges.
 No. of Bilge Injections 1 sizes 3 1/2" Connected to condenser, or to circulating pump no Is a separate Donkey Suction fitted in Engine room & size 2 1/2" suction
 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 stowhold 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
 How are they protected Wood casing
 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
 Dates of examination of completion of fitting of Sea Connections 6.1.15 of Stern Tube 6.1.15 Screw shaft and Propeller 6.1.15
 Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from _____

BOILERS, &c.—(Letter for record S) Manufacturers of Steel Messrs Stewart & Lloyd
 Total Heating Surface of Boilers 1400 Is Forced Draft fitted no No. and Description of Boilers One single-ended
 Working Pressure 200lbs Tested by hydraulic pressure to 400lbs Date of test 5.2.15 No. of Certificate 3058
 Can each boiler be worked separately yes Area of fire grate in each boiler 46.8 No. and Description of Safety Valves to
 each boiler 2 Spring Area of each valve 4.9 Pressure to which they are adjusted 203lbs Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers or woodwork 7" Mean dia. of boilers 165.5" Length 10-6" Material of shell plates S
 Thickness 1 1/4" Range of tensile strength 28 tons Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams D.R.
 Long. seams T.R.D.B. Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 8 1/2" Lap of plates or width of butt straps 17 1/2"
 Percentages of strength of longitudinal joint rivets 85.4 Working pressure of shell by rules 204 Size of manhole in shell 16" x 12"
 Area of compensating ring 7" x 1 1/4" No. and Description of Furnaces in each boiler 3 plain Material S Outside diameter 39"
 Length of plain part 6 3/2" Thickness of plates 5 1/2" Description of longitudinal joint welded No. of strengthening rings one
 Working pressure of furnace by the rules 207 Combustion chamber plates: Material S Thickness: Sides 1/16" Back 1/16" Top 1/16" Bottom 1/16"
 Pitch of stays to ditto: Sides 10 x 8" Back 8 1/2 x 9 1/4" Top 9 x 8" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 202
 Material of stays S Diameter at smallest part 2.07 Area supported by each stay 80 Working pressure by rules 233 End plates in steam space:
 Material S Thickness 1 1/2" Pitch of stays 19 1/2" x 17" How are stays secured W.N.W. Working pressure by rules 210 Material of stays S
 Diameter at smallest part 1.5 Area supported by each stay 331 Working pressure by rules 236 Material of Front plates at bottom S
 Thickness 3/32" Material of Lower back plate S Thickness 29 Greatest pitch of stays 14" x 9" Working pressure of plate by rules 205
 Diameter of tubes 3 1/2" Pitch of tubes 5 1/8" x 5" Material of tube plates S Thickness: Front 29 Back 7/8" Mean pitch of stays 10 1/4" x 10"
 Pitch across wide water spaces 14 1/4" Working pressures by rules 294 Girders to Chamber tops: Material S Depth and
 thickness of girder at centre 10 1/4" x 1 1/4" Length as per rule 36.4 Distance apart 9 1/2" Number and pitch of stays in each 20 8"
 Working pressure by rules 210 Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked
 separately _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet
 Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
 Stays _____ Distance between rings _____ Working pressure by rules _____ End plates: Thickness _____ How stayed _____
 Working pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____

IS A DONKEY BOILER FITTED? *no.*

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied: - *Two each top and bottom end connecting rod bolts and nuts, two main bearing bolts nuts, one set of coupling bolts nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted bolts, nuts, etc.*

The foregoing is a correct description, p. pro CHARLES D. HOLMES & Co. LTD.

Arthur Holmes DIRECTOR. Manufacturer.

Dates of Survey while building { During progress of work in shops - - } 1914: - Nov 9, 23, 25, 27, 30 Dec 3, 7, 10, 14, 18, 22, 29, 30 1915: - Jan 2, 4, 5, 6, 7, 15.
{ During erection on board vessel - - - } 20, 21, 27, 28 Feb 2, 4, 5, 9, 16, 19 Mar 5, 18, 19, 27, 31.
Total No. of visits *34* Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts - Cylinders *15.1.15* Slides *15.1.15* Covers *15.1.15* Pistons *16.2.15* Rods *9.2.15*
Connecting rods *5.2.15* Crank shaft *2.2.15* Thrust shaft *16.2.15* Tunnel shafts *5.1.15* Screw shaft *5.1.15* Propeller *5.1.15*
Stern tube *5.1.15* Steam pipes tested *18.3.15* Engine and boiler seatings *6.1.15* Engines holding down bolts *18.3.15*
Completion of pumping arrangements *31.3.15* Boilers fixed *18.3.15* Engines tried under steam *27.3.15*
Main boiler safety valves adjusted *27.3.15* Thickness of adjusting washers *PV 13/32" SV 3/8"*
Material of Crank shaft *✓* Identification Mark on Do. *1424* Material of Thrust shaft *S* Identification Mark on Do. *1430*
Material of Tunnel shafts *✓* Identification Marks on Do. *✓* Material of Screw shafts *S* Identification Marks on Do. *1415*
Material of Steam Pipes *Copper solid drawn ✓* Test pressure *400lbs. hyd. press. ✓*
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 *no.* If so, state name of vessel *✓*

General Remarks (State quality of workmanship, opinions as to class, &c.) *The engines & boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials and workmanship are sound and good. The boiler tested by hydraulic pressure and with the engines secured on board & tested under steam they are now in good order & safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of + LMC 3.15. in the Register book.*

It is submitted that this vessel is eligible for THE RECORD. + LMC 3.15.

J.W.D. 21/4/15. *J.P.S.*

The amount of Entry Fee ... £ *1* : : When applied for, *19.4.15*
Special ... £ *12* : *12* :
Donkey Boiler Fee ... £ : : :
Travelling Expenses (if any) £ : *8* : *2* *14/5/1915* *15/3/15*

J.G. Mackillop
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. APR. 23 1915*

Assigned *+ LMC 3.15*

MACHINERY CERTIFICATE
GIVEN

