

Rpt. 4.

Hull Rpt No. 31175  
**REPORT ON MACHINERY.**

No. 81437

Date of writing Report **13 JAN 1919** When handed in at Local Office **13 JAN 1919** Port of **London**  
No. in Survey held at **Newbury** Date, First Survey **July 29<sup>th</sup> 1918** Last Survey **Dec 17<sup>th</sup> 1918**  
Reg. Book. **on the Engines No 2389 for 62 (trawler A41)** (Number of Visits **eleven** from **14/19**)  
Master **F. Pierce** Built at **Goole** By whom built **Price Shipbuilding Co** Gross Tons **1052** Net Tons **750**  
Engines made at **Newbury** By whom made **Plenty & Son Ltd** when made **1919**  
Boilers made at **Lincoln** By whom made **Ruston, Proctor & Co Ltd (A25)** when made **1919**  
Registered Horse Power **✓** Owners **F. Pearce, Grimsby** Port belonging to **Grimsby**  
Nom. Horse Power as per Section 28 **75** Is Refrigerating Machinery fitted for cargo purposes **no** Is Electric Light fitted **no**

**ENGINES, &c.**—Description of Engines **Triple, surface condensing** No. of Cylinders **3** No. of Cranks **3**  
Dia. of Cylinders **12"-20"-34"** Length of Stroke **23"** Revs. per minute **114** Dia. of Screw shaft as per rule **6.875"** Material of screw shaft **Steel**  
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 **2'-6"**  
Dia. of Tunnel shaft as per rule **6.12"** Dia. of Crank shaft journals as per rule **6.427"** Dia. of Crank pin **6 3/4"** Size of Crank webs **10 1/4" x 4 1/2"** Dia. of thrust shaft under collars **6 3/4"** Dia. of screw **8.4** Pitch of Screw **16** No. of Blades **4** State whether moveable **no** Total surface **no**  
No. of Feed pumps **one** Diameter of ditto **2 7/8"** Stroke **12"** Can one be overhauled while the other is at work **✓**  
No. of Bilge pumps **two** Diameter of ditto **2 7/8"** 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", one forward & one aft.** In Holds, &c. **one 2" to slush well.**

No. of Bilge Injections **1** sizes **3** Connected to condenser, or to circulating pump **pump** Is a separate Donkey Suction fitted in Engine room & size **2" ejecta**  
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 **downward suction** How are they protected **wood 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 **180 1/2** Is Forced Draft fitted **no** No. and Description of Boilers **Report**  
Working Pressure **180 lb** Tested by hydraulic pressure to **240 lb** Date of test **1918** No. of Certificate **1**  
Can each boiler be worked separately **no** Area of fire grate in each boiler **144 sq ft** No. and Description of Safety Valves to each boiler **1** Are they fitted with easing gear **no**  
Area of each valve **144 sq ft** Pressure to which they are adjusted **180 lb** Are they fitted with easing gear **no**  
Smallest distance between boilers or uptakes and bunkers or woodwork **abt 7"** Mean dia. of boilers **34"** Length **14'** Material of shell plates **steel**  
Thickness **3/16"** Range of tensile strength **45,000 lb** Are the shell plates welded or flanged **no** Descrip. of riveting: cir. seams **no**  
long. seams **yes** Diameter of rivet holes in long. seams **1/8"** Pitch of rivets **2"** Lap of plates or width of butt straps **1"**  
Per centages of strength of longitudinal joint **85%** Working pressure of shell by rules **180 lb** Size of manhole in shell **18"**  
Size of compensating ring **18"** No. and Description of Furnaces in each boiler **1** Material **steel** Outside diameter **34"**  
Length of plain part **14'** Thickness of plates **3/16"** Descrip. of longitudinal joint **no** No. of strengthening rings **1**  
Working pressure of furnace by the rules **180 lb** Combustion chamber plates: Material **steel** Thickness: Sides **3/16"** Back **3/16"** Top **3/16"** Bottom **3/16"**  
Pitch of stays to ditto: Sides **12"** Back **12"** Top **12"** If stays are fitted with nuts or riveted heads **no** Working pressure by rules **180 lb**  
Material of stays **steel** Area at smallest part **144 sq ft** Area supported by each stay **144 sq ft** Working pressure by rules **180 lb** End plates in steam space: **no**  
Material **steel** Thickness **3/16"** Pitch of stays **12"** How are stays secured **no** Working pressure by rules **180 lb** Material of stays **steel**  
Area at smallest part **144 sq ft** Area supported by each stay **144 sq ft** Working pressure by rules **180 lb** Material of Front plates at bottom **steel**  
Thickness **3/16"** Material of Lower back plate **steel** Thickness **3/16"** Greatest pitch of stays **12"** Working pressure of plate by rules **180 lb**  
Diameter of tubes **2"** Pitch of tubes **12"** Material of tube plates **steel** Thickness: Front **3/16"** Back **3/16"** Mean pitch of stays **12"**  
Pitch across wide water spaces **12"** Working pressures by rules **180 lb** Girders to Chamber tops: Material **steel** Depth and thickness of girder at centre **12"** Length as per rule **12"** Distance apart **12"** Number and pitch of stays in each **12"**  
Working pressure by rules **180 lb** Steam dome: description of joint to shell **no** % of strength of joint **100%**  
Diameter **12"** Thickness of shell plates **3/16"** Material **steel** Description of longitudinal joint **no** Diam. of rivet holes **1/8"**  
Pitch of rivets **2"** Working pressure of shell by rules **180 lb** Crown plates **no** Thickness **3/16"** How stayed **no**

