

REPORT ON MACHINERY.

No. 399

No. in Survey held at
Reg. Book.

South Shields

Date, first Survey August 20 Last Survey November 6 1880

on the Iron Screw Steamer "Joseph Binery" Tons 860
Master John Halder Built at South Shields When built 1880
Engines made at South Shields By whom made J. Readman When made 1880
Boilers made at do do By whom made do When made 1880
Registered Horse Power 115 Owners Wilson Taylor & Partners Port belonging to North Shields

ENGINES, &c.—

Description of Engines Inverted compound Surface Condensing
Diameter of Cylinders 28" & 53" Length of Stroke 33" No. of Rev. per minute 65 Point of Cut off, High Pressure half Low Pressure half
Diameter of Screw shaft 8 3/4" Diameter of Tunnel shaft 8 3/4" Diameter of Crank shaft journals 8 3/4" Diameter of Crank pin 8 3/4" size of Crank webs 10 1/2" x 6 1/2"
Diameter of screw 12 1/2" Pitch of screw 14 1/2" No. of blades 4 state whether moveable no total surface 45 Sq feet
No. of Feed pumps 2 diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 diameter of ditto 3 1/2" Stroke 18" Can one be overhauled while the other is at work yes
Where do they pump from Engine space (3) Tunnel well (1) Tanks & Sea
No. of Donkey Engines 2 Size of Pumps 8" x 10" & 3" x 9" Where do they pump from Engine space, Tunnel well, Tanks, Sea Hotwell.
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 3 3/4" Are they connected to condenser, or to circulating pump cir
How are the pumps worked Lower over condenser
Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks 2 Screw Valves & other 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 at & below
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 70 lbs Tested by hydraulic pressure to 140 lbs Date of test 10th October 1880
Description of superheating apparatus or steam chest dome on top of boiler (contrasted neck)
Can each boiler be worked separately — Can the superheater be shut off and the boiler worked separately —
No. of square feet of fire grate surface in each boiler 48 Sq ft Description of safety valves Spring (Adams)
No. to each boiler 2 area of each valve 3 3/4" = 11" Are they fitted with easing gear yes
No. of safety valves to superheater — area of each valve — are they fitted with easing gear —
Smallest distance between boilers and bunkers or woodwork 16 inches
Diameter of boilers 13.9" Length of boilers 11.2" description of riveting of shell long seams Triple Caps circum. seams Double Caps
Thickness of shell plates 13/16" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 4 1/4"
Lap of plating 7 1/2" per centage of strength of longitudinal joint 66% working pressure of shell by rules 70 lbs
Size of manholes in shell 15" x 12" size of compensating rings 6" x 1"
No. of Furnaces in each boiler 3 outside diameter 3. 3 1/2" length, top 7' - 8 1/2" bottom 10' - 2"
Thickness of plates 1/2" & 9/16" description of joint Long & Caps if rings are fitted half greatest length between rings 7 - 3
Working pressure of furnace by the rules 78
Combustion chamber plating, thickness, sides 1/2" back 4 1/2" top 1/2"
Pitch of stays to ditto sides 8" x 8 3/4" back 9" x 7 3/4" top curved
If stays are fitted with nuts or riveted heads riveted working pressure of plating by rules 78
Diameter of stays at smallest part 1 1/4" off working pressure of ditto by rules 105 lbs
End plates in steam space, thickness 3/4" pitch of stays to ditto 16 3/8" x 13 1/2" how stays are secured double nuts &c
Working pressure by rules 73 diameter of stays at smallest part 1 7/8" working pressure by rules 85 lbs
Front plates at bottom, thickness 5/8" Back plates, thickness 3/8" greatest pitch of stays 9" working pressure by rules 78 lbs

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Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{1}{8} \times 4\frac{1}{8}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{3}{4}$
How stayed *Ends* pitch of stays $13\frac{7}{8} \times 13\frac{7}{8}$ width of water spaces 11 inches
Diameter of ~~Superheater on~~ Steam chest 4.0 length 6.4
Thickness of plates $\frac{1}{2}$ description of longitudinal joint *Single Lap* diameter of rivet holes $\frac{13}{16}$ pitch of rivets 2
Working pressure of shell by rules 96 lbs Diameter of flue $\frac{1}{2}$ thickness of plates $\frac{1}{2}$
If stiffened with rings $\frac{1}{2}$ distance between rings $\frac{1}{2}$ Working pressure by rules $\frac{1}{2}$
End plates of ~~superheater on~~ steam chest; thickness $\frac{1}{2}$ How stayed *4 - 1 1/8 Stays & divided to 4.0 radius*
~~Superheater on~~ steam chest; how connected to boiler *Contracted neck 15 x 12 x 3/4 plate*

DONKEY BOILER— Description *upright cylindrical*
Made at *Gateshead* By whom made *Clarke Chapman* when made *24th September 1880.*
Where fixed *Stokehold* working pressure 70 lbs Tested by hydraulic pressure to 140 No. of Certificate 4.68
Fire grate area *14.9 sq feet* Description of safety valves *Spring* No. of safety valves *one* area of each *7 sq in*
If fitted with casing gear *yes* If steam from main boilers can enter the donkey boiler *no*
Diameter of donkey boiler *5.0* length *11.0* description of riveting *Long double lap, Cir Single lap*
thickness of shell plates *3/8* diameter of rivet holes *3/4 full* whether punched or drilled *punched*
pitch of rivets *Long 3 Cir 2* lap of plating *4 & 2 3/4* per centage of strength of joint *75%*
thickness of crown plates *7/16* stayed by *4 - 1 1/2 Stays & divided to 5 ft radius*
Diameter of furnace, top *3.9* bottom *4.5* length of furnace *5 ft 2 in*
thickness of plates $\frac{1}{2}$ description of joint *Single Lap*
thickness of furnace crown plates $\frac{1}{2}$ stayed by *4 - 1 1/2 Stays & divided to 5 ft radius*
Working pressure of shell by rules *71 lbs* working pressure of furnace by rules *70 lbs*
diameter of uptake *15 x 16* thickness of plates *3/8* thickness of water tubes *3/8*

The foregoing is a correct description,
Wm. Beckett the Manufacturer.

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

The Machinery of this vessel has been surveyed during construction. The materials and workmanship are sound and satisfactory and eligible on my opinion to have the rotation Lloyd's M.C. in the Surveyor's Register book.

The Machinery of this vessel has been built and fitted in accordance with the Rules of Lloyd's M.C. 10.60. 25.11.80

The amount of Entry Fee £ 2 : - : - received by me,
Special £ 14 : 4 : 6 } *W.E.P.*
Certificate (if required) £ 2 : 6 23rd Nov 1880
To be sent as per margin.
(Travelling Expenses, if any, £)

Committee's Minute Friday, November 26th, 1880

Lloyd's

L. J. Brocklebank
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

North Shields
Lloyd's Register Foundation