

REPORT ON MACHINERY.

No. 481

No. in Survey held at
Reg. Book.

Sunderland

Date, first Survey *Nov 6. 1879* Last Survey *April 26 1880*

on the

S. S. Florence

Tons *2056.97*
1345.75

Master *J. Farguhar* Built at *Sunderland* When built *1880*
Engines made at *Sunderland* By whom made *R. E. Manly Esq. & Co.* when made *April 1880*
Boilers made at *do* By whom made *do* when made *do*
Registered Horse Power *200* Owners *Messrs Gordon & Stamps* Port belonging to *London*

ENGINES, &c.—

Description of Engines *Inverted Compound Surface Condensing*
Diameter of Cylinders *34" & 68"* Length of Stroke *42"* No. of Rev. per minute *56* Point of Cut off, High Pressure *1/2"* Low Pressure *1/2"*
Diameter of Screw shaft *12"* Diameter of Tunnel shaft *11 1/4"* Diameter of Crank shaft journals *12"* Diameter of Crank pin *12"* size of Crank webs *8 1/2" x 13 1/2"*
Diameter of screw *15" & 6* Pitch of screw *22" to 24 1/2"* No. of blades *4* state whether moveable *No* total surface *65 sq. ft.*
No. of Feed pumps *2* diameter of ditto *4"* Stroke *42"* Can one be overhauled while the other is at work *No*
No. of Bilge pumps *2* diameter of ditto *4"* Stroke *42"* Can one be overhauled while the other is at work *No*
Where do they pump from *Port & P. from Sea. Tanks, & all Compartments of Vessel. Star & P. Engine Room Biegs*
No. of Donkey Engines *Two* Size of Pumps *10" x 14" & 5 x 6* Where do they pump from *Sea. Tanks. Condensers*
Hotwell. After Well. and Biegs of all Compartments of the Vessel
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 *4" dia* Are they connected to condenser, or to circulating pump *Circulating*
How are the pumps worked *Direct from Crank heads of both Engines*
Are all connections with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *Stop 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 *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 *None*
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *Yes except on hold when loaded*
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 *Never put in dry dock*
Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Main Deck*

BOILERS, &c.—

Number of Boilers *Two* Description *Cylindrical & Multitubular*
Working Pressure *80 lb per sq. in* Tested by hydraulic pressure to *160 lb per sq. in* Date of test *21. 2. 80*
Description of superheating apparatus or steam chest *Vertical dome with No.*
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 *50 sq. ft.* Description of safety valves *Spring Valves. Adams Patent*
No. to each boiler *2* area of each valve *12.56 sq. in* Are they fitted with easing gear *Yes*
No. of safety valves to superheater *None* area of each valve *None* are they fitted with easing gear *None*
Smallest distance between boilers and bunkers or woodwork *18" Worked covered with Non conducting Compositions*
Diameter of boilers *14' 6"* Length of boilers *10' 4"* description of riveting of shell long. seams *Lap. Riv. riveted circum. seams Lap. Riv. riveted*
Thickness of shell plates *1 1/16"* diameter of rivet holes *1 1/4"* whether punched or drilled *drilled* pitch of rivets *4 5/8"*
Lap of plating *7 1/4"* per centage of strength of longitudinal joint *Plate 43. Riv 48.* working pressure of shell by rules *80 lb*
Size of manholes in shell *15" x 11"* size of compensating rings *Flange of some rivet 3/4" x 5" d. r.*
No. of Furnaces in each boiler *3* outside diameter *3' 4"* length, top *4' 0"* bottom *9' 9"*
Thickness of plates *1 1/32"* description of joint *Double Butt* if rings are fitted *Yes* *6' 3" x 7 1/2"* greatest length between rings *4' 0"*
Working pressure of furnace by the rules *90 lb per sq. in*
Combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
Pitch of stays to ditto *8 1/8" x 8 1/8"* back *8 1/4" x 8 1/4"* top *Circular 1' 9" Rad.*
If stays are fitted with nuts or riveted heads *Riveted Heads* working pressure of plating by rules *94 lb*
Diameter of stays at smallest part *1 3/8"* working pressure of ditto by rules *130 lb*
End plates in steam space, thickness *1/8"* pitch of stays to ditto *15' x 14'* how stays are secured *Double Nuts*
Working pressure by rules *94 lb* diameter of stays at smallest part *2 1/8"* working pressure by rules *85 lb*
Front plates at bottom, thickness *5/8"* Back plates, thickness *5/8"* greatest pitch of stays *12' x 8 1/4"* working pressure by rules *83 lb*

IRON 492-0134

26400


Diameter of tubes $3\frac{1}{2}$ in. pitch of tubes $14\frac{3}{4} \times 5\frac{1}{4}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{3}{4}$
How stayed stay tubes pitch of stays $14\frac{1}{4} \times 11\frac{1}{2}$ width of water spaces $1\frac{3}{4}$ $1\frac{1}{4}$ $5\frac{1}{2}$
Diameter of Superheater or Steam chest $14\frac{1}{2}$ length $4\frac{1}{2}$
Thickness of plates $\frac{7}{16}$ description of longitudinal joint Lap d.r. diameter of rivet holes $\frac{7}{8}$ pitch of rivets $2\frac{1}{2}$
Working pressure of shell by rules 92 lb. 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 $5\frac{1}{8}$ How stayed Spherical 14 ft. rad.
Superheater or steam chest; how connected to boiler by nuts $\frac{3}{4}$ Flange d.r.

DONKEY BOILER— Description Circular Vertical H. Cross Tubes
Made at Middlesbrough By whom made J. Robinson when made Tested 25. 3. 80
Where fixed in stock working pressure 80 lb. Tested by hydraulic pressure to 160 No. of Certificate 3
Fire grate area 82 sq. ft. Description of safety valves direct loaded (flue) No. of safety valves 2 one of each area of each 9.62
If fitted with easing gear the direct loaded one If steam from main boilers can enter the donkey boiler No
Diameter of donkey boiler 4' 6" Main length 14' 0" description of riveting double riveted. Shell
thickness of shell plates $\frac{11}{16}$ diameter of rivet holes $1\frac{1}{32}$ whether punched or drilled Punched
pitch of rivets $3\frac{1}{4}$ lap of plating $14\frac{3}{4}$ per centage of strength of joint $6\frac{2}{3}$
thickness of crown plates $\frac{11}{16}$ stayed by Ten round stays $1\frac{1}{16}$ effective
Diameter of furnace, top 5' 11" bottom 6' 5" length of furnace 4' 1" 1/2 supported by 2
thickness of plates $\frac{9}{16}$ description of joint single riveted Lap. (stay $1\frac{1}{16}$ dia. 14×15)
thickness of furnace crown plates $\frac{9}{16}$ stayed by 10 round stays $1\frac{1}{16}$ dia effective
Working pressure of shell by rules 84.8 lb. working pressure of furnace by rules 82 lb.
diameter of uptake 20" thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,
J. N. E. M. Eng. & Co. (Ld) Except of donkey boiler
J. Robinson

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

Material and workmanship of good description and well finished. Machinery tried at sea and proved satisfactory.

In my opinion the Machinery of this vessel is in good order and safe working Condition and eligible for the distinguished mark thus.  Lloyd's M.C. in the Register Book.

It is submitted that this vessel is eligible to have the notepad in the Lloyd's M.C. Register Book
J. N. E. M. 3/5/80

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

Special £ 30 : : :

Certificate (if required) £ : : : 1880

To be sent as per margin.

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

Committee's Minute

Tuesday, May, 11th 1880.

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