

REPORT ON MACHINERY.

Port of *Falmouth*

MON. 5 SEP 1892

Received at London Office

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No. in Survey held at *Hoyle* Date, first Survey *3rd March 1892* Last Survey *30th August 1892*
 Reg. Book. *S. S. "Volney" S. S. No 155* (Number of Visits *24*)
 on the *S. S. "Volney" S. S. No 155* Tons { Gross *361*
 Net *110.93*
 Master *Hoyle* Built at *Hoyle* By whom built *Messrs Harvey & Co (Lim)* When built *1892-8*
 Engines made at *Hoyle* By whom made *Messrs Harvey & Co (Lim)* when made *1892*
 Boilers made at *Hoyle* By whom made *Messrs Harvey & Co (Lim)* when made *1892*
 Registered Horse Power *73* Owners *Allen Heywood Bright & Earnest Cook* Port belonging to *Liverpool*
 Nom. Horse Power as per Section 28 *96.36*

ENGINES, &c.— Description of Engines *Tri Corn Inverted Surface Condensing* No. of Cylinders *3*
 Diameter of Cylinders *15", 23", 35"* Length of Stroke *30"* Revolutions per minute *98* Diameter of Screw shaft *4.316*
 as per rule *6.962* Diameter of Crank shaft journals *7 1/2"* Diameter of Crank pin *7 1/2"* Size of Crank webs *15" x 5"*
 as fitted *4"* Diameter of screw *9-3* Pitch of screw *14-6* No. of blades *4* State whether moveable *No* Total surface *22 1/2 sq feet*
 No. of Feed pumps *2* Diameter of ditto *2 1/2"* Stroke *13 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* Diameter of ditto *2 3/4"* Stroke *13 1/2"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *One* Sizes of Pumps *One 3" Pump, duplex Pumps* No. and size of Suctions connected to both Bilge and Donkey pumps
Two 3", One 2", One in Tunnel 2 1/2"
 In Engine Room *Two, 2 1/2"* In Holds, &c. *Two, 2", One, 2 1/2", One in Tunnel 2 1/2"*
 One in Stokchold *2 1/2"*
 No. of bilge injections *1* sizes *4 1/4"* Connected to condenser, or to circulating pump *Pump* Is a separate donkey suction fitted in Engine room & size *Yes, 2 1/2"*
 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 *Valves and Cocks*
 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 *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 *16th August 1892* Is the screw shaft tunnel watertight *Yes*
 Is it fitted with a watertight door *None fitted* worked from *✓*