**SUPERHEATER.** Type **no** Date of Approval of Plan **1918** Tested by Hydraulic Pressure to **240 lb**  
Date of Test **1918** Is a Safety Valve fitted to each Section of the Superheater which can be shut off from the Boiler **no**  
Diameter of Safety Valve **12"** Pressure to which each is adjusted **180 lb** Is Easing Gear fitted **no**

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IS A DONKEY BOILER FITTED?

no

If so, is a report now forwarded?

✓

Rpt. 5.

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 valves for air, feed, bilge, & circulating pumps. 6 piston studs & nuts, one main & one donkey check valve. three condenser tubes, one safety valve spring. bolts & nuts & iron of various sizes. & other gear as per specification.

The foregoing is a correct description,  
per pro. PLENTY & SON, LIMITED

S. D. Plenty

Manufacturer.

Dates of Survey while building  
(During progress of work in shops --)  
(During erection on board vessel --)  
Total No. of visits

1918 July 29 Aug 28 Sep 27 Oct 3. 11. 18. 25. 29 Nov 4. 8. 29 Dec 17  
Hall. 1419. Jan 14 Feb 24 Mar 9 Jun 5. 14  
11 + 7 = 18

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders 18.10.18 Slides 18.10.18 Covers 18.10.18 Pistons 18.10.18 Rods 27.9.18

Connecting rods 27.9.18 Crank shaft 27.9.18 Thrust shaft 29.11.18 Tunnel shafts 14.12.18 Screw shaft 18.10.18 Propeller 4.11.18

Stern tube 3.10.18 Steam pipes tested 24.2.19. Engine and boiler seatings 4.11.18 Engines holding down bolts 23.1.19

Completion of pumping arrangements 5.6.19. Boilers fixed 23.1.19 Engines tried under steam 9.5.19

Completion of fitting sea connections 4.11.18 Stern tube 4.11.18 Screw shaft and propeller 4.11.18.

Main boiler safety valves adjusted 9.5.19 Thickness of adjusting washers 3/8 P.S.

Material of Crank shaft Steel Identification Mark on Do. 944 Lloyd's 18.10.18 Material of Thrust shaft Steel Identification Mark on Do. 246 Lloyd's 18.10.18

Material of Tunnel shafts Steel Identification Marks on Do. 17.12.18 Lloyd's 18.10.18 Material of Screw shafts Steel Identification Marks on Do. 103 Lloyd's 18.10.18

Material of Steam Pipes S.D. Copper. Test pressure 400 lbs per sq. in.

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 If so, state name of vessel

General Remarks (State quality of workmanship, opinions as to class, &c. Machinery constructed under survey, material tested, workmanship good.

Stated sent to the Base Shipbuilding Co & fitted on board their 3/8 2" Admiralty Drawler A 41

The machinery has been properly fitted & secured on board, & on completion was tested at full power for two hours as required by the Admiralty.

& found satisfactory. The main steam pipe has been tested as above, & the safety valves have been adjusted under steam & tested for accumulation, which did not exceed 187 lbs.

In my opinion the vessel is eligible for the record: LMC

P. Fitzgerald.  
J. W. Roberts

The amount of Entry Fee ... £ : : When applied for, 13/11/19  
Special ... £ 12 : 5 : 0  
Donkey Boiler Fee ... £ 6 : 2 : 6  
Travelling Expenses (if any) £ : : : When received, 9/4/19  
FRI. 4-JUL. 1919

Committee's Minute  
Assigned + LMC 6.19

MACHINERY CERTIFICATE  
WRITTEN.



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