

# REPORT ON MACHINERY.

No. 5344

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No. in Survey held at Little  
Reg. Book.

Date, first Survey 27<sup>th</sup> April 1886 Last Survey 6<sup>th</sup> November 1886

681 on the

(Number of Visits 60) Tons 1647  
1072

Master J. Graham Built at Newcastle By whom built Cole Bros.

When built 1874

Engines made at Newcastle By whom made T. & W. Hawthorn

when made 1874

Boilers made at Little By whom made Famage & Ferguson

when made 1886

Registered Horse Power 160

Owners A. & J. Blair

Port belonging to Little

## ENGINES, &c.—

Description of Engines  
Diameter of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ No. of Rev. per minute \_\_\_\_\_ Point of Cut off, High Pressure \_\_\_\_\_ Low Pressure \_\_\_\_\_  
Diameter of Screw shaft \_\_\_\_\_ Diam. of Tunnel shaft \_\_\_\_\_ Diam. of Crank shaft journals \_\_\_\_\_ Diam. of Crank pin \_\_\_\_\_ size of Crank webs \_\_\_\_\_  
Diameter of screw \_\_\_\_\_ Pitch of screw \_\_\_\_\_ No. of blades \_\_\_\_\_ state whether moveable \_\_\_\_\_ total surface \_\_\_\_\_  
No. of Feed pumps \_\_\_\_\_ diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_  
No. of Bilge pumps \_\_\_\_\_ diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

Where do they pump from \_\_\_\_\_  
No. of Donkey Engines two Size of Pumps 10" x 10" & 8" x 10" x 4 1/2" Where do they pump from Sea, bilge, & hotwell tanks

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses always accessible \_\_\_\_\_ Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_  
No. of bilge injections \_\_\_\_\_ and sizes \_\_\_\_\_ Are they connected to condenser, or to circulating pump \_\_\_\_\_  
How are the pumps worked \_\_\_\_\_  
Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_  
Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_  
Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_  
What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_  
Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times \_\_\_\_\_  
Are the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges \_\_\_\_\_  
When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_  
Is the screw shaft tunnel watertight \_\_\_\_\_ and fitted with a sluice door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &c.—

Number of Boilers Two Description Cylindrical multitubular Whether Steel or Iron Steel S.  
Working Pressure 90 lbs. Tested by hydraulic pressure to 100 lbs. Date of test 6<sup>th</sup> Sept 1886  
Description of superheating apparatus or steam chest Vertical 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 49.57 Description of safety valves Spring No. to each boiler two  
Area of each valve 8.9 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 6" Diameter of boilers 12'-6"  
Length of boilers 10'-6" description of riveting of shell long. seams D. B. S. D. R. circum. seams L. D. R. Thickness of shell plates 1/16  
Diameter of rivet holes 1" whether punched or drilled Drilled pitch of rivets 2 1/2" x 5 3/4" Lap of plating 5 1/2"  
Per centage of strength of longitudinal joint 82% working pressure of shell by rules 93 lbs. size of manholes in shell 6" x 12"  
Size of compensating rings 6" x 1/16 No. of Furnaces in each boiler three  
Outside diameter 56" length, top 6'-3" bottom 9'-6" thickness of plates 15/32 description of joint Butt straps if rings are fitted 1/2" rings  
Greatest length between rings 6'-3" working pressure of furnace by the rules 90 lbs. combustion chamber plating, thickness, sides 15/32 back 3/8 top 3/8  
Pitch of stays to ditto, sides 8 3/8 back 10 top Round If stays are fitted with nuts or riveted heads Auto working pressure of plating by rules 90 lbs. Diameter of stays at smallest part 1 1/4" working pressure of ditto by rules 75.7 end plates in steam space, thickness 3/4"  
Pitch of stays to ditto \_\_\_\_\_ how stays are secured the ends & the nuts working pressure by rules 95 lbs. diameter of stays at smallest part 1 1/8" working pressure by rules 68.75 Front plates at bottom, thickness 9/16 Back plates, thickness 19/32  
Greatest pitch of stays \_\_\_\_\_ working pressure by rules \_\_\_\_\_ Diameter of tubes 3 1/2" pitch of tubes 4 3/4" thickness of tube plates, front 3/4" back 3/4" how stayed Stay tubes pitch of stays 13 1/4" width of water spaces 1 1/4"  
Diameter of Superheater or Steam chest 56" length 5'-6" thickness of plates 7/16 description of longitudinal joint L. D. R. diam. of rivet holes 3/4"  
Pitch of rivets 3" working pressure of shell by rules 140 diameter of flue \_\_\_\_\_ thickness of plates \_\_\_\_\_ If stiffened with rings \_\_\_\_\_  
Distance between rings \_\_\_\_\_ working pressure by rules \_\_\_\_\_ end plates of superheater, or steam chests; thickness 5/8 how stayed 4 stays 2 dia  
Superheater or steam chests; how connected to boiler Riveted



**DONKEY BOILER**— Description *Vertical (Cochran Patent)*  
 Made at *Burhead* by whom made *Cochran & Co.* when made *8/7/86* where fixed *Stoke Newington*  
 Working pressure *60 lbs.* tested by hydraulic pressure to *100 lbs.* No. of Certificate *573* fire grate area *20 ft<sup>2</sup>* description of safety  
 valves *Spring* No. of safety valves *two* area of each *4.9* if fitted with easing gear *ye* if steam from main boilers can  
 enter the donkey boiler *no* diameter of donkey boiler *6'-3"* length *13'-0"* description of riveting *L.D.R.*  
 Thickness of shell plates *3/16* diameter of rivet holes *3/16* whether punched or drilled *punched* pitch of rivets *2 5/16* lap of plating *1 1/2"*  
 per centage of strength of joint *68%* thickness of crown plates *1/32* stayed by *Hemispherical*  
 Diameter of furnace, top — bottom *4'-9"* length of furnace *3'-0"* thickness of plates *7/16* description of joint *L.S.P.*  
 Thickness of furnace crown plates *7/16* stayed by *Hemispherical* working pressure of shell by rules *68 lbs.*  
 Working pressure of furnace by rules *80 lbs.* diameter of uptake *1'-3 1/2"* thickness of plates — thickness of water tubes *Ordinary*

**SPARE GEAR.** State the articles supplied:— *o*

The foregoing is a correct description,  
*Ramsey & Stephenson* Manufacturer.

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

The amount of Entry Fee .. £ - : - : received by me. *at hand*  
 Special .. .. £ 12 : 0 :  
 Donkey Boiler Fee .. .. £ - : - :  
 Certificate (if required) .. £ *gratis* :  
 To be sent as per margin. *11/11/86*

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

Committee's Minute

FRIDAY NOV 12 1886

