

REPORT ON MACHINERY

32

MON 14 APRIL 1890

mbro No. 321

McNo. 7924

Port of

Received at London Office 13

No. in Survey held at *Middlesbrough*

Date, first Survey *7th August 1889* Last Survey *10th April 1890*

Reg. Book.

(Number of Visits *41*)

1215.46

on the

Screw Steamer Shaftesbury

Tons *1885.19*

Master *Mr Mahood* Built at *Stockton*

By whom built *Mr. Craig Taylor & Co.* When built *1890*

Engines made at *Middlesbrough*

By whom made *Mr. Westgarth & English* when made *1890*

Boilers made at *Middlesbrough*

By whom made *Mr. Westgarth & English* when made *1890*

Registered Horse Power *160*

Owners *William R. Rea*

Port belonging to *Belfast*

ENGINES, &c.—

(Triple expansion)

Description of Engines *Triple exp. First acting inverted 3 cylinders 3 cranks.*

Diameter of Cylinders *26.33.54"* Length of Stroke *36"* No. of Rev. per minute *75* Point of Cut off, High Pressure *.6* Low Pressure *.6*

Diameter of Screw shaft *10"* Diam. of Tunnel shaft *9 1/2"* Diam. of Crank shaft journals *10"* Diam. of Crank pin *10"* size of Crank webs *7 1/4" x 15"*

Diameter of screw *14"* Pitch of screw *1 1/2" - 14-6* No. of blades *4* state whether moveable *solid* total surface *56 sq. ft.*

No. of Feed pumps *2* diameter of ditto *2 1/4"* Stroke *1-7* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *2* diameter of ditto *4"* Stroke *1-7* Can one be overhauled while the other is at work *Yes*

Where do they pump from *Fore Hold, after Hold Engine Room, Tunnel well and after peak.*

No. of Donkey Engines *Two* Size of Pumps *2 1/2" x 5" & 2 1/2" x 12"* Where do they pump from *Feed - Sea, Fore & after Hold, Boilers, &c.*

Bilges, Tunnel well & after peak. Ballast - All Tanks and &c. Bilges.

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 *5"* Are they connected to condenser, or to circulating pump *Circulating pump.*

How are the pumps worked *By levers off the crosshead of Centre 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 stokehold plates *yes* Are the discharge pipes above or below the deep water line *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 *9th April 1890.*

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

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical. Single ended. Whether Steel or Iron *Steel**

Working Pressure *160 lbs.* Tested by hydraulic pressure to *320 lbs* Date of test *Nov 13. 1889 (N^o 14993)*

Description of superheating apparatus or steam chest *none* Heating Surface *2602 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 *56 Sq. ft.* Description of safety valves *Spring* No. to each boiler *Two*

Area of each valve *4.93 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 or woodwork *12"* Diameter of boilers *12' - 0"*

Length of boilers *10' - 0 1/2"* description of riveting of shell long. seams *225. Full riv. circum. seams Lap. immov.* Thickness of shell plates *1 1/16"*

Diameter of rivet holes *1 1/16"* whether punched or drilled *Drilled* pitch of rivets *2 1/4" Circ* Lap of plating *225. 1-4 1/4" Circ 6"*

Per centage of strength of longitudinal joint *85.3%* working pressure of shell by rules *163.6 lbs.* size of manholes in shell *12" x 16"*

Size of compensating rings *2' - 0" x 2' - 4"* No. of Furnaces in each boiler *Two*

Outside diameter *3' - 6"* length, top *6' - 6"* bottom *8' - 9"* thickness of plates *3 1/4"* description of joint *Welded - Rittell* If rings are fitted *no*

Greatest length between rings *✓* working pressure of furnace by the rules *160 lbs.* combustion chamber plating, thickness, sides *1 1/32"* back *9/16"* top *5/8"*

Pitch of stays to ditto, sides *8 x 8"* back *7 1/2 x 7 1/2"* top *8 x 8"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *161.84*

Diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *163.6* end plates in steam space, thickness *1"*

Pitch of stays to ditto *1 - 2 1/2" x 1 - 2 3/4"* how stays are secured *Smith nuts* working pressure by rules *164 lbs.* diameter of stays at smallest part *2 1/4"* working pressure by rules *167 lbs.* Front plates at bottom, thickness *3/4"* Back plates, thickness *1 1/16"*

Greatest pitch of stays *12"* working pressure by rules *184 lbs.* Diameter of tubes *3 1/2"* pitch of tubes *14 3/4"* thickness of tube plates, front *3/4"* back *3/4"* how stayed *Stay tubes* pitch of stays *9 1/2" x 9 1/2"* width of water spaces *14 1/2"*

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 *✓*

Shell
DONKEY BOILER— Description *Vertical with four cross water tubes*
Made at *Stockton* by whom made *Thurston & Co. Ltd.* when made *31.1.90* where in *in level of main st*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2062* fire grate area *24 sq. ft.* description of safety
valves *Spring* No. of safety valves *one* area of each *11.04* if fitted with easing gear *Yes* if steam from main boilers can
enter the donkey boiler *No* diameter of donkey boiler *6' 6"* length *13' 0"* description of riveting *Long Lap Double*
Thickness of shell plates *3/32"* diameter of rivet holes *5/16"* whether punched or drilled *punched* pitch of rivets *2 3/4"* lap of plating *4 1/2"*
per centage of strength of joint *40* thickness of crown plates *3/32"* stayed by *Six stays 1 1/2" dia.*
Diameter of furnace, top *5' 4"* bottom *5' 10 1/2"* length of furnace *6' 4"* thickness of plates *3/32"* description of joint *Lap Single*
Thickness of furnace crown plates *9/16"* stayed by *same as shell crown plate* working pressure of shell by rules *49 lbs*
Working pressure of furnace by rules *49 lbs* diameter of uptake *15"* thickness of plates *1/4"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *1 Propellor, 1 set Coupling Bolts & nuts, 2 main*
Bearing Bolts & nuts, 2 each Top & Bottom End Bolts & nuts, 3 set each
air circulating, feed & bilge pump valves, 1 set Piston springs
Bolts & nuts asst. Iron asst.

The foregoing is a correct description,

Wm. M. Lylish & Co. Manufacturer, *main engines & 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 of this vessel have been
constructed under Special Survey, when fitted on board the
Engines were tried and worked satisfactorily, while the
Boilers with steam up were on examination found
tight and their safety valves are adjusted to retain
a working pressure of 160 lbs per sq. inch.

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

Boiler

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

14-4-90

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

Special *Wm. M. Lylish & Co.* £ 26 : 2 : -

Donkey Boiler Fee £ 2 : 2 : -

Certificate (if required) £ : : - *12.4.1890*

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

TUES 15 APRIL 1890

+ Lmcb 4/90

Wm. M. Lylish & Co.

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



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Foundation