

# REPORT ON MACHINERY.

No. 30,379

Received at London Office WED. 13 FEB. 1918

Date of writing Report 19 *31/1 1918* When handed in at Local Office *Port of Hull*

No. in Survey held at *Hull* Date, First Survey *16.7.17* Last Survey *31.1.1918.*  
 Reg. Book. *Hull* (Number of Visits *39.*)

on the *Steam Trawler "William Brown."* Gross Tons *290*  
 Net Tons *119.*

Master *Brewerley* Built at *Brewerley* By whom built *Cook, Melton & Lummell* When built *1918.1.*

Engines made at *Hull* By whom made *Amos & Smith Ltd No. 2928.* when made *1918.1.*

Boilers made at *Hull* By whom made *Amos & Smith Ltd No. 2928* when made *1918.1.*

Registered Horse Power *87.* Owners *British Admiralty* Port belonging to *✓*

Nom. Horse Power as per Section 28 *87.* Is Refrigerating Machinery fitted for cargo purposes *no.* Is Electric Light fitted *no.*

**ENGINES, &c.**—Description of Engines *Triple expansion* No. of Cylinders *3* No. of Cranks *3*

Dia. of Cylinders *12 1/2" 21" 35"* Length of Stroke *26"* Revs. per minute *110* Dia. of Screw shaft *as per rule 7.56* Material of screw shaft *Iron*  
*as fitted 7 1/8"*

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 6.57* Dia. of Crank shaft journals *as per rule 6.9* Dia. of Crank pin *7 1/8"* Size of Crank webs *14" 4 7/16"* Dia. of thrust shaft under collars *7 1/8"* Dia. of screw *9" 6"* Pitch of Screw *11" 1 1/2"* No. of Blades *4* State whether moveable *no.* Total surface *35 1/2 sq ft*

No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *Yes.*

No. of Bilge pumps *2* Diameter of ditto *2 1/2"* Stroke *12"* Can one be overhauled while the other is at work *Yes.*

No. of Donkey Engines *Two & 3 ejector* Sizes of Pumps *6" 3" 6" 4" 6" 6"* No. and size of Suctions connected to both Bilge and Donkey pumps *and ejector*

In Engine Room *One 2" For. One 2" Aft. & One 2" Bilge* In Holds, &c. *One 2" from Fore hold One 2" from Slush well, also separate 2" ejector suction from slush well.*

No. of Bilge Injections *1* sizes *3 1/2"* Connected to condenser, or to circulating pump pumps *Is a separate Donkey Suction fitted in Engine room & size Yes & 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 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 Suctions.* How are they protected *hood covering.*

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 *Messrs Stewarts & Lloyds, Ltd*

Total Heating Surface of Boilers *1590 sq ft* Is Forced Draft fitted *no.* No. and Description of Boilers *One single ended*

Working Pressure *180 lbs.* Tested by hydraulic pressure to *360 lbs.* Date of test *13.12.17* No. of Certificate *3258 & A.*

Can each boiler be worked separately *✓* Area of fire grate in each boiler *48.75 sq ft* No. and Description of Safety Valves to each boiler *Two spring loaded* Area of each valve *4.9 sq ft* Pressure to which they are adjusted *185 lbs.* Are they fitted with easing gear *Yes.*

Smallest distance between boilers or uptakes and bunkers or woodwork *8"* Mean dia. of boilers *162"* Length *10' 6 1/8"* Material of shell plates *S.*

Thickness *3/32"* Range of tensile strength *28.32* Are the shell plates welded or flanged *no.* Descrip. of riveting: cir. seams *Double*  
 long. seams *S.S.S.S.S.* Diameter of rivet holes in long. seams *1 1/32"* Pitch of rivets *8"* Lap of plates or width of butt straps *17"*

Per centages of strength of longitudinal joint *89.3* Working pressure of shell by rules *180* Size of manhole in shell *16" 12"*  
 plate *85.5*

Size of compensating ring *9" 1 3/32"* No. and Description of Furnaces in each boiler *3 Plain* Material *S.* Outside diameter *40 7/8"*

Length of plain part *top 81 1/2"* Thickness of plates *bottom 25 1/32"* Description of longitudinal joint *Welded* No. of strengthening rings *✓*  
*bottom 76"*

Working pressure of furnace by the rules *188* Combustion chamber plates: Material *S.* Thickness: Sides *1/16"* Back *2 1/32"* Top *1/16"* Bottom *7/8"*

Pitch of stays to ditto: Sides *9 1/2" 9 3/8"* Back *9" 9"* Top *9 1/2" 9 1/2"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *181*

Material of stays *S.* Area at smallest part *2.07* Area supported by each stay *90.25* Working pressure by rules *206* End plates in steam space: *S.*

Material *S.* Thickness *1 1/16"* Pitch of stays *17 3/8" 17"* How are stays secured *S.S.S.S.* Working pressure by rules *181* Material of stays *S.*

Area at smallest part *6.10* Area supported by each stay *295* Working pressure by rules *215* Material of Front plates at bottom *S.*

