

REPORT ON MACHINERY

No. 28528
MON. MAY. 31. 1915

Received at London Office

Date of writing Report 10th May 1915 When handed in at Local Office 14-5 1915 Port of Hull.

No. in Survey held at Hull Date, First Survey 25-11-15 Last Survey 5.5.1915
 Reg. Book. 96 Sup. on the steel s.s. "COLLENA." (CDH1091) (Number of Visits 31)

Master Selby Built at Selby By whom built Cochrane & Co. Ld. Tons Gross 293
Net 116 When built 1915

Engines made at Hull By whom made C. W. Holmes & Co. Ld. when made 1915

Boilers made at Hull By whom made C. W. Holmes & Co. Ld. when made 1915

Registered Horse Power 84 Owners J. Marr & Son Ld. Port belonging to Futwood

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 764 Dia. of Screw shaft 7 1/2 Material of screw shaft S.

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 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 3'-0"

Dia. of Tunnel shaft 6.84 Dia. of Crank shaft journals 7.19 Dia. of Crank pin 7 1/2 Size of Crank web 8x14 1/2 Dia. of thrust shaft under collars 7 1/2 Dia. of screw 9-3 Pitch of Screw 11-0 No. of Blades 4 State whether moveable no Total surface 33 sq ft

No. of Feed pumps 1 Diameter of ditto 2 1/4 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" duplex No. and size of Suctions connected to both Bilge and Donkey pumps 3-2" Forecastle, Main hold, Shushwell, 2 1/2" ejector from all bilges.

In Engine Room 2-2" One forward, One aft. In Holds, &c. 3-2" Forecastle, Main hold, Shushwell.

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" ejector

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

What pipes are carried through the bunkers Hold Suctions 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 8.2.15. of Stern Tube 8.2.15. Screw shaft and Propeller 3.2.15.

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

BOILERS, &c.—(Letter for record S.) Manufacturers of Steel Morris Stewart & Coys.

Total Heating Surface of Boilers 1370 sq ft Is Forced Draft fitted no No. and Description of Boilers One single-ended.

Working Pressure 200 lbs. Tested by hydraulic pressure to 400 lbs. Date of test 2.3.15. No. of Certificate 3063.

Can each boiler be worked separately yes Area of fire grate in each boiler 45.6 sq ft No. and Description of Safety Valves to each boiler 2 Spring Area of each valve 4.9 sq in Pressure to which they are adjusted 205 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork 8" Mean dia. of boilers 13-6" Length 11-0" Material of shell plates S.

Thickness 1 3/32 Range of tensile strength 28 tons Are the shell plates welded or flanged yes Descrip. of riveting: cir. seams DRL

long. seams TRDB Diameter of rivet holes in long. seams 1 7/32 Pitch of rivets 8 3/8" Lap of plates or width of butt straps 16 1/8"

Per centages of strength of longitudinal joint 85.4 Working pressure of shell by rules 202. Size of manhole in shell 16 x 12"

Size of compensating ring 7 x 1 3/32 No. and Description of Furnaces in each boiler 3 plain Material S. Outside diameter 40"

Length of plain part 79 1/2" Thickness of plates 13" Description of longitudinal joint welded No. of strengthening rings yes

Working pressure of furnace by the rules 205. Combustion chamber plates: Material S. Thickness: Sides 23/32 Back 23/32 Top 3/4 Bottom 23/32

Pitch of stays to ditto: Sides 10 x 8 1/2" Back 10 1/2 x 8" Top 11 x 8 1/2" If stays are fitted with nuts or riveted heads nuts Working pressure by rules 205.

Material of stays S. Diameter at smallest part 207" Area supported by each stay 85 sq in Working pressure by rules 220. End plates in steam space: Material S. Thickness 1 3/16 Pitch of stay 18 1/2 x 18" How are stays secured by nuts Working pressure by rules 200 Material of stays S.

Diameter at smallest part 7.5" Area supported by each stay 333.12 Working pressure by rules 234 Material of Front plates at bottom S.

Thickness 15" Material of Lower back plate S. Thickness 29" Greatest pitch of stays 14 1/2 x 8" Working pressure of plate by rules 207.

