

20 JUN 94  
HULL

# REPORT ON MACHINERY.

No.

9059

Port of *Hull*

Received at London Office SAT 23 JUN 1894

No. in Survey held at *Hull & Grimsby*  
Reg. Book.

Date, first Survey *Feb 16<sup>th</sup>* Last Survey *20 June* 18*94*

*64 in* on the *Steel Steam Trawler* *Buckoo*

(Number of Visits *21*)

Tons { Gross *135*  
Net *62*

Master \_\_\_\_\_ Built at *Hull* By whom built *Carter & Lim*

When built *1894*

Engines <sup>Super</sup> made at *Hull* By whom <sup>Super</sup> made *Carter & Lim*

when made *1894*

Boilers made at *Hull* By whom made *Carter & Lim*

when made *1894*

Registered Horse Power *40 7/8* Owners *Pioneer Steam Fishing & Lim* Port belonging to *Grimsby*

Nom. Horse Power as per Section 28 *32.5*

ENGINES, &c.— Description of Engines *Triple Compound Inv & Co (Jus wants)* No. of Cylinders *Three*

Diameter of Cylinders *8 3/4 13 3/8 & 26"* Length of Stroke *18"* Revolutions per minute *127* Diameter of Screw shaft *as per rule* *5 1/2"*

Diameter of Tunnel shaft *as per rule* *5 1/4"* Diameter of Crank shaft journals *5 1/2 & 4 1/4"* Diameter of Crank pin *5 1/8"* Size of Crank webs *6 9/16 & 3 9/16"*

Diameter of screw *7.6"* Pitch of screw *7.0"* No. of blades *4* State whether moveable *No* Total surface *16 1/2 sq ft*

No. of Feed pumps *One* Diameter of ditto *1 3/4"* Stroke *8 1/2"* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *One* Diameter of ditto *2 3/8"* Stroke *8 1/2"* Can one be overhauled while the other is at work *Yes*

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

In Engine Room *One 2"* In Holds, &c. *Two 2"*

*Also Ejector with suction in Engine room Bilge and flush well and discharge outboard*

No. of bilge injections *One* sizes *3 1/4"* Connected to condenser, or to circulating pump *Is a separate donkey suction fitted in Engine room & size No - 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 *Yes*

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 *Suction to Forward* How are they protected *Wood cased*

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*

When were stern tube, propeller, screw shaft, and all connections examined in dry dock *Nov 93* Is the screw shaft tunnel watertight *As tunnel*

Is it fitted with a watertight door *Yes* worked from *Yes*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *547 square feet*

No. and Description of Boilers *One Cylindrical Steel* Working Pressure *180 lb* Tested by hydraulic pressure to *360 lb*

Date of test *3/5/94* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *26.3 sq ft* No. and Description of safety valves to

each boiler *Steel Spring loaded* Area of each valve *3.14 sq ft* Pressure to which they are adjusted *183 lb* Are they fitted

with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *9"* Mean diameter of boilers *9.0"*

Length *8.9'* Material of shell plates *Steel* Thickness *1 1/16"* Description of riveting: circum. seams *all on lap* long. seams *all shop all*

Diameter of rivet holes in long. seams *1 3/16"* Pitch of rivets *6 3/4"* Lap of plates or width of butt straps *13"*

Per centages of strength of longitudinal joint rivets *83.6 %* Working pressure of shell by rules *183 lb* Size of manhole in shell *16" x 12"*

Size of compensating ring *30" x 28" x 1 1/16"* No. and Description of Furnaces in each boiler *Two Plain* Material *Steel* Outside diameter *33"*

Length of plain part top *5.11'* Thickness of plates crown *1 1/16"* Description of longitudinal joint *beaded* No. of strengthening rings *—*

Working pressure of furnace by the rules *183 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *10/16"*

Pitch of stays to ditto: Sides *7 3/4"* Back *7 1/2"* Top *7 3/4"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *182 lb*

Material of stays *Steel* Diameter at smallest part *1 3/8"* Area supported by each stay *7 3/4"²* Working pressure by rules *194 lb* End plates in steam space:

Material *Steel* Thickness *1 1/16"* Pitch of stays *15 1/2"* How are stays secured *All nut* Working pressure by rules *186 lb* Material of stays *Steel*

Diameter at smallest part *2 5/16"* Area supported by each stay *15 1/2" x 13"* Working pressure by rules *188 lb* Material of Front plates at bottom *Steel*

