

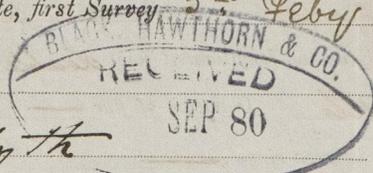
REPORT ON MACHINERY.

27907 Iron

No. 356

(Received in London Office 27/9/80 1880)

No. in Survey held at Newcastle & Blyth Date, first Survey 5th Febry Last Survey 1st Sept 1880
 Reg. Book. ✓ on the Iron S^r Speedwell Tons 1017
639
 Master J R Soutkin Built at Blyth When built 1880
 Engines made at Newcastle By whom made Black Hawthorn when made 1880
 Boilers made at do By whom made do when made 1880
 Registered Horse Power 99 Owners Edmonds Handcock Port belonging to Falmouth



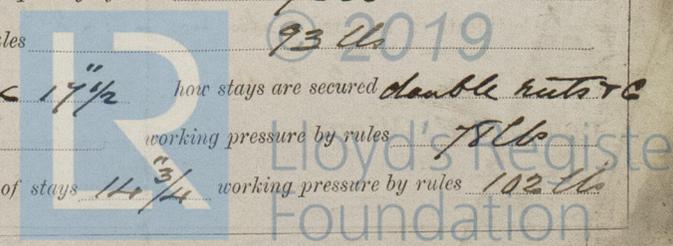
Report recd 29/9/80 sent to Lon 25/9/80

ENGINES, &c.—

Description of Engines Inverted compound. Surface. Condensing.
 Diameter of Cylinders 26 & 50 Length of Stroke 33 No. of Rev. per minute 72 Point of Cut off, High Pressure half Low Pressure half
 Diameter of Screw shaft 9" Diameter of Tunnel shaft 8 1/2" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" size of Crank webs 10 1/2 x 5 1/2
 Diameter of screw 11 u 0 Pitch of screw 15 p 0 No. of blades 4 state whether moveable no total surface 444 Sq feet
 No. of Feed pumps 2 diameter of ditto 3" Stroke 16 1/2 Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 3" Stroke 16 1/2 Can one be overhauled while the other is at work yes
 Where do they pump from Engine space (4). Fore hold (1). aft well in tunnel (1).
 No. of Donkey Engines 2 Size of Pumps 7 x 10 & 3 x 5 Where do they pump from Engine space.
Fore hold. aft hold in tunnel. Main & aft tanks.
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections 1 and sizes 4 1/2 Are they connected to condenser, or to circulating pump no
 How are the pumps worked Lever over Condenser
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks 2 valves others 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 accessible at all times yes
 Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges yes
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock new
 Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top Engine room platform

BOILERS, &c.—

Number of Boilers One Description Cylindrical. return tubes.
 Working Pressure 75 lb Tested by hydraulic pressure to 150 lb Date of test 21st June 1880.
 Description of superheating apparatus or steam chest Horizontal dome. contracted neck
 Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately no
 No. of square feet of fire grate surface in each boiler 43 Sq ft Description of safety valves Spring
 No. to each boiler 2 area of each valve 3 3/4 = 11/16 Are they fitted with casing gear yes
 No. of safety valves to superheater — area of each valve — are they fitted with casing gear —
 Smallest distance between boilers and bunkers or woodwork 12 inches
 Diameter of boilers 13 u 8 Length of boilers 10 u 1 1/2 description of riveting of shell long. seams triple Lap circum. seams single Lap
 Thickness of shell plates 7/8 diameter of rivet holes 1 1/4 whether punched or drilled drilled pitch of rivets 5"
 Lap of plating 9 u per centage of strength of longitudinal joint 75% working pressure of shell by rules 76 lb
 Size of manholes in shell 18 x 12 size of compensating rings 30 x 24 x 1
 No. of Furnaces in each boiler 3 outside diameter 3 u 3 length, top 7 u 1 1/2 bottom 9 u 3
 Thickness of plates 1/2 & 9/16 description of joint welded if rings are fitted no greatest length between rings —
 Working pressure of furnace by the rules 80 lb
 Combustion chamber plating, thickness, sides 7/16 back 7/16 top 7/16
 Pitch of stays to ditto ✓ sides 7 5/8 x 7 5/8 back 7 5/8 x 7 5/8 top curved
 If stays are fitted with nuts or riveted heads riveted working pressure of plating by rules 76 lb
 Diameter of stays at smallest part 1 1/16 working pressure of ditto by rules 93 lb
 End plates in steam space, thickness 3/4 pitch of stays to ditto 17 1/2 x 17 1/2 how stays are secured double nuts &c
 Working pressure by rules 75 lb diameter of stays at smallest part 2 1/4 working pressure by rules 78 lb
 Front plates at bottom, thickness 9/16 Back plates, thickness 3/4 & 1/2 greatest pitch of stays 14 3/4 working pressure by rules 102 lb



