

# REPORT ON MACHINERY.

No. 8866

Port of *Glasgow*

Received at London Office *10 NOV. 1888*

No. in Survey held at *Glasgow*  
Reg. Book.

Date, first Survey *14<sup>th</sup> February* Last Survey *2<sup>d</sup> Nov. 1888*

(Number of Visits *34*) *1281.44*  
Tons *819.95*

on the *S. S. Dunmore*

Master *A. J. Campbell* Built at *Ayr* By whom built *McKnight* When built *1888*

Engines made at *Glasgow* By whom made *Hutson & Corbett* when made *1888*

Boilers made at *"* By whom made *"* when made *1888*

Registered Horse Power *117* Owners *Judson & W. J. J. J.* Port belonging to *Leith*

## ENGINES, &c.—

Description of Engines *Triple Expansion (3 Cranks)*  
Diameter of Cylinders *18" 30" 48"* Length of Stroke *36"* No. of Rev. per minute *80* Point of Cut off, High Pressure *Var* Low Pressure *"*  
Diameter of Screw shaft *9 1/4"* Diam. of Tunnel shaft *8 3/4"* Diam. of Crank shaft journals *9 1/4"* Diam. of Crank pin *9 1/4"* size of Crank webs *6 1/2" x 10 3/4"*  
Diameter of screw *12 1/2"* Pitch of screw *13.6"* No. of blades *4* state whether moveable *Yes* total surface *44 1/2"*  
No. of Feed pumps *2* diameter of ditto *2 1/2"* Stroke *20"* Can one be overhauled while the other is at work *Yes*  
No. of Bilge pumps *2* diameter of ditto *3"* Stroke *20"* Can one be overhauled while the other is at work *Yes*  
Where do they pump from *All compartments*  
No. of Donkey Engines *Two* Size of Pumps *8" x 10" x 6" bal.* Where do they pump from *Sea Bilges Hotwell and Ballast Tanks* *7" 8" x 4 1/2" feed*

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 1/2"* Are they connected to condenser, or to circulating pump *To circulating*  
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 *Near to load line*  
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 *On ship before being launched*  
Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Upper platform*

## BOILERS, &c.—

Number of Boilers *One* Description *Round Horizontal* Whether Steel or Iron *Steel*  
Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *22<sup>d</sup> September 1888*  
Description of superheating apparatus or steam chest *None*  
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 *62 1/2* Description of safety valves *Direct Spring* No. to each boiler *Two*  
Sh Area of each valve *4"* Are they fitted with easing gear *Yes* No. of safety valves to superheater *"* area of each valve *"*  
M Are they fitted with easing gear *"* Smallest distance between boilers and bunkers or woodwork *11"* Diameter of boilers *10 1/2"*  
Length of boilers *10 1/2"* description of riveting of shell long. seams *Double riveted* circum. seams *Double riveted* Thickness of shell plates *1 5/16"*  
Diameter of rivet holes *1 1/4"* whether punched or drilled *Drilled* pitch of rivets *8 1/8" x 4 1/16"* Lap of plating *16 3/8" x 1" Straps*  
Percentage of strength of longitudinal joint *84 1/2%* working pressure of shell by rules *161 lbs* size of manholes in shell *14" x 12 1/2"*  
Use of compensating rings *Double piece fitted* No. of Furnaces in each boiler *Four*  
Outside diameter *3.3 3/4"* length, top *6' 9"* bottom *9' 6"* thickness of plates *8 1/16"* description of joint *Ribbed* if rings are fitted *"*  
Greatest length between rings *"* working pressure of furnace by the rules *160 lbs* combustion chamber plating, thickness, sides *8 1/16"* back *8 1/16"* top *8 1/16"*  
Pitch of stays to ditto, sides *4" x 4"* back *4" x 4"* top *4" x 4"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *160 lbs* diameter of stays at smallest part *1 1/4"* working pressure of ditto by rules *160 lbs* and plates in steam space, thickness *10 1/16"*  
Stays to ditto *14" x 14"* how stays are secured *By double nuts* working pressure by rules *160 lbs* diameter of stays at part *2 3/4" = 4.91" area* working pressure by rules *184 lbs* Front plates at bottom, thickness *1 7/16"* Back plates, thickness *1 3/16"*  
of stays *11" x 4"* working pressure by rules *13 1/16"* Diameter of tubes *By tubes* pitch of tubes *4 1/2" x 4 1/2"* thickness of tube *14 1/16"* back *13 1/16"* how stayed *By tubes* pitch of stays *9 1/2" x 9 1/2"* width of water spaces *6"*  
Superheater or Steam chest *"* length *"* thickness of plates *"* description of longitudinal joint *"* diam. of rivet holes *"*  
working pressure of shell by rules *"* diameter of flue *"* thickness of plates *"* If stiffened with rings *"*  
rings *"* working pressure by rules *"* end plates of superheater, or steam chest; thickness *"* how stayed *"*  
Superheater or steam chest; how connected to boiler *"*



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DONKEY BOILER— Description *Vertical*

Made at *Gateshead* by whom made *Clarke Chapman & Parsons* when made *1888* where fixed *In Stockhold*.  
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2612* fire grate area *12.5* description of safe  
 valves *ob. Spring* No. of safety valves *One* area of each *7* if fitted with easing gear *yes* if steam from main boilers  
 enter the donkey boiler *no* diameter of donkey boiler *5' 6"* length *13 ft* description of riveting *Lap, double*  
 Thickness of shell plates *1 3/32 x 1 3/32* diameter of rivet holes *1 3/16"* whether punched or drilled *Punched* pitch of rivets *2 3/4"* lap of plating *3 3/8"*  
 per centage of strength of joint *40* thickness of crown plates *9/16"* stayed by *4 Gussets*  
 Diameter of furnace, top *4 ft* bottom *4' 10"* length of furnace *3' 6"* thickness of plates *9/16"* description of joint *Lap triple*  
 Thickness of furnace crown plates *9/16"* stayed by *Gussets* working pressure of shell by rules *91 lb.*  
 Working pressure of furnace by rules *80 lbs* diameter of uptake tubes thickness of plates *—* thickness of water tubes *Ordinary tubes*

SPARE GEAR. State the articles supplied:— *2 Connecting rod bolts for top & bottom end*  
*Main bearing bolts, 1 set coupling bolts, 1 set of valves for main*  
*and Donkey pumps, assortment of bolts nuts & springs*

The foregoing is a correct description,

*J. J. Watson* Manufacturer.

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

*The above mentioned engines and boilers are now completed on board in a satisfactory manner and the machinery, which is of good workmanship and material, is in our opinion eligible to be noted in the Society's Register Book: L. M. & C. 11.88.*

*It is submitted that this vessel is eligible to have + SMC 11.88 recorded.*

*Ald*  
*10.11.88*

*Boiler*

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

Special .. £ *14* : *11* : -

Donkey Boiler Fee .. £ - : - : -

Certificate (if required) .. £ - : - : - *7/11/1888*

To be sent as per margin  
 (Travelling Expenses, if any, £ - : - : -)

Committee's Minute

TUES 13 NOV 1888

*James Mollison*  
 Engineer Surveyor to Lloyd's Register of British & Foreign

*Clyde Distric*

Lloyd's Register  
 Foundation