

REPORT ON MACHINERY.

No. 5344

No. in Survey held at Ltth
Reg. Book.

681 on the

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

Engines made at Newcastle By whom made T. & W. Hawthorn when made 1874

Boilers made at Ltth By whom made Famage & Ferguson when made 1886

Registered Horse Power 160 Owners A. & J. Blair & Co. Port belonging to Ltth

Received at London Office THURS NOV 11 1886

Date, first Survey 27th April 1886 Last Survey 6th November 1886

(Number of Visits 60) Tons 1647

When built 1874

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" x 7" & 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 6th 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 5/32 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 5/32 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 Nuts 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 1 1/2" 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 18 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 8 stays 2" dia.

Superheater or steam chests; how connected to boiler Riveted

DONKEY BOILER— Description *Vertical (Cochran Patent)*
Made at *Burkhead* by whom made *Cochran & Co.* when made *8/4/86* where fixed *Stoke Newington*
Working pressure *80 lbs.* tested by hydraulic pressure to *100 lbs.* No. of Certificate *543* fire grate area *20 ft²* description of safety
valves *Spring* No. of safety valves *two* area of each *49* if fitted with easing gear *yes* 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 *3/8"* diameter of rivet holes *3/16"* whether punched or drilled *punched* pitch of rivets *2 5/16"* lap of plating *4"*
per centage of strength of joint *68%* thickness of crown plates *1/32"* stayed by *Hemispherical*
Diameter of furnace, top *4' 9"* bottom *4' 9"* length of furnace *3' 0"* thickness of plates *7/16"* description of joint *L.S.R.*
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:—

The foregoing is a correct description,

James G. Thompson Manufacturer.

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

The amount of Entry Fee .. £ — : — :
Special £ 12 : 0 :
Donkey Boiler Fee £ — : — :
Certificate (if required) .. £ *gratis* :
To be sent as per margin.

(Travelling Expenses, if any, £)

received by me,

11/11/86

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

Committee's Minute

FRIDAY NOV 12 1886

