

REPORT ON MACHINERY.

28543

No. 399

No. in Survey held at Reg. Book.

South Shields

Date, first Survey August 20

Last Survey November 6 1880

(Received in London Office 25/11/80)

on the Iron Screw Steamer "Joseph Biney" Tons 860
 Master John Halder Built at South Shields built 1880
 Engines made at South Shields By whom made J Readhead 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 1/4"* Diameter of Crank shaft journals *8 3/4"* Diameter of Crank pin *8 1/2"* size of Crank webs *10 1/2" x 6 1/2"*
 Diameter of screw *12 1/2"* Pitch of screw *14 1/2" to 16 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 *two* 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 *no*
 How are the pumps worked *Lower over condensers*
 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*

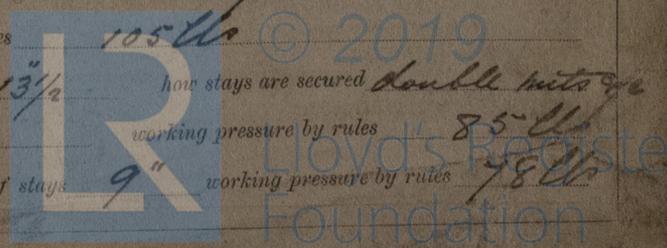
BOILERS, &c.—

Number of Boilers *one* Description *Cylindrical return tubes*
 Working Pressure *70 lbs* Tested by hydraulic pressure to *140 lbs* Date of test *12th October 1880*
 Description of superheating apparatus or steam chest *dome on top of boiler (contracted 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 *7/2"* 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 *Single Caps* if rings are fitted *half* greatest length between rings *7-8"*
 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 *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 5/8" x 13 1/2"* how stays are secured *double nuts*
 Working pressure by rules *43* 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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 No. 272

Report made by J. P. ...

IRON 47-0048



28543 Iron

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{1}{8} \times 4\frac{5}{8}$ " thickness of tube plates, front $3\frac{1}{4}$ " back $3\frac{1}{4}$ "
 How stayed *Tubes* 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 $1\frac{3}{16}$ " pitch of rivets 2"
 Working pressure of shell by rules 96 lbs Diameter of flue - thickness of plates -
 If stiffened with rings - distance between rings - Working pressure by rules -
 End plates of ~~superheater on~~ steam chest; thickness $\frac{1}{2}$ " How stayed *4 - 1 1/8 Stays & dished to 4" 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 468
 Fire grate area *14.59 feet* Description of safety valves *Spring* No. of safety valves *one* area of each *7"*
 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 $\frac{3}{8}$ diameter of rivet holes $3\frac{1}{4}$ full whether punched or drilled *punched*
 pitch of rivets *Long 3 Cir 2* lap of plating *4 F 2 3/4* per centage of strength of joint *75%*
 thickness of crown plates $\frac{7}{16}$ stayed by *4 - 1 1/2 Stays & dished to 5 ft radius*
 Diameter of furnace, top *3' 9"* bottom *4' 5"* length of furnace *5 ft 4 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 & dished to 5 ft radius*
 Working pressure of shell by rules *71 lbs* working pressure of furnace by rules *70 lbs*
 diameter of uptake *15" 1/16* thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,
Wm. Beattie 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 in my opinion to have the rotation Lloyd's M.C. in the Surveyor's Register books.

The amount of Entry Fee £ 2 : - : - received by me,
 Special *W.E.P.* £ 14 : 4 : 6
 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. Tom Brocklebank
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