IRON 495-0268

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ " thickness of tube plates, front $\frac{3}{4}$ " back $\frac{3}{4}$ "
 How stayed *Tubes* pitch of stays $14\frac{1}{2} \times 14\frac{1}{2}$ " width of water spaces $11\frac{1}{2}$ "
 Diameter of Superheater or Steam chest 3" 6" length 9" 6"
 Thickness of plates $\frac{7}{16}$ " description of longitudinal joint *double Lap* diameter of rivet holes $\frac{7}{8}$ " pitch of rivets $3\frac{5}{8}$ "
 Working pressure of shell by rules *60 lbs* Diameter of flue — thickness of plates —
 If stiffened with rings — distance between rings — Working pressure by rules —
 End plates of superheater, or steam chest; thickness $\frac{7}{16}$ How stayed *Spherical*
 Superheater or steam chest; how connected to boiler *Contracted necks 18" x 12" x 5/8"*

DONKEY BOILER— Description *Cylindrical upright*
 Made at *Middlesbrough* By whom made *John Robinson* when made *25th August 1880*
 Where fixed *Stockholm* working pressure *60 lbs* Tested by hydraulic pressure to *120* No. of Certificate *391*
 Fire grate area *14 3/4 Sq. ft.* Description of safety valves *Springs* No. of safety valves *one 3" dia* area of each *7"*
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *yes*
 Diameter of donkey boiler *5 ft 6 in* length *12 ft 0* description of riveting *Long seam double Lap*
 thickness of shell plates $\frac{7}{16}$ " diameter of rivet holes $\frac{3}{4}$ " full whether punched or drilled *Punched*
 pitch of rivets $2\frac{5}{8}$ " lap of plating $4\frac{1}{2}$ " per centage of strength of joint 70%
 thickness of crown plates $\frac{9}{16}$ " stayed by *6 Stays 1 3/4" dia & Curved*
 Diameter of furnace, top *4" 9"* bottom *4" 9"* length of furnace *5 feet 6 in*
 thickness of plates $\frac{1}{2}$ " description of joint *Single Lap*
 thickness of furnace crown plates $\frac{1}{2}$ " stayed by *6 Stays 1 3/4" diameter & Curved*
 Working pressure of shell by rules *70 lbs* working pressure of furnace by rules *70 lbs*
 diameter of uptake $13\frac{1}{2}$ " thickness of plates $\frac{3}{8}$ " thickness of water tubes $\frac{5}{16}$ "

The foregoing is a correct description,
 for *Black Hawthorn* Manufacturer of engines & marine boilers
Jacob Gallau

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

The Machinery of this vessel has been surveyed during construction. The materials & workmanship are sound and satisfactory, and under the circumstances eligible in my opinion to have the certification & Lloyd's No. C in the Society's Register Books.

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The amount of Entry Fee £ 2 : - : - received by me,
 Special .. £ 14 : 14 : -
 Certificate (if required) *Gate* - : - : - 23rd Sept 1880
 To be sent as per margin.
 (Travelling Expenses, if any, £ 2. 2. 0)

Committee's Minute Tuesday, September, 28th 18 80.

John D. Proctor
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
 North Shields
 Lloyd's Register Foundation