

# REPORT ON MACHINERY.

No. 4530

MONDAY 5 JULY 1886

No. in Survey held at  
Reg. Book.

Glasgow

Date, first Survey 28<sup>th</sup> Dec<sup>r</sup> 1885 Last Survey 30<sup>th</sup> June 1886

(Number of Plates 47) 840.50  
Tons 445.15

on the

Medway

Master M. Fry Built at Glasgow By whom built Messrs C. Connell & Co When built 1886

Engines made at Glasgow By whom made Messrs J. & J. Thomson when made

Boilers made at By whom made when made

Registered Horse Power 180 Owners W. Sloan & Co Port belonging to Glasgow

## ENGINES, &c.—

Description of Engines Compound Inverted direct acting

Diameter of Cylinders 28 & 56 Length of Stroke 48 No. of Rev. per minute 42 Point of Cut off, High Pressure 38 Low Pressure 29

Diameter of Screw shaft 12 1/2 Diam. of Tunnel shaft 12 Diam. of Crank shaft journals 12 1/2 Diam. of Crank pin 12 1/2 size of Crank webs 9 1/2 x 14

Diameter of screw 13 1/4 Pitch of screw 20 ft No. of blades 4 state whether moveable Yes total surface 52 sq ft

No. of Feed pumps two diameter of ditto 4 Stroke 24 Can one be overhauled while the other is at work Yes

No. of Bilge pumps two diameter of ditto 5 Stroke 24 Can one be overhauled while the other is at work Yes

Where do they pump from each compartment

No. of Donkey Engines One Size of Pumps 5 dia cyl 9 stroke 9 Where do they pump from the sea, ballast tanks

hotwell and bilges of each compartment

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

No. of bilge injections One and sizes 4 dia Are they connected to condenser, or to circulating pump circulating pumps

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 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 forward suction How are they protected Wood casing

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 Yes and fitted with a sluice door Yes worked from upper engine room platform

## BOILERS, &c.—

Number of Boilers two Description Cyl. Multitubular Whether Steel or Iron Steel

Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs Date of test May 12<sup>th</sup> 1886

Description of superheating apparatus or steam chest horizontal dome

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

No. of square feet of fire grate surface in each boiler 114 sq ft Description of safety valves direct spring No. to each boiler two

Area of each valve 9.62 Are they fitted with easing gear Yes No. of safety valves to superheater area of each valve

Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 21 from deck Diameter of boilers 13 ft

Length of boilers 10 9 description of riveting of shell long. seams dbl riv butt circum. seams dbl riv lap Thickness of shell plates 7/8

Diameter of rivet holes 1 3/16 whether punched or drilled drilled pitch of rivets 4 5/8 Lap of plating straps 1 3/4 x 1 1/2

Percentage of strength of longitudinal joint 44.3 working pressure of shell by rules 108 lbs size of manholes in shell 16 x 12

Size of compensating rings 3 x 3 x 2 L No. of Furnaces in each boiler three

Outside diameter 39 length, top 6 8 bottom 9 6 thickness of plates 1/2 description of joint welded if rings are fitted yes

Greatest length between rings 3 9 working pressure of furnace by the rules 102 lbs combustion chamber plating, thickness, sides 1/2 back 1/2 top 9/16

Pitch of stays to ditto, sides 4 1/2 x 4 1/2 back 4 1/2 x 4 1/2 top 5 1/2 x 4 1/2 If stays are fitted with nuts or riveted heads nuts working pressure of plating by

rules 13 1/4 lbs Diameter of stays at smallest part 1 1/4 x 1 1/2 working pressure of ditto by rules 102 lbs end plates in steam space, thickness 3/8

Pitch of stays to ditto 16 x 16 also 4 gusset how stays are secured all nuts working pressure by rules 104 lbs diameter of stays at

smallest part 2 1/4 piece working pressure by rules 110 lbs Front plates at bottom, thickness 3/4 Back plates, thickness 1 1/2

Greatest pitch of stays 13 x 4 1/2 working pressure by rules 120 lbs Diameter of tubes 3 1/2 pitch of tubes 4 1/2 x 4 1/2 thickness of tube

plates, front 3/4 back 1/2 how stayed stay tubes pitch of stays 15 also 4 x 4 x 2 width of water spaces 6

Diameter of Superheater or Steam chest 4 ft length 6 ft thickness of plates 1/2 description of longitudinal joint all lap diam. of rivet holes 1 1/2

Pitch of rivets 3 1/4 working pressure of shell by rules 159 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 1 1/2 how stayed 3 gusset stay

2 plate dbl & 3 x 3 x 3 Superheater or steam chest; how connected to boiler copper pipes




7530 gls

**DONKEY BOILER—** Description *Vertical*  
 Made at *Glasgow* by whom made *Mepps & J. Thomson* when made *1886* where fixed *on deck*  
 Working pressure *60 lbs* tested by hydraulic pressure to *120 lbs* No. of Certificate *1656* fire grate area *1772 sq ft* description of safety  
 valves *direct spring* No. of safety valves *two* area of each *7.04* if fitted with easing gear *yes* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *5' 8"* length *10 ft* description of riveting *dbl riv lap*  
 Thickness of shell plates *1/2"* diameter of rivet holes *15/16"* whether punched or drilled *drilled* pitch of rivets *3 1/4"* lap of plating *4 1/2"*  
 per centage of strength of joint *71%* thickness of crown plates *9/16"* stayed by *4 - 1 3/4" stays and dished*  
 Diameter of furnace, top *4' 2"* bottom *4' 9"* length of furnace *4' 6"* thickness of plates *1/2"* description of joint *sgl riv lap*  
 Thickness of furnace crown plates *1/2"* stayed by *as above* working pressure of shell by rules *112 lbs*  
 Working pressure of furnace by rules *40 lbs* diameter of uptake *14"* thickness of plates *7/16"* thickness of water tubes *3/8"*

**SPARE GEAR.** State the articles supplied:— *As per owners specification*  
*1 con rod top end bolt 1 bottom end ditto 2 coupling bolts 1 eccentric bolt 1 pair of crank*  
*pin brasses 4 propeller blades 7 studs for same 12 cylinder cover studs assorted bolts*

The foregoing is a correct description,  
*John & James Thomson* Manufacturers

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

*The above Engines and Boilers have been constructed under Special*  
*Survey they are of good material and workmanship and are now in good order*  
*and safe working condition In my opinion they are eligible to receive the*  
*notification of*  *L M 67-86 in the Register Book*

*This submitted Martin*  
*is eligible to have*  
*& L.M.C. entered*  
*17/7/86*

The amount of Entry Fee .. £ *2* : : : received by me,  
 Special .. £ *24* : : :  
 Donkey Boiler Fee .. £ : : :  
 Certificate (if required) .. £ : : : *1/4 1886*  
 To be sent as per margin.

(Travelling Expenses, if any, £ - *8/-* )

Committee's Minute

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

FRIDAY 9