BOILERS, &c.— (Letter for record) Total Heating Surface of Boilers *1703 sq feet*
 No. and Description of Boilers *One Cylindrical Multitubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*
 Date of test *24th June* Can each boiler be worked separately *✓* Area of fire grate in each boiler *56 1/4 sq feet* and Description of safety valves to
 each boiler *Two, Harveys Lepped Spring* Area of each valve *12.56* Pressure to which they are adjusted *160 lbs* Are they fitted
 with easing gear *Yes* Smallest distance between boilers or uptakes and bunkers or woodwork *12"* Mean diameter of boilers *13-6"*
 Length *10-5"* Material of shell plates *Steel* Thickness *3/16"* Description of riveting: circum. seams *Double Riveted Lap* g. seams *Triple Riveted Butts*
 Diameter of rivet holes in long. seams *1 1/4"* Pitch of rivets *4 1/4"* Lap of plates or width of butt straps *1-6 3/8"*
 Per centages of strength of longitudinal joint *84.7* Working pressure of shell by rules *163.3* Size of manhole in shell *16 x 12*
 plate *85.7* Size of compensating ring *Mc. Nich Patent* No. and Description of Furnaces in each boiler *3, Plain* Material *Steel* Outside diameter *39"*
 Length of plain part *6-8"* Thickness of plates *23/32"* Description of longitudinal joint *Double Butts Strap* No. of strengthening rings *Two*
 Working pressure of furnace by the rules *169* Combustion chamber plates: Material *Steel* Thickness: Sides *5/8"* Back *5/8"* Top *5/8"* Bottom *23/32"*
 Pitch of stays to ditto: Sides *8 1/2"* Back *8 1/2"* Top *8 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *166*
 Material of stays *Steel* Diameter at smallest part *1.384* Area supported by each stay *42.25* Working pressure by rules *165* End plates in steam space:
 Material *Steel* Thickness *3/32"* Pitch of stays *15 1/2" x 14 1/2"* How are stays secured *Double Nuts* Working pressure by rules *182* Material of stays *Steel*
 Diameter at smallest part *2.303* Area supported by each stay *224.75* Working pressure by rules *160* Material of Front plates at bottom *Steel*
 Thickness *1"* Material of Lower back plate *Steel* Thickness *7/8"* Greatest pitch of stays *only one stay fitted* Working pressure of plate by rules *184*
 Diameter of tubes *3 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *Steel* Thickness: Front *1"* Back *13/16"* Mean pitch of stays *11 7/8"*
 Pitch across wide water spaces *14"* Working pressures by rules *160* Girders to Chamber tops: Material *Steel* Depth and
 thickness of girder at centre *6 1/4" x 3 1/4"* Length as per rule *2-1 1/2"* Distance apart *7 1/2"* Number and pitch of Stays in each *Two, 8 1/2"*
 Working pressure by rules *161.3* 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 *Vertical with Cross Water Tubes*
 Made at *Gateshead* By whom made *Clarke Chapman & Co* When made *1892* Where fixed *Between 2. Room*
 Working pressure *75 lbs* tested by hydraulic pressure to *150* No. of Certificate *3874* Fire grate area *4'04* Description of safety valves *Lipped Spring*
 No. of safety valves *1* Area of each *7068* Pressure to which they are adjusted *45 lbs* If fitted with casing gear *yes* If steam from main boiler can enter the donkey boiler *no* Diameter of donkey boiler *4-6* Length *10-6* Material of shell plates *Steel* Thickness *1/2*
 Description of riveting long seams *Double Riveted Lap* Diameter of rivet holes *1 1/16* Whether punched or drilled *Drilled* Pitch of rivets *2 1/2*
 Lap of plating *3 3/8* Per centage of strength of joint Rivets *72.5* Thickness of shell crown plates *1/2* Radius of do. *5* No. of Stays to do. *3*
 Dia. of stays *1 3/8* Diameter of furnace Top *3-2 1/4* Bottom *3-9* Length of furnace *5-0* Thickness of furnace plates *15/32* Description of joint *Single Lap* Thickness of furnace crown plates *15/32* Stayed by *as shell crown* Working pressure of shell by rules *97 lbs*
 Working pressure of furnace by rules *89 lbs* Diameter of uptake *12* Thickness of uptake plates *3/8* Thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *Two Connecting Rods and Two Bottom End Bolts and Nuts, Two Main Bearing Bolts, One set of Coupling Bolts, One set of Piston Springs for each Engine, One set of Safety Valve Springs for Main and Donkey Boilers, One Spring for each escape Valve, One set of Head and Bilge Pump Valves, Twelve Boiler Tubes, Twelve Condenser Tubes, Twelve joint Ring Bolts, Two Horns*
 The foregoing is a correct description, *and Wood Ferrules, a quantity of assorted Bolts and Nuts, Iron of various sizes, One Propeller,*
Harvey & Co. Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c.) *The Machinery has been made and fitted under Special Survey and under my inspection from commencement to completion, I have every reason to believe the material to be of the very best quality. The Workmanship is good throughout, The Feed and Steam Pipes are made of Solid drawn Copper and have been tested in my presence to 3500 lbs per square inch showing no appearance of weakness or bad work. The Main Boiler has been Constructed under Special Survey and the materials and Workmanship are good, being tested to 320 lbs per inch and were found perfectly tight and satisfactory. Safety Valves are set to relieve at 160 lbs pressure lifting freely with 6% accumulation.*

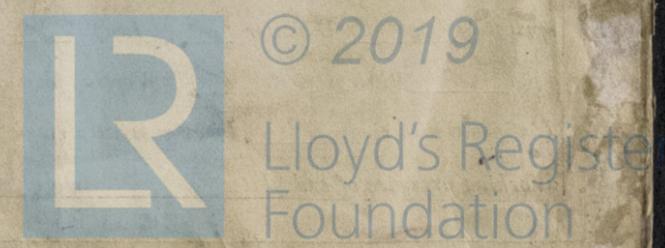
The Donkey Boiler was Constructed by Clarke Chapman & Co at Gateshead and under Special Survey, see Report Attached, Safety Valve set to relieve at 75 lbs pressure lifting freely with no apparent accumulation. At the Trial the Engines Worked well and efficiently with no signs of heat. Bearings, Steam 155, Vac 26 1/2, Rev 98, Vessel being light. All the Auxiliary Machinery appears good and efficient. Every thing being fitted in accordance with the Rules and Instructions I am of opinion that the Machinery is fit for Classification in the Society's Register Book and beg to Recommend for the Committee's approval that a Machinery Certificate be granted and the notation of +LMC 8,92 made in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M. e. 89
Civil. 5-9-92

Certificate (if required) to be sent to *This Office*
 The amount of Entry Fee... £ 1-0-0
 Special ... £ 14-8-0
 Donkey Boiler Fee *Received at Newcastle on 7/9/92*
 Travelling Expenses (if any) £ 14-2-6

R. H. Cooper
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *TBM*
 Assigned *+ LMC 8,92*
 TUES. 6 SEP 1892



The Surveyors are requested not to write on or below the space for Committee's Minutes.