Diameter of tubes 3 1/2" Pitch of tubes 5 1/2 x 5" Material of tube plates S. Thickness: Front 15" Back 7/8" Mean pitch of stays 11 x 10.

Pitch across wide water spaces 14" Working pressures by rules 315. Girders to Chamber tops: Material S. Depth and thickness of girder at centre 12 x 1 3/4" Length as per rule 38.87 Distance apart 11" Number and pitch of stays in each 3 at 8 1/2"

Working pressure by rules 206. Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked separately

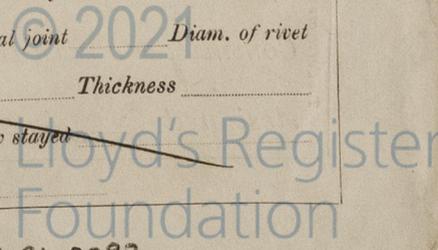
holes yes Diameter 15" Length 14" Thickness of shell plates 15" Material S. Description of longitudinal joint Welded Diam. of rivet 1 3/32

If stiffened with rings yes Distance between rings 14" Working pressure by rules 315. End plates: Thickness 15" How stayed by nuts

Working pressure of end plates 206. Area of safety valves to superheater yes Are they fitted with easing gear yes

If not, state whether, and when, one will be sent

In B. T.



IS A DONKEY BOILER FITTED?

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 and nuts, one set each feed & bilge pump valves, iron of various sizes, a quantity of assorted, 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 25. Dec 18. 22. 30. 1915: - Jan 6. 7. 15. 20. 28. 29. Feb 3. 4. 5. 11. 16. 19. 23. 25 Mar 1. 2
During erection on board vessel - - - 5. 11. 15. 26. Apr 6. 21. 22. 23. 26. 30 May 5
Total No. of visits 31

Is the approved plan of main boiler forwarded herewith *yes*

Dates of Examination of principal parts—Cylinders 16. 2. 15. Slides 11. 3. 15. Covers 11. 3. 15. Pistons 11. 3. 15. Rods 15. 3. 15.
Connecting rods 15. 3. 15. Crank shaft 11. 3. 15. Thrust shaft 29. 1. 15. Tunnel shafts ✓ Screw shaft 29. 1. 15. Propeller 29. 1. 15.
Stern tube 29. 1. 15. Steam pipes tested 23. 4. 15. Engine and boiler seatings 3. 2. 15. Engines holding down bolts 21. 4. 15.
Completion of pumping arrangements 5. 5. 15. Boilers fixed 21. 4. 15. Engines tried under steam 20. 4. 15.
Main boiler safety valves adjusted 26. 4. 15. Thickness of adjusting washers FV 5/16. AV 1/16.

Material of Crank shaft S. Identification Mark on Do. 1436. Material of Thrust shaft S. Identification Mark on Do. 1423.
Material of Tunnel shafts ✓ Identification Marks on Do. ✓ Material of Screw shafts S. Identification Marks on Do. 1418.

Material of Steam Pipes Copper Salda drawn. Test pressure 400 lbs. 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 *yes*. If so, state name of vessel *Same as No 1039/1055 except shell tensile.*

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

The engines and boiler of this vessel have been constructed under special survey in accordance with the Rules. The materials & workmanship are sound & good. The Boiler tested by hydraulic pressure and with the engines secured on board & tested under steam. They are now in good order and safe working condition and respectfully submitted as being eligible in my opinion to be classed with the notation of +LMC 5.15. in the Register book.

It is submitted that this vessel is eligible for THE RECORD. L.M.C. 5.15.

Handwritten signatures and dates: 31-5-15, 9/2/15

The amount of Entry Fee ... £ 1 : : When applied for, 28. 5. 15.
Special ... £ 12 : 12 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 8 : 2 3/5 19/5 1/6 15

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

Committee's Minute FRI. JUN. 4-1915
Assigned + L.M.C. 5.15.



MACHINERY CERTIFICATE WRITTEN.

Shell Certificate (if required) to be sent to.

The Surveyors are requested not to write on or below the space for Committee's Minute.