

REPORT ON MACHINERY

No. 15097

RECEIVED AT LONDON OFFICE
14 DEC. 1916

Date of writing Report 19 When handed in at Local Office 19 Port of *Linn*

No. in Survey held at *Alma* Date, First Survey *1915. Mar 5* Last Survey *Dec 1st 1916*
 Reg. Book. on the *MS "Cargan"* (Number of Visits *22*)

Master Built at *Alma* By whom built *Jiffings & Co* Tons } Gross
 } Net
 When built *1916*

Engines made at *Alma* By whom made *Jiffings & Co* when made *1916*

Boilers made at *Wassow* By whom made *A & L. Haldopish* when made *1916*

Registered Horse Power *300* Owners *Messrs. Bowden Bros.* Port belonging to *Belfast*

Nom. Horse Power as per Section 28 *53* Is Refrigerating Machinery fitted for cargo purposes *no* Is Electric Light fitted *no*

ENGINES, &c.—Description of Engines *Compound* No. of Cylinders *2* No. of Cranks *2*

Dia. of Cylinders *14" 30"* Length of Stroke *22"* Revs. per minute *110* Dia. of Screw shaft *6.6" as per rule 6.3" as fitted 6.4"* 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 *no* If two liners are fitted, is the shaft lapped or protected between the liners *no* Length of stern bush *28"*

Dia. of Tunnel shaft *6.17" as per rule 6.17" as fitted 6.17"* Dia. of Crank shaft journals *6.5" as per rule 6.5" as fitted 6.5"* Dia. of Crank pin *6.2"* Size of Crank webs *12x4.5"* Dia. of thrust shaft under collars *6.2"* Dia. of screw *7-9"* Pitch of Screw *9-3"* No. of Blades *4* State whether moveable *no* Total surface *275"*

No. of Feed pumps *1* Diameter of ditto *2.4"* Stroke *11"* Can one be overhauled while the other is at work *no*

No. of Bilge pumps *1* Diameter of ditto *2.4"* Stroke *11"* Can one be overhauled while the other is at work *no*

No. of Donkey Engines *2* Sizes of Pumps *5x3.2x6, 4x4x5* No. and size of Suctions connected to both Bilge and Donkey pumps *2 in Engine Room 2 in Main hold 2.5"*

In Engine Room *2* In Holds, &c. *2 in Main hold 2.5"*

No. of Bilge Injections *1* sizes *3"* Connected to condenser, or to circulating pump *yes* Is a separate Donkey Suction fitted in Engine room & size *4.0 2.5"*

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 *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*

Dates of examination of completion of fitting of Sea Connections *13/9/16* of Stern Tube *13/9/16* Screw shaft and Propeller *13/9/16*

Is the Screw Shaft Tunnel watertight *none* Is it fitted with a watertight door *no* worked from *in any dock after launch*

OILERS, &c.—(Letter for record *no*) Manufacturers of Steel *In Wassow Report 35657 attached.*

Total Heating Surface of Boilers *1050 sq ft* Is Forced Draft fitted *no* No. and Description of Boilers *One single end*

Working Pressure *135 lbs* Tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____

Can each boiler be worked separately _____ Area of fire grate in each boiler *35.5 sq ft* No. and Description of Safety Valves to each boiler *2 Spring valves* Area of each valve *5.94 sq in* 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 *11"* Mean dia. of boilers _____ Length _____ Material of shell plates _____

Thickness _____ Range of tensile strength _____ Are the shell plates welded or flanged _____ Descrip. of riveting: cir. seams _____

Ang. seams _____ Diameter of rivet holes in long. seams _____ Pitch of rivets _____ Lap of plates or width of butt straps _____

Percentages of strength of longitudinal joint _____ Working pressure of shell by rules _____ Size of manhole in shell _____

Size of compensating ring _____ No. and Description of Furnaces in each boiler _____ Material _____ Outside diameter _____

Length of plain part _____ Thickness of plates _____ Description of longitudinal joint _____ No. of strengthening rings _____

Working pressure of furnace by the rules _____ Combustion chamber plates: Material _____ Thickness: Sides _____ Back _____ Top _____ Bottom _____

Pitch of stays to ditto: Sides _____ Back _____ Top _____ If stays are fitted with nuts or riveted heads _____ Working pressure by rules _____

Material of stays _____ Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ End plates in steam space: _____

