

# REPORT ON MACHINERY. 5201

No. 5201

Port of *Dundee*

Received at London Office *4 FEB 1889*

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

Date, first Survey *17 September* Last Survey *26 January 1889*

(Number of Visits *11*) *122.33*  
Tons *122.33*

Master *Not appointed* Built at *Dundee* By whom built *W. B. Thompson & Co. Ltd* When built *1889*

Engines made at *Dundee* By whom made *W. B. Thompson & Co. Ltd* when made *1889*

Boilers made at *Dundee* By whom made *W. B. Thompson & Co. Ltd* when made *1889*

Registered Horse Power *55* Owners *Shropshire Union Railways & Canals* Port belonging to *Chester*

## ENGINES, &c.

Description of Engines *Three cylinders, compound, Surface Condensing, Twin*

Diameter of Cylinders *9" x 13" x 24"* Length of Stroke *14* No. of Rev. per minute *140* Point of Cut off, High Pressure *.6* Low Pressure *.6*

Diameter of Screw shaft *4 1/4* Diam. of Tunnel shaft *4* Diam. of Crank shaft journals *4 1/4* Diam. of Crank pin *4 1/4* size of Crank webs *5" x 3"*

Diameter of screw *5' 0"* Pitch of screw *8' 6"* No. of blades *4* state whether moveable *No* total surface *10 3/4 sq ft.*

No. of Feed pumps *One* diameter of ditto *1 1/2"* Stroke *14* Can one be overhauled while the other is at work *Yes*

No. of Bilge pumps *One* diameter of ditto *2 1/2"* Stroke *14* Can one be overhauled while the other is at work *Yes*

Where do they pump from *from Engine Room and hold*

No. of Donkey Engines *One* Size of Pumps *4" x 3" x 4"* Where do they pump from *Eng. Room, hold, Sea*

*Natwell* to boiler and overboard.

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"* Are they connected to condenser, or to circulating pump *Circulating*

How are the pumps worked *from intermediate engine*

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 *25<sup>th</sup> January 1889*

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

## BOILERS, &c.

Number of Boilers *One* Description *Circular tubular* Whether Steel or Iron *Steel, better of material*

Working Pressure *150* Tested by *pressure to 300* Date of test *24/12/88*

Description of superheating apparatus or steam chest

Can each boiler be worked separately *✓* Can it be shut off and the boiler worked separately *✓*

No. of square feet of fire grate surface in each boiler *30 sq ft* Description of safety valves *Springs* No. to each boiler *Two*

Area of each valve *4.91* 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 *on woodwork 12 in* Diameter of boilers *10' 6"*

Length of boilers *9' 6"* description of riveting of shell long. seams *Double strap* circum. seams *Laps* Thickness of shell plates *29/32*

Diameter of rivet holes *1' 1/16* whether punched or drilled *Drilled* pitch of rivets *8"* Lap of plating *16 1/2" straps*

Per centage of strength of longitudinal joint *80 + 90* working pressure of shell by rules *157* size of manholes in shell *16 x 12*

Size of compensating rings *5" x 7/8"* No. of Furnaces in each boiler *2*

Outside diameter *2' 11"* length, top *6' 3"* bottom *6' 3"* thickness of plates *1/2* description of joint *butt strapped* if rings are fitted *Yes*

Greatest length between rings *3'* working pressure of furnace by the rules *206* combustion chamber plating, thickness, sides *9/16* back *9/16* top *9/16*

Pitch of stays to ditto, sides *8" x 8"* back *8" x 7 1/4"* top *7 1/2"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by

rules *157* Diameter of stays at smallest part *1 3/8* working pressure of ditto by rules *220* end plates in steam space, thickness *25/32* *Doubled*

Pitch of stays to ditto *15 x 15* how stays are secured *Double nuts* working pressure by rules *211* diameter of stays at

smallest part *2 3/8* working pressure by rules *165* Front plates at bottom, thickness *3/4* Back plates, thickness *3/4*

Greatest pitch of stays *12"* working pressure by rules *✓* Diameter of tubes *3"* pitch of tubes *4 1/4" x 4"* thickness of tube

plates, front *11/16* back *5/8* how stayed *Stay tubes* pitch of stays *8 1/2" x 8"* width of water spaces *7*

Diameter of Superheater or Steam chest *✓* length *✓* thickness of plates *✓* description of longitudinal joint *✓* diam. of rivet holes *✓*

Pitch of rivets *✓* working pressure of shell by rules *✓* 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 *✓* how stayed *✓*

Superheater or steam chest; how connected to boiler *✓*

# DONKEY BOILER— Description

Made at \_\_\_\_\_ by whom made \_\_\_\_\_ when made \_\_\_\_\_ where fixed \_\_\_\_\_  
 Working pressure \_\_\_\_\_ tested by hydraulic pressure to \_\_\_\_\_ No. of Certificate \_\_\_\_\_ fire grate area \_\_\_\_\_ description of safety  
 valves \_\_\_\_\_ No. of safety valves \_\_\_\_\_ area of each \_\_\_\_\_ if fitted with easing gear \_\_\_\_\_ if steam from main boilers can  
 enter the donkey boiler \_\_\_\_\_ diameter of donkey boiler \_\_\_\_\_ length \_\_\_\_\_ description of riveting \_\_\_\_\_  
 Thickness of shell plates \_\_\_\_\_ diameter of rivet holes \_\_\_\_\_ whether punched or drilled \_\_\_\_\_ pitch of rivets \_\_\_\_\_ lap of plating \_\_\_\_\_  
 per centage of strength of joint \_\_\_\_\_ thickness of crown plates \_\_\_\_\_ stayed by \_\_\_\_\_  
 Diameter of furnace, top \_\_\_\_\_ bottom \_\_\_\_\_ length of furnace \_\_\_\_\_ thickness of plates \_\_\_\_\_ description of joint \_\_\_\_\_  
 Thickness of furnace crown plates \_\_\_\_\_ stayed by \_\_\_\_\_ working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace by rules \_\_\_\_\_ diameter of uptake \_\_\_\_\_ thickness of plates \_\_\_\_\_ thickness of water tubes \_\_\_\_\_

SPARE GEAR. State the articles supplied:— 2 connecting rod top end bolts & nuts, 4 main bearing bolts  
 1 set of coupling bolts, 2 " " bottom " " " "  
 1 set of feed & bilge pump valves, Bolts & nuts and Town of various sizes.

The foregoing is a correct description,

Manufacturer.

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

The machinery of this vessel has been built under special survey and in accordance with the approved plan. The boiler is constructed of steel which has been tested at the steelworks by one of the Society's Surveyors, and the certificates of tests are annexed.

The letter of material is S. The safety valves of the boiler are set at the working pressure of 150 lb p. sq. inch.

The material and workmanship are good. In my opinion this vessel is eligible to be classed and to have the Notification **L.M.C. 1.89** recorded in the Registerbook.

*Large blue handwritten signature/initials*

It is submitted that this vessel is eligible to have **L.M.C. 1.89** recorded.  
 M.A.  
 4.2.89.

The amount of Entry Fee .. £ 1 : 0 : received by me.  
 Special .. £ 8 : 5 :  
 Donkey Boiler Fee .. £ : :  
 Certificate (if required) .. £ : : 2<sup>nd</sup> Febr. 1889

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

Committee's Minute

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

FEB 5 1889

+ Lm6 1/89