

REPORT ON MACHINERY.

No. 345

Port of *Middlesbrough on Tees*

Received at London Office

No. in Survey held at *Stockton-on-Tees*

Date, first Survey *24th Oct. 1890* Last Survey *23rd Feb. 1891*

Reg. Book.

(Number of Visits *38*)

on the *Screw Steamer "Sledmere"*

Master *Padgett* Built at *Stockton* By whom built *Richardson, Duex & Co* When built *1891*

Engines made at *Stockton* By whom made *Blair & Co. Limited* when made *1891*

Boilers made at *Stockton* By whom made *Blair & Co. Limited* when made *1891*

Registered Horse Power *150*

Owners *G. R. Sanderson & Co*

Port belonging to *Hull*

Sanctuary HP 145
Rule 176

ENGINES, &c.—

Description of Engines *Inverted, Direct Acting, Triple Expansion* No. of Cylinders *Three*
Diam. of Cylinders *20 1/2" 33 1/2" 55"* Length of Stroke *36"* Rev. per minute *65* Point of Cut off, High Pressure *5"* Low Pressure *5"*
Diameter of Screw shaft *11"* Diam. of Tunnel shaft *10 1/4"* Diam. of Crank shaft journals *10 1/2"* Diam. of Crank pin *1 1/4"* size of Crank webs *6 1/4" x 15 1/2"*
Diameter of screw *14 1/2"* Pitch of screw *15 1/2"* No. of blades *4* state whether moveable *No* total surface *58 sq. ft.*
No. of Feed pumps *2* diameter of ditto *2 1/4"* Stroke *26"* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *2* diameter of ditto *3 1/2"* Stroke *26"* Can one be overhauled while the other is at work *Yes*
Where do they pump from *Main & After Holds, Engine room, Tunnel well, After peak, Ballast tanks Sea.*
No. of Donkey Engines *Two* Size of Pumps *(4 x 1/2") (8 x 9")* Where do they pump from *Feed - Sea, Hotwell Tanks, Ballast - Sea, Ballast tanks, Main & After Holds, Engine room, Tunnel well and After peak.*
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 *6"* Are they connected to condenser, or to circulating pump *Circulating pump.*
How are the pumps worked *By levers from the crosshead of the After Engine.*
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 stowhold 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 vessel, before launching.*
Is the screw shaft tunnel watertight *✓* and fitted with a sluice door *Yes* worked from *Top platform in Eng. room.*

BOILERS, &c.—

No. of Boilers *Two* Description *by 10" Multi. Single Ended* Material *Steel* Letter (for record) *S*
Working Pressure *160 lbs.* Tested by hydraulic pressure to *320 lbs.* Date of test *7th December 1891. (4th 141)*
Description of superheating apparatus or steam chest *None* Heating Surface *2560 sq. feet.*
Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *✓*
No. of square feet of fire grate surface in each boiler *29 sq. ft.* Description of safety valves *Direct Spring* No. to each boiler *Two*
Area of each valve *4 9/16 sq. ins.* 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 *on woodwork 16"* Diameter of boilers *11' 10"*
Length of boilers *10' 3"* description of riveting of shell long. seams *SB. Sharp Tied* circum. seams *Lap Double* Thickness of shell plates *1 1/16"*
Diameter of rivet holes *1 1/16"* whether punched or drilled *Drilled* pitch of rivets *Long 7 1/8" 4 1/2" 4 1/2" 5 1/8"* Lap of plating *15 1/4 ins.*
Percentage of strength of longitudinal joint *85* working pressure of shell by rules *165 lbs.* size of manholes in shell *16" x 12"*
No. of compensating rings *28 x 2 1/4 x 1 1/8"* No. of Furnaces in each boiler *2* Description of Furnaces *Corrugated*
Side diameter *3' 5"* length *6' 6"* thickness of plates *9 1/16"* description of joint *Bridged* if rings are fitted *✓*
Greatest length between rings *✓* working pressure of furnace by the rules *170 lbs.* combustion chamber plating, thickness, sides *9 1/16"* back *9 1/16"* top *9 1/16"*
No. of stays to ditto, sides *1/4" x 1/4" back 1/2" x 1/2" top 1/4" x 1/4"* If stays are fitted with nuts or riveted heads *Auto* working pressure of plating by rules *172 lbs.* Diameter of stays at smallest part *1 1/2" Iron* working pressure of ditto by rules *176 lbs.* end plates in steam space, thickness *1 1/8"*
No. of stays to ditto *16 3/4" x 16 3/4"* how stays are secured *Double nut washers* working pressure by rules *165 1/4 lbs.* diameter of stays at smallest part *2 5/8"* working pressure by rules *171 lbs.* Front plates at bottom, thickness *1"* Back plates, thickness *1"*
Test pitch of stays *12 1/4"* working pressure by rules *170 lbs.* Diameter of tubes *3 1/4"* pitch of tubes *4 5/8" x 4 5/8"* thickness of tube plates, front *1"* back *7/8"* how stayed *Stay tubes* pitch of stays *14 1/4" x 9 1/4"* width of water spaces *1 3/8" & 5"*
Diameter of Superheater or Steam chest *✓* length *✓* thickness of plates *✓* description of longitudinal joint *✓* diam. of rivet holes *✓*
No. of rivets *✓* working pressure of shell by rules *✓* diameter of flue *✓* thickness of plates *✓* If stiffened with rings *✓*
Space between rings *✓* working pressure by rules *✓* end plates of superheater, or steam chest; thickness *✓* how stayed *✓*
Superheater or steam chest; how connected to boiler *✓*