Material _____ Thickness _____ Pitch of stays _____ How are stays secured _____ Working pressure by rules _____ Material of stays _____

Diameter at smallest part _____ Area supported by each stay _____ Working pressure by rules _____ Material of Front plates at bottom _____

Thickness _____ Material of Lower back plate _____ Thickness _____ Greatest pitch of stays _____ Working pressure of plate by rules _____

Diameter of tubes _____ Pitch of tubes _____ Material of tube plates _____ Thickness: Front _____ Back _____ Mean pitch of stays _____

Pitch across wide water spaces _____ Working pressures by rules _____ Girders to Chamber tops: Material _____ Depth and _____

Thickness of girder at centre _____ Length as per rule _____ Distance apart _____ Number and pitch of stays in each _____

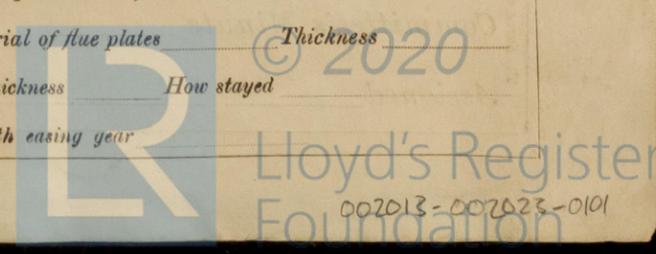
Working pressure by rules _____ Superheater or Steam chest; how connected to boiler _____ Can the superheater be shut off and the boiler worked _____

Material _____ Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet _____

Material _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____

Stays _____ stiffened with rings _____ 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 top end & two bottom end connecting rods bolts and nuts, two main bearing bolts, one set connecting bolts, one fuel and lime pump valves, assorted bolts, Iron of various sizes.*

The foregoing is a correct description,
FOR A. JEFFREY & CO., LTD.

Robt. Jeffrey DIRECTOR

Manufacturer.

Dates of Survey while building { During progress of work in shops -- 1915 Mar 5, 9, 12, 17, 29, June 7, 10, Jul 8, Oct 27, Nov 17, 19, 1916 Feb 24, Mar 22, 24, Apr 26, Jun 2, July 5.
During erection on board vessel -- 1916 Aug 7, Sept 13, Oct 17, Nov 1, Dec 1.
Total No. of visits 22.

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

Dates of Examination of principal parts—Cylinders *22/3/16 5/7/16* Slides *26/4 5/7/16* Covers *2/6 5/7/16* Pistons *2/6 5/7/16* Rods *26/4 6/5/16*
Connecting rods *5/3/16 6/7/16* Crank shaft *5/3/16 5/7/16* Thrust shaft *27/10 5/9/16* Tunnel shafts *None* Screw shaft *26/5/16 5/7/16* Propeller *10/4/16*
Stern tube *5/7/16* Steam pipes tested *1/11/16* Engine and boiler seatings *7/8 13/9/16* Engines holding down bolts *7/8/16*
Completion of pumping arrangements *1/12/16* Boilers fixed *17/10/16* Engines tried under steam *1/12/16*
Main boiler safety valves adjusted *1/12/16* Thickness of adjusting washers *1 7/8 5 3/8*

Material of Crank shaft *Steel* Identification Mark on Do. *4034 GAB* Material of Thrust shaft *Steel* Identification Mark on Do. *4034*
Material of Tunnel shafts *None* Identification Marks on Do. *—* Material of Screw shafts *Iron* Identification Marks on Do. *4034 G*
Material of Steam Pipes *Copper* Test pressure *270 lbs*

Is an installation fitted for burning oil fuel *No.* 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 *S/S 'Cottin'*

General Remarks (State quality of workmanship, opinions as to class, &c. *In L's letter E 22nd March 1915*

The Machinery of this vessel has been built under special survey. The materials and workmanship are sound and good and under the vessel slip in my opinion to have used of - L.M.C. 12.16.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 12.16.

J.W.D.
15.12.16.

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

The amount of Entry Fee ... £ 1 : :
Special *plus* ... £ 8 : 10 :
Donkey Boiler Fee *plus* ... £ 4 : 10 :
Travelling Expenses (if any) £ 2 : 8 :
When applied for, 13th Dec. 1916.
When received, 22.2.1917

Committee's Minute TUE. 19. DEC. 1916

Assigned *+ L.M.C. 12.16.*

MACHINERY CERTIFICATE WRITTEN.



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