

REPORT ON MACHINERY.

No. 29954

Date of writing Report 19-5-17 When handed in at Local Office 22-5-17 Port of Hull
 No. in Survey held at Hull Date, First Survey 24-1-17 Last Survey 18-5-17
 Reg. Book. on the steel screw tug Cornelius Buckley (Number of Voids 41)
 Master Built at Alb By whom built Cochran & Co Ltd (No 692) Tons Gross 248 Net 96
 Engines made at Hull By whom made Earle & Co Ltd 11210 When built 1917-5
 Boilers made at Hull By whom made Earle & Co Ltd 11210 when made 1917-5
 Registered Horse Power Owners British Admiralty Port belonging to
 Nom. Horse Power as per Section 28 72 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple expansion No. of Cylinders Three No. of Cranks 3
 Dia. of Cylinders 12"-20"-32" Length of Stroke 24" Revs. per minute 115 Dia. of Screw shaft as per rule 7 1/16 Material of screw shaft as fitted 7 1/2 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 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 34"
 Dia. of Tunnel shaft as per rule 6 1/4 Dia. of Crank shaft journals as per rule 6 7/32 Dia. of Crank pin 6 3/4 Size of Crank webs 13 1/2 x 4 1/2 Dia. of thrust shaft under collars 6 3/4 Dia. of screw 8'-8" Pitch of Screw 11'-3" No. of Blades 4 State whether moveable no Total surface 27 1/2
 No. of Feed pumps no Diameter of ditto 2 3/4 Stroke 10 Can one be overhauled while the other is at work
 No. of Bilge pumps no Diameter of ditto 2 3/4 Stroke 10 Can one be overhauled while the other is at work
 No. of Donkey Engines no 7 3/4 Sizes of Pumps 6", 3" x 6" Flywheel No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room no 2' dia In Holds, &c. one 2' dia in each compartment
 all suction also connected to yacht
 No. of Bilge Injections one sizes 3 1/2 Connected to condenser, or to circulating pump pump Is a separate Donkey Suction fitted in Engine room & size 3" yacht
 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 Forward suction How are they protected strong wooden 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 S) Manufacturers of Steel John Spencer & Co Ltd
 Total Heating Surface of Boilers 1300 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 20-4-17 No. of Certificate 3207
 Can each boiler be worked separately Area of fire grate in each boiler 33 5/8 No. and Description of Safety Valves to each boiler two spring loaded Area of each valve 3 1/4 Pressure to which they are adjusted 205 Are they fitted with easing gear yes
 Smallest distance between boilers or uptakes and bunkers 8' 6" lapped Mean dia. of boilers 150" Length 10'-3" Material of shell plates steel
 Thickness 1 5/32 Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams double long. seams R & B Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 9/16 Lap of plates or width of butt straps 18 1/2
 Per centages of strength of longitudinal joint rivets 92.2 Working pressure of shell by rules 206 Size of manhole in shell 16" x 12"
 Size of compensating ring 9' x 1 1/32 No. and Description of Furnaces in each boiler two plain Material steel Outside diameter 41 3/4
 Length of plain part top 76 1/2 Thickness of plates crown 1 13/16 Description of longitudinal joint welded No. of strengthening rings
 Working pressure of furnace by the rules 200 Combustion chamber plates: Material steel Thickness: Sides 3/4 Back 23/32 Top 1/16 Bottom 3/4
 Pitch of stays to ditto: Sides 9 1/2 x 8 1/2 Back 9 1/2 x 9 Top 9 x 8 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 214
 Material of stays steel Area at smallest part 2 1/4 Area supported by each stay 106 1/2 Working pressure by rules 203 End plates in steam space:
 Material steel Thickness 15/32 Pitch of stays 17 3/4 x 16 3/4 How are stays secured R & H Working pressure by rules 201 Material of stays steel
 Area at smallest part 6 1/10 Area supported by each stay 297 5/8 Working pressure by rules 213 Material of Front plates at bottom steel
 Thickness 1" Material of Lower back plate steel Thickness 15/16 Greatest pitch of stays 14 1/2 x 9 Working pressure of plate by rules 202
 Diameter of tubes 3 1/2 Pitch of tubes 4 15/16 Material of tube plates steel Thickness: Front 1" Back 7/8 Mean pitch of stays 9 1/2
 Pitch across wide water spaces 14 1/2 Working pressures by rules 206 Girders to Chamber tops: Material steel Depth and thickness of girder at centre 9 3/4 x 13 1/4 Length as per rule 35 3/4 Distance apart 9" Number and pitch of stays in each three 8 1/2
 Working pressure by rules 206 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
 UPPER HEATER. 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