DONKEY BOILER— Description *Vertical multitubular. (Blakes patent)*
Made at *Manchester* by whom made *James Blake* when made *14.10.90* where fixed *on level of deck*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *944* fire grate area *18 sq. ft.* description of safety
valves *Direct Spring* No. of safety valves *one* area of each *11.49 sq. in.* if fitted with easing gear *Yes* if steam from main boilers can
enter the donkey boiler *No* diameter of donkey boiler *6' 4"* length *14' 0"* description of riveting *Long Lap Double. Cu 3/4" Lap*
Thickness of shell plates *3/16"* diameter of rivet holes *1 1/16"* whether punched or drilled *Drilled* pitch of rivets *2 1/4"* lap of plating *4"*
per centage of strength of joint *70* thickness of crown plates *3/16"* stayed by *Hemispherical*
Diameter of furnace, top *2' 3"* bottom *4' 4"* length of furnace *3' 3"* thickness of plates *3/16"* description of joint *Lap - Single*
Thickness of ~~furnace~~ crown plates *5/8"* stayed by *Sussex Stays* *3/8"* thick working pressure of shell by rules *85 lbs*
Working pressure of furnace by rules *90 lbs* diameter of uptake *-* thickness of plates *-* thickness of water tubes *-*

SPARE GEAR. State the articles supplied:— *1 Propeller and shaft, 2 top Half eccentric straps
knives, 2 safety valve springs, 1 set of Air pump valves, 1 set Circulating
pump valves, 1 set Fuel & Bldg pump valves, 2 Main Bearing Bolts & Nuts, 2 Crank
Bolts & Nuts, 2 Cross head Bolts & Nuts, 1 set Coupling Bolts, 1 set piston springs. Bolts & Nuts
The foregoing is a correct description,
J. B. Blake & Co. Ltd. Manufacturers of Main Engines & Boilers.
J. B. Blake*

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

*An evaporator is fitted for supplying fresh water to Boiler.
The Engines and Boilers of this vessel have been constructed
under special survey; and the materials and workmanship
are of the best description. The main steam pipes have
been tested by hydraulic pressure to 320 lbs per sq. inch as required
by the Rules. When fitted on board the Engines and Boilers
were examined under steam and found to work satisfactorily.
The Machinery throughout is now in good and efficient
condition, and eligible in my opinion to have the
notation **✠ L.M.C. 2, 91** marked in the Society's Register
Book.*

*It is submitted that this
vessel is eligible to have
+ L.M.C. 2-91 recorded*

*W.A.
2.3.91*

The amount of Entry Fee .. £ 2 : - : - received by me,

Special .. £ 26 : 8 : -

Donkey Boiler Fee .. £ : : -

Certificate (if required) .. £ : : - 26.2.1891

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute **TUES 3 MARCH**

+ L.M.C. 2/91.

Wm. R. Austin
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

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A. E. TAYLOR & SON, STEAM PRINTERS, 14 OLD STREET, GORRELL ROAD, LONDON, E.C.