

# REPORT ON MACHINERY.

No. 15605

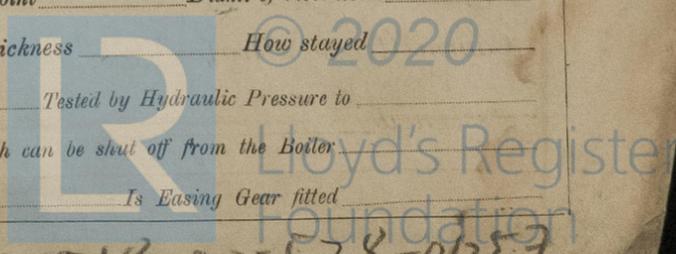
Received at London Office TUE 15 JUL 1919

Date of writing Report 19 When handed in at Local Office 13/7/19 to 19 Port of Leith  
 No. in Survey held at Leith Date, First Survey 11/6/18 Last Survey 2/6/19 19 19  
 Reg. Book. on the of Kirbeck & George Clines (Number of Visits 36)  
 Master Built at Leith By whom built Hawthorns & Co. When built 1919  
 Engines made at Leith By whom made Hawthorns & Co. when made 1919  
 Boilers made at Glasgow By whom made D. Roman & Co. Ld. (No. 3286) when made 1919  
 Registered Horse Power Owners Baton Duplex & Co. Ld. Port belonging to Baton.  
 Nom. Horse Power as per Section 28 97-74 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines Triple Inverted No. of Cylinders 3 No. of Cranks 3  
 Dia. of Cylinders 12.20.34 Length of Stroke 23 Revs. per minute 110 Dia. of Screw shaft as per rule 6.8 as fitted 7.5 Material of screw shaft I  
 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 ✓ 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 ✓ If two  
 liners are fitted, is the shaft lapped or protected between the liners ✓ Length of stern bush 30"  
 Dia. of Tunnel shaft as per rule 6.1 as fitted 6.5 Dia. of Crank shaft journals as per rule 6.41 as fitted 6.75 Dia. of Crank pin 6 3/4 Size of Crank web 4 3/4 x 10 1/4 Dia. of thrust shaft under  
 collars 6 3/4 Dia. of screw 8-4" Pitch of Screw 11-6" No. of Blades 4 State whether moveable no Total surface 290"  
 No. of Feed pumps 1 Diameter of ditto 2 5/8 Stroke 12" Can one be overhauled while the other is at work ✓  
 No. of Bilge pumps 1 Diameter of ditto 2 5/8 Stroke 12" Can one be overhauled while the other is at work ✓  
 No. of Donkey Engines one Sizes of Pumps 5 1/4 x 3 1/2 x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room two 2" engine bilge, one sea hotwell In Holds, &c. one 2" to line tank.  
 No. of Bilge Injections 1 sizes 3" Connected to condenser, or to circulating pump pumps 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 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 brick steam exhaust. How are they protected mod 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 ✓ Is it fitted with a watertight door ✓ worked from ✓

**BOILERS, &c.**—(Letter for record ) Manufacturers of Steel  
 Total Heating Surface of Boilers 1347 Is Forced Draft fitted no No. and Description of Boilers one SE return tube  
 Working Pressure 180 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 39.25 sq ft No. and Description of Safety Valves to  
 each boiler 2 direct spring Area of each valve 5.94 Pressure to which they are adjusted 180 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers on uptakes and bunkers on woodwork 9" 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  
 long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps  
 Per centages of strength of longitudinal joint rivets..... Working pressure of shell by rules Size of manhole in shell  
 plate.....  
 Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter  
 Length of plain part top..... Thickness of plates crown..... Description of longitudinal joint No. of strengthening rings  
 bottom.....  
 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 Area 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  
 Area 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 Steam dome: description of joint to shell % 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

**20. 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



005518-005528-0057

IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

SPARE GEAR. State the articles supplied:—

Two top and bottom end connecting rod bolts and nuts, two main bearing bolts and nuts, a set of coupling bolts and nuts, one set of feed and bilge pump valves, assorted bolts and nuts, and iron of various sizes.

The foregoing is a correct description,

C. J. Harris.

for Messrs Hawthorn & Co. Ltd. - Manufacturer.

Dates of Survey while building	During progress of work in shops --	1918 June 11, 14, 28 July 5, 12, 1919	
		During erection on board vessel ---	May 13, 14, 21, 23, 30, 31, 1919
		Total No. of visits	36

Is the approved plan of main boiler forwarded herewith

Is the approved plan of main boiler forwarded herewith  " " " donkey " " " "

Dates of Examination of principal parts—Cylinders	12/3/19	Slides	16/4/19	Covers	12/3/19	Pistons	12/3/19	Rods	12/3/19
Connecting rods	12/3/19	Crank shaft	6/1/19	Thrust shaft	14/5/19	Tunnel shafts	14/5/19	Screw shaft	14/5/19
Stern tube	10/12/18	Steam pipes tested	30/5/19	Engine and boiler seatings	19/11/18	Engines holding down bolts	4/6/19		
Completion of pumping arrangements	4/6/19	Boilers fixed	4/6/19	Engines tried under steam	4/6/19				
Completion of fitting sea connections	19/11/18	Stern tube	19/11/18	Screw shaft and propeller	26/5/19				
Main boiler safety valves adjusted	5/6	Thickness of adjusting washers	P 1/4" S 1/2"						

Material of Crank shaft	S	Identification Mark on Do.	H945 CM	Material of Thrust shaft	S	Identification Mark on Do.	H945 CM
Material of Tunnel shafts	I	Identification Marks on Do.	H945 CM	Material of Screw shafts	I	Identification Marks on Do.	H945 CM
Material of Steam Pipes	Solid drawn copper.	Test pressure	3 bolts per 29 inch.				

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 Isaac Starvo. No 15582

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

This vessel's machinery has been built under special survey. The material and workmanship are good, and in my opinion entitle the vessel to records of + LMC 6.19.

It is submitted that this vessel is eligible for THE RECORD + LMC. 6.19.

Handwritten signatures and dates: JWD, 15.7.19, C. Harris.

C. Harris, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee	£ 2 : 0	When applied for,	12/7/19
Special	£ 22 : 4	When received,	29/11/19
Donkey Boiler Fee	£ 16 : 16		
Travelling Expenses (if any)	£ :		

Committee's Minute

Assigned

FRI. JUL. 18. 1919

+ LMC 6.19

MACHINERY CERTIFICATE WRITTEN.



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