

# REPORT ON MACHINERY.

47997<sup>a</sup>

Port of

Received at London Office

No.

No. in Survey held at *London*

Date, first Survey *Sept. 27-87*

Last Survey *Jan. 13 1888*

Reg. Book.

(Number of Visits *12*)

on the

*Steam Tug Hawk*

Tons

Master

Built at

By whom built

When built

Engines made at

*Blackwall*

By whom made

*J. Stewart & Son*

when made *1888*

Boilers made at

*Do.*

By whom made

*Do*

when made *1888*

Registered Horse Power *33*

Owners

Port belonging to

## ENGINES, &c.—

Description of Engines

*Compound Inverted.*

Diameter of Cylinders *13½ + 29* Length of Stroke *18* No. of Rev. per minute *140* Point of Cut off, High Pressure *½* Low Pressure *½*

Diameter of Screw shaft *5* Diam. of Tunnel shaft *4¾* Diam. of Crank shaft journals *5* Diam. of Crank pin *5* size of Crank webs *6¼ x 3½*

Diameter of screw *6ft.* Pitch of screw *7ft 6in* No. of blades *3* ~~state whether~~ *not* moveable total surface *15 sq. ft.*

No. of Feed pumps *1* diameter of ditto *2½* Stroke *8* Can one be overhauled while the other is at work ☒

No. of Bilge pumps *1* diameter of ditto *3* Stroke *8* Can one be overhauled while the other is at work ☒

Where do they pump from *Engine Rm. Fore + aft Holds.*

No. of Donkey Engines *1* Size of Pumps *2 dia. 4 stroke.* Where do they pump from *Eng. Rm. F + A. Holds.*

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 *1* and sizes *1½* Are they connected to condenser, or to circulating pump *Condenser.*

How are the pumps worked *By levers from S. P. Cross Head.*

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

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

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

## BOILERS, &c.—

Number of Boilers *One* Description *Multitubular.* Whether Steel or Iron *Steel. (S)*

Working Pressure *100 lbs.* Tested by hydraulic pressure to *200 lbs* Date of test *9. 12. 87.*

Description of superheating apparatus or steam chest *None.*

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

No. of square feet of fire grate surface in each boiler *25 sq. ft.* Description of safety valves *Spiral spring* No. to each boiler *2*

Area of each valve *4.9 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 ☒ Smallest distance between boilers and bunkers or woodwork *6* Diameter of boilers *9 ft.*

Length of boilers *9 ft. 6 in* description of riveting of shell long. seams *ribble lap* circum. seams *double lap* Thickness of shell plates *11/16*

Diameter of rivet holes *15/16* ~~whether punched or~~ drilled pitch of rivets *3* Lap of plating *6*

Per centage of strength of longitudinal joint *69%* working pressure of shell by rules *107 lbs* size of manholes in shell *16 x 12*

Size of compensating rings *4 x 2 x 1 M. Keiser's Comptg. Ring.* No. of Furnaces in each boiler *2*

Outside diameter *21 7/8* length, top *6.9* bottom *8.1* thickness of plates *1/2* description of joint *double butt. shap* if rings are fitted *no*

Greatest length between rings ☒ working pressure of furnace by the rules *103 lbs* combustion chamber plating thickness, sides *1/2* back *1/2* top *1/2*

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

rules *120 lbs.* Diameter of stays at smallest part *1 3/8* working pressure of ditto by rules *185 lbs* end plates in steam space, thickness *3/4*

Pitch of stays to ditto *18 x 15* how stays are secured *double nut & wire* working pressure by rules *110 lbs* diameter of stays at

smallest part *2 1/4* working pressure by rules *115 lbs* Front plates at bottom, thickness *11/16* Back plates, thickness *5/8*

Greatest pitch of stays *11* working pressure by rules *90 lbs.* Diameter of tubes *3 1/2* pitch of tubes *4 3/4* thickness of tube

plates, front *11/16* back *5/8* how stayed *St. tubes* pitch of stays *9 1/2* width of water spaces *6*

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 ☒



# **MADONKEY 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 boiler \_\_\_\_\_  
 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:—

The foregoing is a correct description,  
*John Stewart & Son* Manufacturer.

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

*+ Boilers*  
 These Engines were built under Special Survey. Material & Workmanship good, & eligible in my opinion to be marked in the Register Book with **LMC 1.88**

It is submitted that this vessel is eligible to have the notification + LMC 1.88 entered in the Register Book.

*AS*  
 17.1.88

*[Large blue signature]*

The amount of Entry Fee .. £ / : : *£5.5/-* received by me, 8. Sept. 1887  
 Special .. £ 8 : - : *£3.15/-* } *E.M.*  
 Donkey Boiler Fee .. £ : :  
 Certificate (if required) .. £ : : *19/1 188*  
 To be sent as per margin.  
 (Travelling Expenses, if any, £ )

Committee's Minute

*+ LMC 1/88*

*Geo. P. Wilkeson*  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



Lloyd's Register  
 Foundation