

REPORT ON MACHINERY.

16512

No. 835

No. in Survey held at Sunderland Reg. Book. Type

Date, first Survey July 8th 1882 Last Survey Jan 16th 1883 (Received at London Office 29th JAN. 1883)

on the Screw Steamer "Florida"

Master Dwyer Built at Law Walker on Type When built 1882 Tons 3138
2044

Engines made at Sunderland By whom made N.E. Marine & Coy when made 1882

Boilers made at D^o By whom made D^o when made 1882

Registered Horse Power 350 Owners Nelson, Donkin & Coy Port belonging to London

ENGINES, &c.—

Description of Engines Inverted, Compound, Surface Condensing (Allan's patent)

Diameter of Cylinder's 40" x 7 1/4" Length of Stroke 54" No. of Rev. per minute 56 Point of Cut off, High Pressure 2 1/2 strokes Low Pressure 2 1/2 strokes

Diameter of Screw shaft 15 1/4" Diameter of Tunnel shaft 14 3/4" Diameter of Crank shaft journals 15 1/4" Diameter of Crank pin 15 1/4" size of Crank webs 28 x 11 1/2

Diameter of screw 17.9" Pitch of screw 22.0" No. of blades 4 state whether moveable yes total surface 75 sq. feet

No. of Feed pumps 2 diameter of ditto 4" Stroke 54" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 4" Stroke 54" Can one be overhauled while the other is at work yes

Where do they pump from The bilges of all the compartments, engine room, and after wells & sea.

No. of Donkey Engines 2 Size of Pumps 8 dia x 9 stroke Where do they pump from the large one, from the sea, tanks, and bilges of all the holds, engine room, & aft wells & Condenser, small one from same places & a separate sea.

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 to circulating pump

How are the pumps worked direct from the piston rod crossheads

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks 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 Bilge suction to fore holds How are they protected wooden casings

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

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from top platform of engine room.

BOILERS, &c.—

Number of Boilers Two Description double ended, Cylindrical & Multitubular

Working Pressure 90 lbs Tested by hydraulic pressure to 180 lbs Date of test 13. 10. 82

Description of superheating apparatus or steam chest upright dome

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

Area of square feet of fire grate surface in each boiler 95 Description of safety valves adam's patent spring valves

No. of safety valves to each boiler 2 area of each valve 23.76 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 11"

Diameter of boilers 13.7" Length of boilers 19.0" description of riveting of shell long. seams double riv^d lap circum. seams double riv^d lap

Thickness of shell plates 1 1/2" diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 4 1/4"

No. of plating 8" per centage of strength of longitudinal joint .625 working pressure of shell by rules 91 lbs

No. of manholes in shell 16 x 12" size of compensating rings 6 x 1 1/4"

No. of Furnaces in each boiler 6 outside diameter 3.5" length, top 6.2" bottom 5.6"

Thickness of plates 7/16" description of joint double butt single riv^d if rings are fitted 2 on bottom greatest length between rings 5.6"

Working pressure of furnace by the rules 109 lbs

Combustion chamber plating, thickness, sides 17/32" back 1/2" top 1/2"

No. of stays to ditto 8 3/4 x 7 1/2" back 7 3/4 x 7 3/4" top Circular 22 rad^s

Are stays fitted with nuts or riveted heads riv^d heads working pressure of plating by rules 94 lbs

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 135 lbs

Plating in steam space, thickness 7/8" pitch of stays to ditto 15 x 15" how stays are secured double nuts

Working pressure by rules 121 lbs diameter of stays at smallest part 2 3/8" working pressure by rules 117 lbs

Bottom plates at bottom, thickness 5/8" Back plates, thickness — greatest pitch of stays — working pressure by rules —

NWC784-0011



Diameter of tubes $3\frac{1}{4}$ pitch of tubes $5 \times 4\frac{1}{2}$ thickness of tube plates, front $\frac{3}{4}$ back $\frac{3}{4}$
 How stayed *stay tubes* pitch of stays 15×9 width of water spaces $1\frac{3}{4} \times 1\frac{1}{4}$
 Diameter of ~~Superheater or~~ Steam chest $4 \cdot 0$ length $7 \cdot 6$
 Thickness of plates $\frac{1}{2}$ description of longitudinal joint *double end lap* diameter of rivet holes $\frac{7}{8}$ pitch of rivets $2\frac{3}{4}$
 Working pressure of shell by rules 120 lbs Diameter of flue $\frac{7}{8}$ thickness of plates $\frac{1}{2}$
 If stiffened with rings $\frac{7}{8}$ distance between rings $\frac{7}{8}$ Working pressure by rules $\frac{7}{8}$
 End plates of ~~superheater, or~~ steam chest; thickness $\frac{7}{8}$ How stayed *dished to 4ft radius + 3 stays 1 7/8 square*
~~Superheater or~~ steam chest; how connected to boiler *by a neck piece 18" dia. x 3/4" thick.*
DONKEY BOILER— Description *Cylindrical vertical crumtubed*
 Made at *Birkenhead* By whom made *J. Layla & Co* when made *1882*
 Where fixed *in stokehole* working pressure 50 Tested by hydraulic pressure to 140 No. of Certificate 271
 Fire grate area 28 ft. Description of safety valves *Spring valves* No. of safety valves 2 area of each 7 sq. ins.
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $6 \cdot 6$ length $14 \cdot 0$ description of riveting *vertical seams double end lap*
 thickness of shell plates $\frac{7}{16}$ steel diameter of rivet holes $\frac{7}{8}$ whether punched or drilled *drilled*
 pitch of rivets $2\frac{7}{8}$ lap of plating $4\frac{7}{8}$ per centage of strength of joint 68%
 thickness of crown plates $\frac{5}{8}$ stayed by *10 stay rods 2 1/2" diam and uptake*
 Diameter of furnace, top $5 \cdot 6$ bottom 6 ft. length of furnace $7 \cdot 2$
 thickness of plates $\frac{5}{8}$ description of joint *single riveted lap*
 thickness of furnace crown plates $\frac{5}{8}$ stayed by *10 stay rods 2 1/2" diam*
 Working pressure of shell by rules 151 lbs working pressure of furnace by rules 73 lbs
 diameter of uptake 15 thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,
North Eastern Marine Engineering Co. Ltd. Manufacturer. Except of the Donkey Boiler
J. H. Kingston

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

The Machinery of this vessel has been constructed under special survey, the Materials & workmanship are good and efficient.
 The Engines and Boilers have been tried under steam, and in my opinion are in good order and safe working condition, and eligible for the distinguishing mark **LLOYD'S M.C.B.** in the Register Books of this society.

It is submitted that this vessel is eligible to have the notification of L.M.C. recorded
 J.M. 29/1/83

The amount of Entry Fee £ 3 : 0 : received by me,
 Special £ 37 : 10 :
 Certificate (if required) £ - : - :
 To be sent as per margin.
 (Travelling Expenses, if any, £ 1 : 15 : 4)

Committee's Minute Tuesday 30th January 1883

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