IS A DONKEY BOILER FITTED? *no*

If so, is a report now forwarded? ☒

SPARE GEAR.

State the articles supplied:— *Two top end bolts & nuts, two bottom end bolts & nuts, two main bearing bolts & nuts, one set of coupling bolts & nuts, one set of air, feed & high pump valves, 6 junk ring studs & nuts, one main & one donkey check valve, 3 condenser tubes, 3 boiler tubes, one safety valve spring & a quantity of bolts & nuts & iron of various sizes*

The foregoing is a correct description,
SHIPBUILDING & ENGINEERING CO. L^T MITED

Manufacturer.

Dates of Survey while building { During progress of work in shops -- } *1917 Jan 24 Feb 12. 14. 16. 19. 20. 22. 27. 28 Mar 5. 7. 13. 14. 19. 21. 23. 27. 28. 29*
{ During erection on board vessel -- } *Apr 3. 5. 10. 12. 14. 17. 19. 20. 23. 24. 25. 30 May 1. 3. 7. 8. 9. 10. 11. 14. 16. 18.*
Total No. of visits *41*

Is the approved plan of main boiler forwarded herewith *enc. with on William Abrahams Rpt 29937*

Dates of Examination of principal parts—Cylinders *19-3-17* Slides *19-4-17* Covers *19-4-17* Pistons *14-3-17* Rods *3-4-17*
Connecting rods *3-4-17* Crank shaft *23-4-17* Thrust shaft *11-5-17* Tunnel shafts ☒ Screw shaft *23-4-17* Propeller *28-4-17*
Stern tube *12-2-17* Steam pipes tested *10-5-17* Engine and boiler seatings *22-2-17* Engines holding down bolts *10-5-17*
Completion of pumping arrangements *16-5-17* Boilers fixed *10-5-17* Engines tried under steam *16-5-17*
Completion of fitting sea connections *22-2-17* Stern tube *22-2-17* Screw shaft and propeller *24-4-17*
Main boiler safety valves adjusted *14-4-17* Thickness of adjusting washers *10 11/32 1 1/2*

Material of Crank shaft *Steel* Identification Mark on Do. *1774 FLS* Material of Thrust shaft *Iron* Identification Mark on Do. *1781 FLS*
Material of Tunnel shafts ☒ Identification Marks on Do. ☒ Material of Screw shafts *Iron* Identification Marks on Do. *1775 FLS*
Material of Steam Pipes *Solid drawn copper* Test pressure *400 lbs*

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 *William Abrahams*

General Remarks (State quality of workmanship, opinions as to class, &c. *The Machinery of this vessel has been constructed under special survey in accordance with the approved plans & the rules of this Society the materials & workmanship are good. The boiler and steam pipes have been tested by hydraulic pressure to 400 lbs found sound & tight. The machinery has been properly fitted & secured on board the vessel & on completion was tested under steam at full power found satisfactory. The safety valves have been adjusted under steam & tested for accumulation which did not exceed 210 lbs.*

In my opinion the vessel is eligible for the record + LMC 5-17

It is submitted that
this vessel is eligible to
THE RECORD. + LMC 5. 17.

The amount of Entry Fee ... £ *0* : 0 :
Special ... £ *27* : 12 :
Donkey Boiler Fee ... £ : :
Travelling Expenses (if any) £ : 12/3 :
When applied for, *23/5/17*
When received, *25/6/17*

Committee's Minute

Assigned

Frank A. Sturgeon
Engineer Surveyor to Lloyd's Register of Shipping.

MACHINERY CERTIFICATE
WRITTEN.



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Foundation