

REPORT ON MACHINERY.

THUR. 17 SEPT 1885

No. *4114*

No. in Survey held at
Reg. Book.

Glasgow

Date, first Survey *28 April*

Last Survey *12 Sept 1885*

(Number of Visits *22*)

340.08

Tons *151.63*

on the

J. J. "Dunrobin"

Master *English*

Built at *Bowling*

By whom built *Messrs Scott & Co*

When built *1885*

Engines made at *Glasgow*

By whom made *Messrs Muir & Houston*

when made

Boilers made at

By whom made

when made

Registered Horse Power *70*

Owners *Messrs J. & W. Smith*

Port belonging to *Glasgow*

ENGINES, &c.—

Description of Engines

Compound Inverted direct acting

Diameter of Cylinders *21" & 40"* Length of Stroke *30"* No. of Rev. per minute *95* Point of Cut-off, High Pressure *18"* Low Pressure *16"*

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

Diameter of screw *10ft* Pitch of screw *13 1/2"* No. of blades *4* state whether moveable *No* total surface *30 sq. ft.*

No. of Feed pumps *one* diameter of ditto *2 3/4"* Stroke *14"* Can one be overhauled while the other is at work ☒

No. of Bilge pumps *one* diameter of ditto *2 3/4"* Stroke *14"* Can one be overhauled while the other is at work ☒

Where do they pump from *Ballast tanks and bilges of each compartment*

No. of Donkey Engines *one* Size of Pumps *3 3/4" dia, 6" cyl 6 1/2" stroke* Where do they pump from *Sea, boiler, ballast tanks, hotwell and 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 *one* and sizes *3" dia* Are they connected to condenser, or to circulating pump *circulating pump*

How are the pumps worked *By levers*

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 *previous to the vessel being launched*

Is the screw shaft tunnel watertight *No tunnel and fitted with a sluice door* worked from ☒

BOILERS, &c.—

Number of Boilers *one* Description *Cyl. Mult Single ended* Whether Steel or Iron *Steel*

Working Pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* Date of test *August 19th 1885*

Description of superheating apparatus or steam chest *Vertical dome*

Can each boiler be worked separately ☒ Can the superheater be shut off and the boiler worked separately ☒

No. of square feet of fire grate surface in each boiler *50 sq. ft.* Description of safety valves *direct spring* No. to each boiler *two*

Area of each valve *4.62 sq. ft.* Are they fitted with easing gear *Yes* No. of safety valves to superheater *1* of each valve *1*

Are they fitted with easing gear ☒ Smallest distance between boilers and bunkers or *9" from bunkers* diameter of boilers *12" & 6"*

Length of boilers *10ft* description of riveting of shell long. seams *web riv lap* circ. seams *dbl riv lap* Thickness of shell plates *25/32*

Diameter of rivet holes *1 3/16"* whether punched or drilled *drilled* pitch of rivets *4 1/2" long 4 1/2" dia* Lap of plating *8"*

Per centage of strength of longitudinal joint *75%* working pressure of shell by rules *93 lbs* size of manholes in shell *16" x 11"*

Size of compensating rings *4" x 4" x 1 1/2" flanged plate* No. of Furnaces in each boiler *three*

Outside diameter *3' 3"* length, top *6' 3"* bottom *8' 11"* thickness of plates *1/2"* description of joint *Butt welded ends* rings are fitted *Iron*

Greatest length between rings *6' 6"* working pressure of furnace by the rules *90 lbs* combustion chamber plating, thickness, sides *1/16"* back *1/16"* top *1/16"*

Pitch of stays to ditto, sides *4 1/2" x 4 1/2"* back *4 1/2" x 4 1/2"* top *6 1/2" x 4 1/2"* If stays are fitted with nuts or riveted heads *nuts* working pressure of plating by rules *96 lbs*

Diameter of stays at smallest part *1 1/4" & 1 1/2" screws* working pressure of ditto by rules *102 lbs* end plates in steam space, thickness *3/4"*

