

REPORT ON MACHINERY.

No. in Reg. Book. *5152*

(Received in London Office) *13th JULY 87.*

No. in Survey held at *Hull and Stockton*

Date, first Survey *Hull 29 Dec. 87* Last Survey *Hull 11 June 1882*
(10 visits) *26 June*

on the *iron steam ship Mosser*

Tons *1323*

Master *Longley* Built at *Stockton* When built *1882*

Engines made at *Hull* By whom made *C. D. Holmes & Co.* when made *1882*

Boilers made at *Hull* By whom made *d.* when made *1882*

Registered Horse Power *350* Owners *Shaw, Wasby & Co.* Port belonging to *London*

ENGINES, &c.—

Description of Engines *Vertical, inverted, Compound surface condensing*
 Diameter of Cylinders *21 40 + 72* Length of Stroke *48* No. of Rev. per minute *60* Point of Cut off, High Pressure *.62* Low Pressure *.50*
 Diameter of Screw shaft *13* Diameter of Tunnel shaft *12 1/4* Diameter of Crank shaft journals *13* Diameter of Crank pin *13* size of Crank web *15 x 9 1/2*
 Diameter of screw *17.0* Pitch of screw *19.0* No. of blades *4* state whether moveable *yes* total surface *65 sq. ft.*
 No. of Feed pumps *2* diameter of ditto *4 1/2* Stroke *28* Can one be overhauled while the other is at work *yes*
 No. of Bilge pumps *2* diameter of ditto *6* Stroke *28* Can one be overhauled while the other is at work *yes*
 Where do they pump from *Fore hold, main hold, cross bunker, engine room, after hold & after well*
 No. of Donkey Engines *One of 9' Cylinder* Size of Pumps *5 1/2 dia. x 8' stroke* Where do they pump from *Sea, Hot well, Tank and Compartments & deliver to Condenser deck, overboard & main Boiler*
 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 *Some fitted*
 No. of bilge injections *one* and sizes *6 inches* Are they connected to condenser, or to circulating pump *to circulating pump*
 How are the pumps worked *by rocking lever from piston and crosshead*
 Are all connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both valves & 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 *Main ab' level Others 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 *Main & donkey steam pipes Suction pipes to fore holds* How are they protected *Iron casing round steam pipes Wood casing round suction pipes*
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes in engine room*
 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 *Said to be* and fitted with a sluice door *Yes* worked from *Top platform in engine room*

BOILERS, &c.—

Number of Boilers *Two* Description *Circular, multitubular ordinary marine type*
 Working Pressure *75 lbs* Tested by hydraulic pressure to *150 lb* Date of test *4th May 1882*
 Description of superheating apparatus or steam chest *Circular horizontal with flanges*
 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 *92.25* Description of safety valves *Spring loaded*
 No. to each boiler *Two* area of each valve *25.96* 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 *6 inches*
 Diameter of boilers *14' 0* Length of boilers *16' 0* description of riveting of shell long. seams *dbl riv butts with* circum. seams *dbl riv laps*
 Thickness of shell plates *1/16* diameter of rivet holes *long 1/16* whether punched or drilled *drilled* pitch of rivets *3.9 in*
 Lap of plating *11 straps 5/16 laps* per centage of strength of longitudinal joint *64* working pressure of shell by rules *80 lb*
 Size of manholes in shell *18 x 14* size of compensating rings *4 1/2 x 4 1/2 x 3/16* Angle iron
 No. of Furnaces in each boiler *3* outside diameter *42* length, top *5' 11* bottom *15' 10*
 Thickness of plates *3/16 inch* description of joint *welded* if rings are fitted *are at greatest length between rings*
 Working pressure of furnace by the rules *90 lb (conforming furnace 80 lb)*
 Combustion chamber plating, thickness, sides *3/16 inch* back *(no back)* top *7/8*
 Pitch of stays to ditto sides *7 1/2 x 7 1/4 x 7 + 9 x 8 1/4* back *✓* top *12 x 11*
 If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules sides *95 lb* top *83 lb*
 Diameter of stays at smallest part sides *1 3/16 x 1 1/16* top *1 1/16* working pressure of ditto by rules top *86 lb* sides *109 to 122 lb*
 End plates in steam space, thickness *1/16 inch* pitch of stays to ditto *18 x 20* how stays are secured *dbl nuts & washers*
 Working pressure by rules *89 lb* diameter of stays at smallest part *2 1/16 to 2 5/8* working pressure by rules *90 lb*
 Front plates at bottom, thickness *1/16* Back plates, thickness *no back* greatest pitch of stays *✓* working pressure by rules *✓*

