

REPORT ON MACHINERY.

5312

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No. **4086 (NWC)**
 Survey held at **Isatabhead + W. Htph** Date, first Survey **April 30 '83** Last Survey **Sept 14 '83**
 Book. (Number of Visits **11**)
 on the **crew steamer "Maitlands"** Tons **442**
 Master **Holman** Built at **W. Htph** By whom built **W Gray & Co** When built **1883**
 Engines made at **Isatabhead** By whom made **Black Hawthorn & Co** when made **1883**
 Boilers made at **do** By whom made **do** when made **do**
 Registered Horse Power **99** Owners **Hardy Wilson & Co** Port belonging to **West Htph**

ENGINES, &c.—

Description of Engines **Compound inverted screw**
 Diameter of Cylinders **24-30** Length of Stroke **83** No. of Rev. per minute **65** Point of Cut off, High Pressure **5** Low Pressure **5**
 Diameter of Screw shaft **9** Diam. of Tunnel shaft **8 1/2** Diam. of Crank shaft journals **9** Diam. of Crank pin **9** size of Crank webs **6 x 11 1/2**
 Diameter of screw **12.10** Pitch of screw **14.6** No. of blades **4** state whether moveable **no** total surface **40 sq**
 No. of Feed pumps **two** diameter of ditto **3 1/8** Stroke **16 1/2** Can one be overhauled while the other is at work **yes**
 No. of Bilge pumps **two** diameter of ditto **3 1/8** Stroke **16 1/2** Can one be overhauled while the other is at work **yes**
 Where do they pump from **hanks bilges stunnel well**
 No. of Donkey Engines **two** Size of Pumps **7x10 + 3x5** Where do they pump from **fall out from tanks bilges + well - feed from hotwell + sea**
 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 **4 1/2** Are they connected to condenser, or to circulating pump **circ pump**
 How are the pumps worked **by live over condenser from aft 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 **below**
 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 **new vessel**
 Is the screw shaft tunnel watertight **✓** and fitted with a sluice door **yes** worked from **top platform**

BOILERS, &c.—

Number of Boilers **one** Description **cyl single ended** Whether Steel or Iron **iron**
 Working Pressure **80 lbs** Tested by hydraulic pressure to **160 lbs** Date of test **16-8-83** No **1380**
 Description of superheating apparatus or steam chest **horizontal steam dome**
 Can each boiler be worked separately **✓** Can the superheater be shut off and the boiler worked separately **no**
 No. of square feet of fire grate surface in each boiler **321** Description of safety valves **spring** No. to each boiler **two**
 Area of each valve **12.56** 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 **12"** Diameter of boilers **14.0**
 Length of boilers **10.6** description of riveting of shell long. seams **triple lap** circum. seams **double lap** Thickness of shell plates **3/32**
 Diameter of rivet holes **1 3/8** whether punched or drilled **drilled** pitch of rivets **5 3/8** Lap of plating **11"**
 Percentage of strength of longitudinal joint **74** working pressure of shell by rules **81** size of manholes in shell **16 x 12**
 Size of compensating rings **1 x 6** No. of Furnaces in each boiler **three**
 Outside diameter **39** length, top **7.0** bottom **9.6** thickness of plates **9/16 + 11/32** description of joint **welded** if rings are fitted **no**
 Greatest length between rings **9.6** working pressure of furnace by the rules **80** combustion chamber plating, thickness, sides **1/2** back **1/2** top **1/2**
 Pitch of stays to ditto, sides **8 3/4** back **8 3/4** top **rad** If stays are fitted with nuts or riveted heads **riveted hds** working pressure of plating by rules **84** Diameter of stays at smallest part **1 3/16** working pressure of ditto by rules **87** end plates in steam space, thickness **27/32**
 Pitch of stays to ditto **17 5/8** how stays are secured **on two** working pressure by rules **80** diameter of stays at smallest part **2 3/8** working pressure by rules **85** Front plates at bottom, thickness **9/16** Back plates, thickness **3/4**
 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 **tubes** pitch of stays **14 1/4** width of water spaces **5**
 Diameter of Superheater or Steam chest **4.0** length **6.4 1/2** thickness of plates **3/8** description of longitudinal joint **double lap** diam. of rivet holes **5/8**
 Pitch of rivets **3 5/8** working pressure of shell by rules **91** 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 **1/2** how stayed **rad**
 Superheater or steam chest; how connected to boiler **Contracted work**

DONKEY BOILER— Description *ordinary vertical*
 Made at *W. H. H. H.* by whom made *W. Gray & Co* when made *1883* where fixed *Stockholm*
 Working pressure *65* tested by hydraulic pressure to *130* No. of Certificate *974* fire grate area *14.19* descrip.
 valves *deadweight* No. of safety valves *two* area of each *3.98* if fitted with easing gear *yes* if steam from main bo
 enter the donkey boiler *no* diameter of donkey boiler *5.0* length *11.6* description of riveting *double lap*
 Thickness of shell plates *3/8* diameter of rivet holes *13/16* whether punched or drilled *no* pitch of rivets *2 3/4* lap of plating
 per centage of strength of joint *70.4* thickness of crown plates *7/16* stayed by *6 stays 1 1/2 diam*
 Diameter of furnace, top *3.10* bottom *4.5* length of furnace *5.3* thickness of plates *7/16* description of joint *single*
 Thickness of furnace crown plates *7/16* stayed by *same as crown* working pressure of shell by rules *60*
 Working pressure of furnace by rules *66* diameter of uptake *14* thickness of plates *5/16* thickness of water tubes *5/16*

SPARE GEAR. State the articles supplied:— *Two main bearing bolts two bottom & two*
connecting rod bolts & coupling bolts set feed and bilge pumps valves
set air and circulating pumps valves, set piston springs, pro
6 boiler tubes, 6 condenser tubes, 200 wood ferrules & usual engine
room outfit.

The foregoing is a correct description,
 for *Black Hawthorn & Co* Manufacturer. *Main Engine & Boiler*
Jacob Hallan

General Remarks (State quality of workmanship, opinions as to class, &c. *The machinery of this vessel*
has been constructed under Special Survey - the materials and work
ships are sound and good and eligible in my opinion to be class
ed L. M. C. 9. 83 in the Society's Register Book.

This submitted that this
should be eligible to have the
notification & L. M. C. 9. 83
J. M. 8/10/83

The amount of Entry Fee .. £ *1* - - - received by me,
 Special £ *14* : *17* : -
 Donkey Boiler Fee £ *7* : *2* : -
 Certificate (if required) .. £ - - - *6.10.1883*
 To be sent as per margin.
 (Travelling Expenses, if any, £ *2.2.0*)

Donkey Boiler fee of £2.2.0. both 1883
Remainder for Donkey

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

Committee's Minute

TUESDAY 9 OCT 1883

+ J. M. H.

