

REPORT ON MACHINERY

WED 16 APRIL 1890

Port of *New Hartlepool*

Received at London Office

13

No. 33

Survey held at *Stockton*

Date, first Survey *29th Oct 1889* Last Survey *10th April 1890*

Book.

(Number of Visits *44*)

241034

Tons *3445.51*

on the *Screw Steamer "Ovala"*

Master *F. Newell* Built at *Stockton* By whom built *Messrs. Wopner & Sons* When built *1890.*

Engines made at *Stockton* By whom made *Messrs. Blair & Co. Ltd.* when made *1890.*

Boilers made at *Stockton* By whom made *Messrs. Blair & Co. Ltd.* when made *1890.*

Registered Horse Power *425* Owners *James M. Wood* Port belonging to *Liverpool.*

Description of Engines *Inverted, Triple Expansion, 3 Cylinders & 3 Cranks.*

Diameter of Cylinders *28, 46, 75* Length of Stroke *54* No. of Rev. per minute *56* Point of Cut off, High Pressure *2 strokes* Low Pressure *2 strokes*

Diameter of Screw shaft *16 1/4* Diam. of Tunnel shaft *15 1/4* Diam. of Crank shaft journals *16* Diam. of Crank pin *16 1/2* size of Crank webs *21 3/4 x 10 3/4*

Diameter of screw *19.0* Pitch of screw *20.0* No. of blades *4* state whether moveable *yes* total surface *95 sq. ft.*

No. of Feed pumps *2* diameter of ditto *3 1/2* Stroke *36* Can one be overhauled while the other is at work *yes*

No. of Bilge pumps *2* diameter of ditto *5* Stroke *36* Can one be overhauled while the other is at work *yes*

Where do they pump from *Engine Room, Afterwell, Peak, Fore main Holds and Tanks.*

No. of Donkey Engines *2* Size of Pumps *(9x10) (5x8)* Where do they pump from *Feed - Sea, Hotwell and Tanks, Ballast - Sea, Hotwell, Condenser, Tanks, Fore main Holds, Tunnel, Afterwell & Eng. Room.*

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 *One* and sizes *1 dia* Are they connected to condenser, or to circulating pump *Circulating pump*

How are the pumps worked *By levers from the after piston rod crosshead.*

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 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 vessel, before launching.*

Is the screw shaft tunnel watertight *Yes.* and fitted with a sluice door *Yes* worked from *Top platform in Eng. Room.*

BOILERS, &c.—

Number of Boilers *Two* Description *Cyl. Mult. Double Ended* Whether Steel or Iron *Steel*

Working Pressure *170 lbs.* Tested by hydraulic pressure to *340 lbs.* Date of test *11th Feb. 1890*

Description of superheating apparatus or steam chest *None. Heating surface 7300 sq. feet.*

Can each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *No superheater*

No. of square feet of fire grate surface in each boiler *71 sq. feet.* Description of safety valves *Spring* No. to each boiler *2*

Area of each valve *11.04* 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 *18"* Diameter of boilers *14.2 3/8"*

Length of boilers *17.0"* description of riveting of shell long. seams *double butt strap* circum. seams *treble lap* Thickness of shell plates *1 5/16"*

Diameter of rivet holes *1 5/16"* whether punched or drilled *drilled* pitch of rivets *12 in 8 3/4", 2 in 4 3/8"* Lap of plating *9 9/16"*

Per centage of strength of longitudinal joint *85* working pressure of shell by rules *170 lbs.* size of manholes in shell *16 x 12"*

Size of compensating rings *28 x 24 x 1 5/16"* No. of Furnaces in each boiler *6*

Outside diameter *3.2* length, top *6.3* bottom *6.3* thickness of plates *35/64* description of joint *welded* if rings are fitted *no*

Greatest length between rings *—* working pressure of furnace by the rules *177 lbs.* combustion chamber plating, thickness, sides *9/16"* back *—* top *9/16"*

Pitch of stays to ditto, sides *1/2 x 7/8* back *—* top *1/2 x 7/8* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *172 lbs.*

Diameter of stays at smallest part *1 5/16"* working pressure of ditto by rules *192 lbs.* end plates in steam space, thickness *1 1/8"*

Pitch of stays to ditto *16 x 15* how stays are secured *double nuts & washers* working pressure by rules *177 lbs.* diameter of stays at smallest part *3 1/2"*

Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *3 1/2"* pitch of tubes *4 8/8 x 4 4/4* thickness of tube *—*

plates, front *1 5/16"* back *4/8"* how stayed *stay tubes* pitch of stays *9 3/4 x 9 1/2* width of water spaces *1 1/4"*

Diameter of Superheater or Steam chest *—* length *—* thickness of plates *—* description of longitudinal joint *—* diam. of rivet holes *—*

Pitch of rivets *—* working pressure of shell by rules *—* 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 *—* how stayed *—*

Superheater or steam chest; how connected to boiler *—*

DONKEY BOILER— Description *Meredith Patent.*
Made at *Stockton* by whom made *Riley Bros.* when made *18.2.90* where fixed *In Stockton*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2044* fire grate area *19.6 sq. ft.* description of safety valves *Spring* No. of safety valves *One* area of each *12.56 sq. in.* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No.* diameter of donkey boiler *6' 3"* length *13' 3"* description of riveting *Double riveted lap*
Thickness of shell plates *13/32"* diameter of rivet holes *13/16"* whether punched or drilled *punched* pitch of rivets *2 7/8"* lap of plating *4 1/2"*
percentage of strength of joint *7/1* thickness of crown plates *13/32"* stayed by *Hemispherical*
Diameter of furnace, top *4' 6"* bottom *5' 4"* length of furnace *2' 6"* thickness of plates *9/16"* description of joint *Single riveted*
Thickness of furnace crown plates *9/16"* stayed by *Hemispherical* working pressure of shell by rules *89*
Working pressure of furnace by rules *83 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *2 Propeller Blades, 2 safety valve spring, 2 Sack 10, and Bottom End Bolt nuts, 2 Main Bearing Bolts, 8 Coupling Bolts, 1 Set Lp. Piston Spring, 1 Set Belp. Pump valves, 2 Feed pump valves, 14 Air pump valves, 12 Boiler Tubes, 12 Condenser tubes, 2 Main Check valves.*

The foregoing is a correct description,

Pro Blair & Co. Ltd
L. H. Blair

Manufacturer. of Engines & main boilers

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

The Materials and Workmanship are of the best description.

The Engines and Boilers have been constructed under Special Survey, when fitted on board the form were tried and worked satisfactorily, while the Main Boilers with full steam up were on examination found tight, and their safety valves are now adjusted to retain a working pressure of 170 lbs per sq. inch.

The whole Machinery of this vessel is now in good and efficient condition and eligible in our opinion to have the notation \times L. M. C. 4, 90. marked in the Society's Register Book.

It is submitted that this Vessel is eligible to have + L.M.C. 4-90 recorded

M.A. 16-4-90

The amount of Entry Fee .. £ *3* : : : received by me,

Special .. *6/11* £ *44* : *15* : "

Donkey Boiler Fee .. £ : : :

Certificate (if required) .. £ : : : *14* : *4* : *18* : *90*

To be sent as per margin.

(Travelling Expenses, if any, £ : : :)

Committee's Minute

FRIDAY 18 APRIL 1890

+ Lmbo 4/90

R. H. G.
A. G. Stoddart *Wm. Austin*
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register
Foundation