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Diameter of tubes $3\frac{1}{2}$ inches pitch of tubes $5\frac{1}{4}$ thickness of tube plates, front $3\frac{1}{4}$ with dog stays back $1\frac{1}{16}$
 How stayed Stay tubes ~~as per drawing~~ width of water spaces $1\frac{1}{2}$ & $1\frac{3}{8}$
 Diameter of Superheater or Steam chest $3\frac{1}{2}$ length $7\text{--}0$
 Thickness of plates (shell) $\frac{1}{2}$ in description of longitudinal joint *double lap* diameter of rivet holes $1\frac{1}{16}$ pitch of rivets $3\frac{1}{4}$
 Working pressure of shell by rules $120\frac{1}{2}$ Diameter of flue \curvearrowright thickness of plates \curvearrowright
 If stiffened with rings \curvearrowright distance between rings \curvearrowright Working pressure by rules \curvearrowright
 End plates of superheater, or steam chest; thickness $\frac{7}{8}$ How stayed $4\text{--}5$ stays with $2\frac{1}{2}$ dble nuts & 7 washers
 Superheater or steam chest; how connected to boiler 2 necks $7\frac{1}{16}$ thick

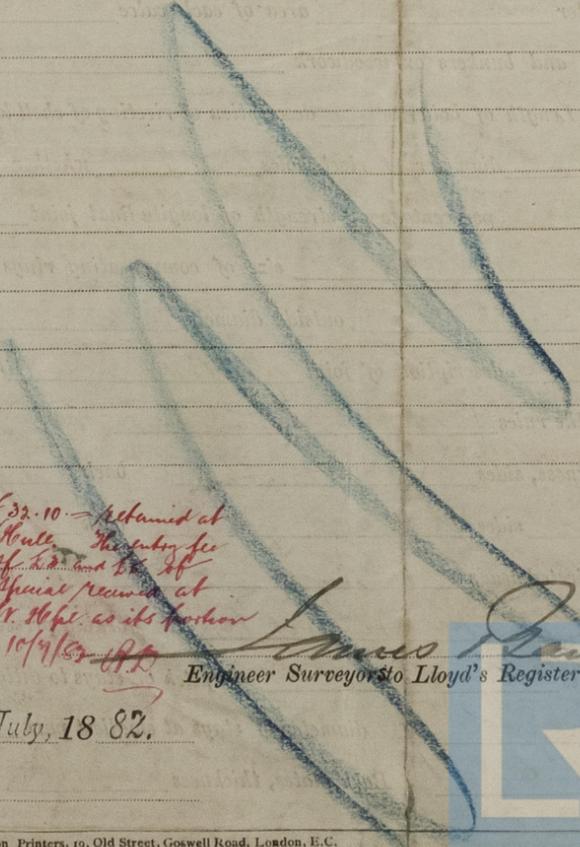
DONKEY BOILER— Description *Horizontal Multitubular Flat Sided*
 Made at *Stockton* By whom made *H. Potter* when made *1882* Tested *5.5.82*
 Where fixed *On deck* working pressure 75 lbs Tested by hydraulic pressure to 150 lbs No. of Certificate 416
 Fire grate area $11\frac{1}{2}$ sq ft Description of safety valves *Direct lever* No. of safety valves *One of each description* of each $1\frac{1}{2}$ sq in
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler $5\text{--}6$ length $4\text{--}6$ description of riveting *Double riveted, lap*
 thickness of shell plates $9\frac{1}{16}$ diameter of rivet holes $1\frac{3}{16}$ whether punched or drilled *Punched*
 pitch of rivets $3\frac{3}{4}$ lap of plating $4\frac{1}{4}$ per centage of strength of joint $70\text{--}4$
 thickness of crown plates \curvearrowright stayed by \curvearrowright
 Diameter of furnace, top $3\text{--}3$ bottom \curvearrowright length of furnace $5\text{--}0$
 thickness of plates $\frac{1}{2}$ description of joint *Welded*
 thickness of furnace crown plates \curvearrowright stayed by \curvearrowright
 Working pressure of shell by rules 99 lbs working pressure of furnace by rules $125\text{--}6$ lbs
 diameter of uptake \curvearrowright thickness of plates \curvearrowright thickness of water tubes \curvearrowright

The foregoing is a correct description,
Charles Holmer Manufacturer.

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

The machinery of this vessel fitted on board in accordance with the Society's rules and Boilers made to approved design, of good workmanship, are now, in our opinion, in safe working condition, and the case is respectfully submitted for the favourable consideration of the Committee with a view to the modification of the Rules M.O. 6:82 in the Register Book.

As submitted that this vessel is eligible to have the modification of the Rules recorded. M 11/7/82



The amount of Entry Fee .. £ 3 : : received by me, *£32.10* retained at Hull, per letter 7.7.82.
 Special .. £ 37 : 10 :
 Certificate (if required) .. £ : : 18
 To be sent as per margin.
 (Travelling Expenses, if any, £)

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

Committee's Minute Friday, 14th July, 18 82.



Lloyd's Register Foundation