Thickness *3 1/32"* Material of Lower back plate *S.* Thickness *5 1/16"* Greatest pitch of stays *14" 9"* Working pressure of plate by rules *219.*

Diameter of tubes *3 1/2"* Pitch of tubes *5" 4 3/4"* Material of tube plates *S.* Thickness: Front *3 1/32"* Back *7/8"* Mean pitch of stays *10"*

Pitch across wide water spaces *14"* Working pressures by rules *184* Girders to Chamber tops: Material *S.* Depth and thickness of girder at centre *8 1/2" 1 1/4"* Length as per rule *32"* Distance apart *9 1/2"* Number and pitch of stays in each *Two 9 1/2"*

Working pressure by rules *197* 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 *✓*

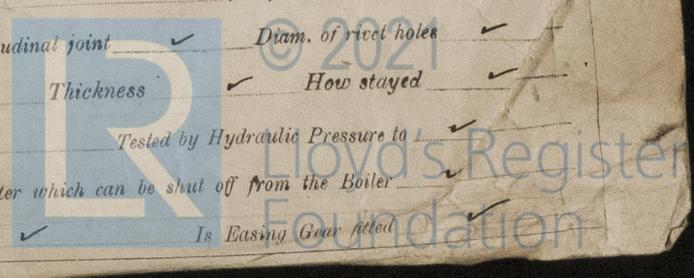
**SUPERHEATER.** Type *✓* Date of Approval of Plan *✓* Tested by Hydraulic Pressure to *✓*

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 *✓*

If not, state whether, this refers, one unit of work.

14253-014262-0149



IS A DONKEY BOILER FITTED?

No.

If so, is a report now forwarded? ✓

SPARE GEAR. State the articles supplied: Four top end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts, one set of coupling bolts and nuts, one set of Air, feed and bilge pump valves, one set of piston studs and nuts. Four condenser tubes, three boiler tubes, one escape valve spring each size, two donkey pump suction and delivery valves, one impeller and shaft for circulating pump, a quantity of assorted bolts and nuts and iron of various sizes.

The foregoing is a correct description,

FOR AMOS & SMITH LTD.

A. J. Robinson

Manufacturer.

Dates of Survey while building: During progress of work in shops - 1917: - Jul 16, Aug 13, 22, 24, 27, Sep 5, 10, 13, 21, 26, 29, Oct 5, 11, 12, 15, 22, 24, 30, Nov 2, 7, 16. During erection on board vessel - 17, 21, 23, 24, Dec 3, 7, 8, 11, 12, 13, 19, 1918: - Jan 15, 14, 18, 19, 23, 28, 31. Total No. of visits 39.

Is the approved plan of main boiler forwarded herewith Yes. " " " donkey " " " ✓

Dates of Examination of principal parts - Cylinders 22.10.17, Slides 29.11.17, Covers 22.10.17, Pistons 30.10.17, Rods 29.11.17, Connecting rods 30.10.17, Crank shaft 15.10.17, Thrust shaft 26.9.17, Tunnel shafts ✓, Screw shaft 26.9.17, Propeller 26.9.17, Stern tube 5.10.17, Steam pipes tested 9.1.18, Engine and boiler seatings 5.10.17, Engines holding down bolts 19.12.17, Completion of pumping arrangements 19.1.18, Boilers fixed 1.1.18, Engines tried under steam 19.1.18, Completion of fitting sea connections 5.9.17, Stern tube 5.9.17, Screw shaft and propeller 5.9.17, Main boiler safety valves adjusted 19.1.18, Thickness of adjusting washers P. 3/8" S. 3/8", Material of Crank shaft Iron, Identification Mark on Do. 2037FLS, Material of Thrust shaft Iron, Identification Mark on Do. 2028FLS, Material of Tunnel shafts ✓, Identification Marks on Do. ✓, Material of Screw shafts Iron, Identification Marks on Do. 2029FLS, Material of Steam Pipes S. D. Copper, Test pressure 360 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 Yes, 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 machinery of this vessel has been constructed under special survey in accordance with approved plans and the rules of this Society, the material and workmanship are good, the Boiler and steam pipes have been tested as above and found sound and good. The machinery has been properly fitted and secured on board the vessel and on completion tested under full power for two hours as required by the Admiralty and found satisfactory. The safety valves have been adjusted under steam and tested for accumulation which did not exceed 190 lbs.

In our opinion the vessel is eligible for the record L.M.C. 1.18.

It is submitted that this vessel is eligible for THE RECORD. + LMC 1.18.

JWD.

15/2/18.

Geo. Allan Frank L. Linger, Engineer Surveyor to Lloyd's Register of Shipping.

The amount of Entry Fee ... £ 2 : 0 : When applied for, 12/2/18. Special ... £ 26 : 2 : When received, 6. Donkey Boiler Fee ... £ : : Travelling Expenses (if any) £ : 2 : 22.2.18, 25.2.18

Committee's Minute

FRI. 15 FEB. 1918

Assigned

+ L.M.C. 1.18.



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Andell.

Certificate (if required) to be sent to the Surveyor, and retained not to urfile on or below the space for Committee's Minute.