

REPORT ON MACHINERY.

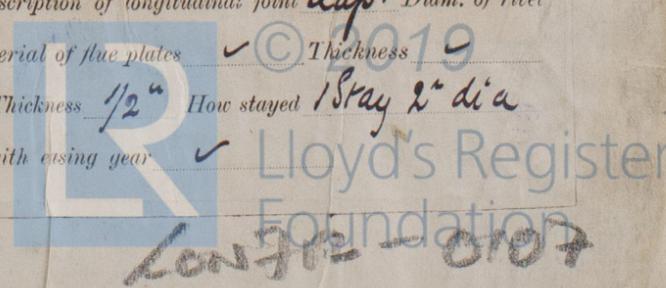
Port of London.

Received at London Office SAT MAR 13 1897

No. in Survey held at Lynn. Date, first Survey 18th Jan'y 197 Last Survey March 6 1897.
 Reg. Book. on the Wood Screw Steam Fishing vessel "Emerald" (Number of Visits 6) Tons { Gross 47 Net 20.
 Master Built at Leith By whom built Maire Bros. When built 1889. 2
 Engines made at H. Shields. By whom made J. O. Spence when made 1889.
 Boilers made at Lynn. By whom made A. Dodman. when made 1897.
 Registered Horse Power 18. Owners A. Mc Cowan Sons. Port belonging to Tralee.
 Nom. Horse Power as per Section 28 Is Electric Light fitted No.

ENGINES, &c.—Description of Engines Compound surface condenser No. of Cylinders Two No. of Cranks Two
 Diameter of Cylinders 9 1/2 x 20 Length of Stroke 14 Revolutions per minute Diameter of Screw shaft
 Diameter of Tunnel shaft Diameter of Crank shaft journals 4 Diameter of Crank pin 4 Size of Crank webs 5 x 2 1/2
 Diameter of screw 5-11 Pitch of screw 8.3 No. of blades 3 State whether moveable No Total surface
 No. of Feed pumps one Diameter of ditto 2 Stroke 6 7/8 Can one be overhauled while the other is at work ✓
 No. of Bilge pumps one Diameter of ditto 2 Stroke 6 7/8 Can one be overhauled while the other is at work ✓
 No. of Donkey Engines one Sizes of Pumps 5 x 2 1/2 No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room In Holds, &c.
 No. of bilge injections sizes Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size
 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 ✓
 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 none How are they protected ✓
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times
 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 Is the screw shaft tunnel watertight none
 Is it fitted with a watertight door worked from *These particulars are taken from the 1st entry report which the surveyor states are correct.*

BOILERS, &c.— (Letter for record S.) Total Heating Surface of Boilers 126 Sq feet Is forced draft fitted No.
 No. and Description of Boilers One Multitubular Marine Working Pressure 120 lbs Tested by hydraulic pressure to 240 lbs
 Date of test 22.2.97 Can each boiler be worked separately ✓ Area of fire grate in each boiler 8 Sq feet No. and Description of safety valves to each boiler Two Spring loaded Area of each valve 4.9 sq Pressure to which they are adjusted 115 lbs. Are they fitted with easing gear yes
 Length 8' 0" Material of shell plates Steel Thickness 5/8 Description of riveting: circum. seams Double riveted long. seams Quadruple Lap.
 Diameter of rivet holes in long. seams 15/16 Pitch of rivets 4" Lap of plates width of butt straps 7 1/4"
 Per centages of strength of longitudinal joint rivets 94.0% plate 76.5% Working pressure of shell by rules 127 lbs. Size of manhole in shell 15" x 12"
 Size of compensating ring 4" x 3/4" No. and Description of Furnaces in each boiler Two plain Material Steel Outside diameter 2' 3"
 Length of plain part top 5' 0" bottom 5' 0" Thickness of plates crown 7/16 bottom 7/16 Description of longitudinal joint Riveted No. of strengthening rings None.
 Working pressure of furnace by the rules 127 lbs Combustion chamber plates: Material Steel Thickness: Sides 1/2" Back 1/2" Top 1/2" Bottom 1/2"
 Pitch of stays to ditto: Sides 8" x 8" Back 8" x 8" Top 8" x 7" If stays are fitted with nuts or riveted heads Nuts. Working pressure by rules 120 lbs.
 Material of stays Steel Area at smallest part 1/14 Area supported by each stay 64 sq" Working pressure by rules 142 lbs End plates in steam space:
 Material Steel Thickness 5/8 (Double) Pitch of stays 13 1/2" x 11" How are stays secured Double nuts. Working pressure by rules 173 lbs Material of stays Steel
Area at smallest part 292 sq" Area supported by each stay 1485 sq" Working pressure by rules 78 lbs Material of Front plates at bottom Steel
 Thickness 5/8 Material of Lower back plate Steel Thickness 5/8 Greatest pitch of stays 8" Working pressure of plate by rules 210 lbs
 Diameter of tubes 3" Pitch of tubes 4 1/4" x 4" Material of tube plates Steel Thickness: Front 5/8" Back 5/8" Mean pitch of stays 8 1/4"
 Pitch across wide water spaces 11 1/2" Working pressures by rules 128 lbs. Girders to Chamber tops: Material Steel Depth and thickness of girder at centre 5" x 1" Length as per rule 1' 9" Distance apart 7" Number and pitch of Stays in each Two, 8"
 Working pressure by rules 129 lbs Superheater on Steam chest; how connected to boiler Riveted Can the superheater be shut off and the boiler worked separately No
 Diameter 2' 3" Length 2' 3" Thickness of shell plates 3/8" Material Steel Description of longitudinal joint Lap Diam. of rivet holes 15/16 Pitch of rivets 2" Working pressure of shell by rules 192 lbs. Diameter of flue Material of flue plates Thickness
 If stiffened with rings ✓ Distance between rings Working pressure by rules End plates: Thickness 1/2" How stayed 1 Stay 2" dia
 Working pressure of end plates Area of safety valves to superheater Are they fitted with easing gear



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DONKEY BOILER— Description

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:— *According to Rule.*

The foregoing is a correct description,

A. Dodman Manufacturer.

Dates of Survey while building

During progress of work in shops - -

During erection on board vessel - -

Total No. of visits

General Remarks (State quality of workmanship, opinions as to class, &c. *This Boiler has been built under Special Survey & in accordance with the approved plan. The workmanship is good. The Boiler was tested by hydraulic pressure to 24 lbs, with satisfactory results.*

The cylinders, pistons, valves, pumps & condenser, sea & bilge connections, cranks, thrust & propeller shafts have been examined, also propeller & stem bush. A liner has been fitted in the H.P. cylinder reducing the diameter to 9 1/2". For further particulars of Engines see First Entry report. Repairs due to wear & tear. Stem bush & neck bush of stem gland renewed.

This vessel's Machinery is now in good condition & in my opinion the vessel is eligible for her original record L.M.C. 3.97. For the record N.B. 3.97.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 3, 97 + N.B. 3, 97

J.S. 17/3/97
17.3.97

Certificate (if required) to be sent to

The amount of	N.B. fee	£ 4 : 4 : 0	When applied for,
Entry Fee			
Special L.M.C.	£ 1 : 7 : 0	15/12/97	18/3/97
Donkey Boiler Fee	£ 2 : 0 : 0	12/1/97	27/1/97
Travelling Expenses (if any)	£ 8 : 13 : 4	27/1/97	18/3/97

J.M. Salmon
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **FRI, MAR 19 1897**

Assigned **+ L.M.C. 3, 97 + N.B. 3, 97**

