

# REPORT ON MACHINERY.

5675

No. 5675

No. in Survey held at Goole

Date, first Survey 9<sup>th</sup> April 83 Last Survey 27<sup>th</sup> Jan 1885

Reg. Book.

Received at London Office 13/1/85  
(Number of Visits 21) Tons 630.64  
409.60

on the iron steam ship "Paradox"

Master John Cook Built at Blackwall By whom built Pascoe & Wright When built 1883

Engines made at Sunderland By whom made North Eastern Engineering Co. when made 1877

Boilers made at Goole By whom made Thomas Scott when made 1884

Registered Horse Power 98 Owners Executive of Mill France Port belonging to London

## ENGINES, &c.—

Description of Engines Vertical, Compound inverted cylindrical surface condensing

Diameter of Cylinder 21 27 4 47" Length of Stroke 30" No. of Rev. per minute \_\_\_\_\_ Point of Cut off, High Pressure 2/3 Low Pressure 3/4

Diameter of Screw shaft 8 1/4" Diam. of Tunnel shaft 7 7/8" Diam. of Crank shaft journals 8 1/2" Diam. of Crank pin 8 1/4" size of Crank webs 9 1/2" x 6"

Diameter of screw 11.6" Pitch of screw 17.0" No. of blades 4 state whether moveable no total surface 38 sq. ft.

No. of Feed pumps 2 diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work yes

Where do they pump from Main compartments (engine room & hold) & tanks

No. of Donkey Engines 2 Size of Pumps 3 1/2 ton of 5 1/2" stroke Where do they pump from The ballast engine from hold

and tanks deck under board only. The donkey engine from bilge tanks. Sea, that will with deliveries to deck, main & donkey boiler

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 2 and sizes 2 1/4" Are they connected to condenser, or to circulating pump In circulating pump

How are the pumps worked From pattern iron crossheads

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 deck delivery of donkey engine How are they protected this is in main pipe for deck beam

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes in the engine room

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 Not now

Is the screw shaft tunnel watertight Reported and fitted with a sluice door yes worked from upper deck

## BOILERS, &c.—

Number of Boilers one Description circular, multitubular Whether Steel or Iron Iron

Working Pressure 75 lb Tested by hydraulic pressure to 160 lb Date of test 17 November 84

Description of ~~superheating apparatus~~ or steam chest horizontal cylinder with dished ends

Can each boiler be worked separately x Can the superheater be shut off and the boiler worked separately No Superheater

No. of square feet of fire grate surface in each boiler 63 Description of safety valves Spring loaded No. to each boiler 2

Area of each valve 15.9 sq. in 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 on woodwork main boiler 4" Donkey boiler close Diameter of boilers 13.6"

Length of boilers 10.11" description of riveting of shell long. seams double riveted with double straps circum. seams double rivet laps Thickness of shell plates 7/8"

Diameter of rivet holes 1/8" whether punched or drilled drilled pitch of rivets long = 1 1/2" ex = 1 1/4" Lap of plating 1 1/4" straps

Per centage of strength of longitudinal joint 75 working pressure of shell by rules 80 lb size of manholes in shell 16" x 13"

Size of compensating rings 6 1/2" x 11.6" No. of Furnaces in each boiler 3

Outside diameter 39" length, top 7.6" bottom 10.3" thickness of plates 1/2" description of joint butted with double straps if rings are fitted Orwell

Greatest length between rings 7.5" working pressure of furnace by the rules 75 lb combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"

Pitch of stays to ditto, sides 9 x 8.5" back 9 x 9" top same If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 80 lb

Diameter of stays at smallest part 1 7/8" working pressure of ditto by rules 100 lb end plates in steam space, thickness 7/8" with 1/2" drilling plates

Pitch of stays to ditto 16 1/2" x 17" x 16" how stays are secured double nut & washers working pressure by rules 80 lb diameter of stays at smallest part 2 1/4"

working pressure by rules 82 lb Front plates at bottom, thickness 1/2" Back plates, thickness 5/8"

Greatest pitch of stays 12" working pressure by rules 83 lb Diameter of tubes 3 1/2" pitch of tubes 4 1/4" thickness of tube plates, front 1/2" back 5/8"

how stayed 4 plates tube pitch of stays 15 1/2" x 9 1/2" width of water spaces 1 1/2"

Diameter of Superheater or Steam chest 42" length 6.6" thickness of plates 3/8" description of longitudinal joint double rivet laps diam. of rivet holes 13/16"

Pitch of rivets 2 1/2" working pressure of shell by rules 91 lb 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 7/8" how stayed dished + 3 2/8" stays

Superheater or Steam chest; how connected to boiler by each piece riveted on

Lloyd's Register Foundation

Reports are also sent on the Hull of the Ship

HUL 397-0228

**DONKEY BOILER**— Description *Vertical Cylinder with internal furnace & flue*  
 Made at *Goole* by whom made *J. H. Scott* when made *1884* where fixed *in the Stevedore*  
 Working pressure *75 lb* tested by hydraulic pressure to *150 lb*. No. of Certificate \_\_\_\_\_ fire grate area *14 sq. feet* description of saf  
 valves *Spring loaded* No. of safety valves *one* area of each *7 sq. in* if fitted with easing gear *yes* if steam from main boilers can  
 enter the donkey boiler *yes* diameter of donkey boiler *5' 0"* length *9' 2"* description of riveting *Lang's double rivet cap*  
 Thickness of shell plates *7/16* diameter of rivet holes *13/16* whether punched or drilled *punched* pitch of rivets *2 1/2"* lap of plating *4"*  
 per centage of strength of joint *67* thickness of crown plates *9/16* stayed by *6 1/2 vertical stays*  
 Diameter of furnace, top *3' 10"* bottom *4' 5"* length of furnace *4' 6"* thickness of plates *7/16* description of joint *Lang's rivet cap*  
 Thickness of furnace crown plates *7/16* stayed by *6 1/2 vertical stays* working pressure of shell by rules \_\_\_\_\_  
 Working pressure of furnace *75 lb* diameter of uptake \_\_\_\_\_ thickness of plates *3/8* thickness of water tubes *5/16*.

**SPARE GEAR.** State the articles supplied:— *2 connecting rod top end bolts, nuts, 2 bottom end d.*  
*4 main bearing bolts, 1 set coupling bolts, 1 set bilge pump valves*  
*50 Bolts nuts assorted, 4 feet assortment.*

The foregoing is a correct description,  
*J. H. Scott* Manufacturer.

**General Remarks** (State quality of workmanship, opinions as to class, &c.)  
*The Donkey machinery of this vessel are in my opinion in safe working condition  
 and the case is respectfully submitted as eligible for the notification L.M.C. 1.85  
 and N.B. 84 in the Register Book.*

The Surveyors of Hull.

It is submitted that this vessel is  
 eligible to have the machinery classed as  
 + N.B. 84. recorded.  
 13/4/85.  
 J. H. Scott 1874/1885

X

The amount of Entry Fee .. £ 1: 0: 0 received by me,  
 Special .. £ 10: 0: 0  
 Donkey Boiler Fee .. £ 2: 2: 0  
 Certificate (if required) .. £ 5: 0: 0  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ 5: 10: 4)

*John B. Stevens*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

TUESDAY 14 APRIL 1885

Committee's Minute

*W. B. ...*  
*J. H. Scott*

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 of Shipping