Pitch of stays to ditto *13 1/2" x 14 3/4"* how stays are secured *dbl nuts* working pressure by rules *100 lbs* diameter of stays at smallest part *2" body 2 1/4" ends* working pressure by rules *94 lbs*

Greatest pitch of stays *13 1/2" x 4 1/2"* working pressure by rules *118 lbs* Diameter of tubes *3 1/2"* pitch of tubes *4 1/2"* thickness of tube plates, front *3/4"* back *1/16"*

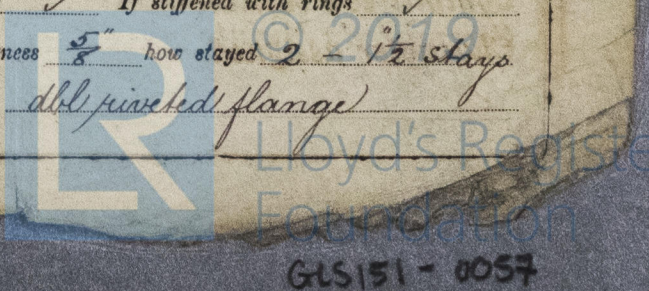
how stayed *stay tubes* pitch of stays *14" x 9 1/2"* width of water spaces *5"*

Diameter of Superheater or Steam chest *2' 6"* length *3' 0"* thickness of plates *3/8"* description of longitudinal joint *dbl riv lap* diam. of rivet holes *15/16"*

Pitch of rivets *3 1/2"* working pressure of shell by rules *105 lbs* 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 *5/8"* how stayed *2 - 1 1/2" stays*

and dished Superheater or steam chest; how connected to boiler *dbl riveted flange*



GLS151-0057

7114 GEs

DONKEY BOILER— Description *Vertical*
 Made at *Glasgow* by whom made *Messrs. Muir & Houston* when made *1885* where fixed *Stokehold*
 Working pressure *160 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *1446* fire grate area *14 sq. ft.* description of safety valves *direct spring* No. of safety valves *one* area of each *4.07 sq. ft.* if fitted with easing gear *yes* if steam from main boilers can enter the donkey boiler *no* diameter of donkey boiler *5' 0"* length *11' 0"* description of riveting *dbl. riv. lap*
 Thickness of shell plates *1/16"* diameter of rivet holes *15/16"* whether punched or drilled *punched* pitch of rivets *3 5/8"* lap of plating *4 1/2"*
 Percentage of strength of joint *7/8* thickness of crown plates *7/16"* stayed by *uptake 2.3-12" stays, dished*
 Diameter of furnace, top *4' 0"* bottom *4' 4"* length of furnace *5' 0"* thickness of plates *7/16"* description of joint *Single riv. lap*
 Thickness of furnace crown plates *7/16"* stayed by *as above* working pressure of shell by rules *80 lbs*
 Working pressure of furnace by rules *64 lbs* diameter of uptake *12"* thickness of plates *3/8"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *One propeller two con. rod top end bolts and nuts, two con. rod bottom end bolts and nuts two main bearing bolts one set of coupling bolts, one set of feed and bilge pump valves six boiler tubes six condenser tubes a quantity of assorted bolts and nuts and iron of various sizes*

The foregoing is a correct description,

Muir & Houston Manufacturer.

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

The engines and boilers of this vessel are of good workmanship they have been constructed under special survey and are now in good order and safe working condition and in my opinion eligible to be noted in the Register Book *C. McEg*

It is submitted that this vessel is eligible to have & LMC registered
M. 17/9/85

The amount of Entry Fee £ *1* : *0* : *0* received by me, *[Signature]*
 Special .. £ *10* : *10* : *0*
 Donkey Boiler Fee .. £ *0* : *0* : *0*
 Certificate (if required) .. £ *0* : *0* : *0* - *16/9* 1885
 To be sent as per margin.
 (Travelling Expenses, if any, £ - *8/-*)

Committee's Minute FRIDAY 13 SEPT 1885

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