Thickness *1 1/16"* Material of Lower back plate *Steel* Thickness *1 1/16"* Greatest pitch of stays *7 3/4"* Working pressure of plate by rules *180 lb*

Diameter of tubes *3 1/4"* Pitch of tubes *4.5"* Material of tube plates *Steel* Thickness: Front *1 1/16"* Back *1 1/16"* Mean pitch of stays *9 1/4"*

Pitch across wide water spaces *13 1/8"* Working pressures by rules *182 lb* Girders to Chamber tops: Material *Iron* Depth and

thickness of girder at centre *5" x 1 1/8" all* Length as per rule *23"* Distance apart *7 3/4"* Number and pitch of Stays in each *Two 7 3/4"*

Working pressure by rules *186 lb* Superheater or Steam chest; how connected to boiler Can the superheater be shut off and the boiler worked

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

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

If 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



DONKEY BOILER— Description *No Donkey Boiler*

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ When made \_\_\_\_\_ Where fixed \_\_\_\_\_  
Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ Fire grate area \_\_\_\_\_ Description of safety valves \_\_\_\_\_  
No. of safety valves \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ If fitted with easing gear \_\_\_\_\_ If steam from main boilers can  
enter the donkey boiler \_\_\_\_\_ Diameter of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_  
Description of riveting long. seams \_\_\_\_\_ Diameter of rivet holes \_\_\_\_\_ Whether punched or drilled \_\_\_\_\_ Pitch of rivets \_\_\_\_\_  
Lap of plating \_\_\_\_\_ Per centage of strength of joint \_\_\_\_\_ Rivets \_\_\_\_\_ Thickness of shell crown plates \_\_\_\_\_ Radius of do. \_\_\_\_\_ No. of Stays to do. \_\_\_\_\_  
Dia. of stays \_\_\_\_\_ Diameter of furnace Top \_\_\_\_\_ Bottom \_\_\_\_\_ Length of furnace \_\_\_\_\_ Thickness of furnace plates \_\_\_\_\_ Description of  
joint \_\_\_\_\_ Thickness of furnace crown plates \_\_\_\_\_ Stayed by \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_  
Working pressure of furnace by rules \_\_\_\_\_ Diameter of uptake \_\_\_\_\_ Thickness of uptake plates \_\_\_\_\_ Thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— *The top end bolts. The bottom end bolts. The main bearing  
bolts. One set coupling bolts. One set feed and Bilge pump valves. Set Check valves.  
The vessel efficient with masts and sail as a fishing vessel.*

EARLE'S

SHIPBUILDING & ENGINEERING CO. LIMITED

The foregoing is a correct description,

*A. E. Leach*

Manufacturer.

GENERAL MANAGER & DIRECTOR

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

*The Engines of this vessel were taken out of the S. I Diana  
and were constructed by J Howden of Glasgow in 1869. They have now  
been overhauled and fitted with a new high pressure cylinder fitted above  
the low pressure one. and the following work has now been done. Cylinders  
parted Low pressure cylinder bored, new piston, valve faces planed and slide  
valve trued up to same. Medium pressure cylinder <sup>overhauled</sup> piston and slide valve faced  
up, piston rods trued up and retubed, valve spindle trued up and retubed  
Condenser tubes drawn, cleaned, replaced and repacked. and all pumps over-  
hauled, rods and cams trued up and retubed. Valve and pump gear readjusted  
and crank shaft refitted in place. Everything else connected with the Engines  
and Boilers have now been fitted new. The Engines trued under steam and  
found to work well.*

*The Engines of this vessel have been tripped and the Boilers  
constructed under special survey and placed on board in accordance with the  
Society's Rules, they are now in my opinion in safe working condition and the  
case is respectfully submitted for the notification + N.B. 94 L.M.C. 6.94 tripped  
in the Register Book.*

It is submitted that  
this vessel is eligible for  
THE RECORD

THE RECORD

N.B. 94, L.M.C. 6.94

*Engines made 69 Tripped 94*

Certificate (if required) to be sent to *Hull*

The amount of Entry Fee. . . . .	£ 1 : -	When applied for,
Special . . . . .	£ 8 : -	21/6 18.94
Donkey Boiler Fee . . . . .	£ . : -	When received,
Travelling Expenses (if any) £ . : -		1.8 18.94

*James Linn*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute

TUES. 26 JUN 1894

Assigned

*+ N.B. 94 L.M.C. 6.94*

*E made 69 Tpd 94*

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Foundation