

# REPORT ON MACHINERY.

No. 4597

Received at London Office

CAT 22 MAY 1886

No. in Survey held at Bristol

Date, first Survey Feb 16

Last Survey May 1886

Reg. Book.

on the

Screw Lug 'Dragon'

(Number of Vials 10)

Tons 7.61

Master James Brown

Built at Bristol

By whom built Hewall & Co

When built 1886

Engines made at Bristol

By whom made Hewall & Co

when made 1886

Boilers made at Bristol

By whom made Hewall & Co

when made 1886

Registered Horse Power 140

Owners James Brown & Co

Port belonging to London

## ENGINES, &c.—

Description of Engines

Compound Inverted 2 cylinder

Diameter of Cylinders 13.426" Length of Stroke 16" No. of Rev. per minute 160 Point of Cut off, High Pressure 35 Low Pressure 55

Diameter of Screw shaft 4.2" Diam. of Tunnel shaft 4.2" Diam. of Crank shaft journals 4.2" Diam. of Crank pin 4.2" size of Crank webs 6x3"

Diameter of screw 5.6" Pitch of screw 8.6" No. of blades 0 state whether moveable No total surface 8.4 sq ft

No. of Feed pumps one diameter of ditto 2.2" Stroke 9" Can one be overhauled while the other is at work No

No. of Bilge pumps one diameter of ditto 2.2" Stroke 9" Can one be overhauled while the other is at work No

Where do they pump from Bilge

No. of Donkey Engines one Size of Pumps 1.2 x 4"

Where do they pump from Sea, Bilge & Hold

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 2.2" Are they connected to condenser, or to circulating pump Pump

How are the pumps worked Direct over Condenser

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 Yes

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 none

Is the screw shaft tunnel watertight Yes and fitted with a sluice door Yes worked from Yes

## BOILERS, &c.—

Number of Boilers one Description Cylindrical Multitubular Whether Steel or Iron Steel

Working Pressure 100 lbs Tested by hydraulic pressure to 200 lbs Date of test 29 April 1886

Description of superheating apparatus or steam chest Yes

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

No. of square feet of fire grate surface in each boiler 26.58 Description of safety valves Turret's Spring No. to each boiler Two

Area of each valve 6.5 Are they fitted with easing gear Yes No. of safety valves to superheater 1 area of each valve 1.5

Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 3.5" Diameter of boilers 8.5"

Length of boilers 9.6" description of riveting of shell long. seams Lap butt riveted circum. seams Lap double riveted Thickness of shell plates 5/16"

Diameter of rivet holes 1" whether punched or drilled drilled pitch of rivets 4" Lap of plating 1.5"

Percentage of strength of longitudinal joint 75 working pressure of shell by rules 103.6 size of manholes in shell 16 x 12"

Size of compensating rings 4 x 3 x 5/8 Angle ring No. of Furnaces in each boiler Two

Outside diameter 2.6" length, top 6.10" bottom 8.10" thickness of plates 1/2" description of joint Double Butt if rings are fitted Yes

Greatest length between rings 6.10" working pressure of furnace by the rules 109.2 combustion chamber plating, thickness, sides 3/16" back 3/16" top 3/16"

Pitch of stays to ditto, sides 9 x 9" back 8 x 9" top 12 x 9" If stays are fitted with nuts or riveted heads nuts working pressure of plating by

rules 114.3 Diameter of stays at smallest part 1.11 working pressure of ditto by rules 109.9 end plates in steam space, thickness 1.5"

Pitch of stays to ditto 1.8" x 1.3" how stays are secured double nuts with working pressure by rules 100 diameter of stays at

smallest part 2.2" working pressure by rules 106.5 Front plates at bottom, thickness 3/4" Back plates, thickness 3/8"

Greatest pitch of stays 12 x 9" working pressure by rules 131 Diameter of tubes 3.5" pitch of tubes 4.5 x 4.5" thickness of tube

plates, front 3/16" back 1/16" how stayed stay tubes pitch of stays 9 x 9" width of water spaces 10"

Diameter of Superheater or Steam chest Yes 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 —

BRS82-0018

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# DONKEY BOILER—

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

## SPARE GEAR.

State the articles supplied:—

bearing bolts, 11 coupling bolts, 2 top end bolts, 2 bottom end bolts, 1 set of Feed & Bilge Pump assorted bolts & nuts & iron of sizes

The foregoing is a correct description,

*Mwall*

Manufacturer.

## General Remarks

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

This vessel Machinery has been built under Order Survey, the steel used in the construction of the Boiler has been tested as required by the Rules. The workmanship & materials are good. The Safety Valves have been set under steam to lbs. working pressure & the accumulation found to 2 per cent. The Machinery of this vessel being satisfactory I am of opinion it is eligible to be classed *L.N.M.* in the Register Book

*Dray*

It is submitted that this vessel is eligible to have the notation L.N.M. recorded.

24/5/86

The amount of Entry Fee .. £ 1 : 0 : 0 received by me,  
 Special .. £ 8 : 0 : 0  
 Donkey Boiler Fee .. £ : : :  
 Certificate (if required) .. £ : : :  
 To be sent as per margin. : 2 : 6 19 May 1886  
 (Travelling Expenses, if any, £ )

*RWC*

Committee's Minute

Friday 20th May 1886

*LM 586*

*R. W. Coomber*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Robert Edmund Taylor, & Son, Printers, 19, Old Street, Goswell Road, London, E.C.



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