

REPORT ON MACHINERY.

No.

9271

Port of *Null*

Received at *London* *12 OCT 1894*

No. in Survey held at *Berkeley & Hull* Date, first Survey *July 18th* Last Survey *Oct. 5th 1894*
 Reg. Bopk. *14m/100* on the *Iron Steam Hawker* *Northwood* (Number of Visits *16*)
 Master *By whom built* *Cochrane & Cooper* When built *1894*
 Engines made at *Null* By whom made *Amos Smith* when made *1894*
 Boilers made at *Null* By whom made *Amos Smith* when made *1894*
 Registered Horse Power *35* Owners *The Northwood L. & C.* Port belonging to *Grimsby*
 Nom. Horse Power as per Section 28

ENGINES, &c.— Description of Engines *Triple Comp. Low & Acting* No. of Cylinders *Three*
 Diameter of Cylinders *10" 16" 25 1/2"* Length of Stroke *20* Revolutions per minute *120* Diameter of Screw shaft *as per rule 4 1/2"*
 Diameter of Tunnel shaft *as per rule 4 1/2"* Diameter of Crank shaft journals *5 1/2"* Diameter of Crank pin *5 1/4"* Size of Crank webs *6 1/2" x 3 1/2"*
 Diameter of screw *7' 6"* Pitch of screw *8' 6"* No. of blades *4* State whether moveable *-* Total surface *18.3 sq ft*
 No. of Feed pumps *one* Diameter of ditto *2 1/2"* Stroke *11"* Can one be overhauled while the other is at work *-*
 No. of Bilge pumps *one* Diameter of ditto *2 1/2"* Stroke *11"* Can one be overhauled while the other is at work *-*
 No. of Donkey Engines *one* Sizes of Pumps *2 1/2" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps
 In Engine Room *one 2"* In Holds, &c. *one 2"*
Also Ejector with suction in the Engine Bilge and Hold. Discharge on deck
 No. of bilge injections *one sizes 3"* Connected to condenser, or to circulating pump *pumps a separate donkey suction fitted in Engine room & size 30-cylinder*
 Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *yes*
 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 *suction to forward* How are they protected *wood cased*
 Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
 Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
 When were stern tube, propeller, screw shaft, and all connections examined in dry dock *now new* Is the screw shaft tunnel watertight *in tunnel*
 Is it fitted with a watertight door *yes* worked from *-*

BOILERS, &c.— (Letter for record *S*) Total Heating Surface of Boilers *706 sq ft*
 No. and Description of Boilers *One cylindrical smelt* Working Pressure *170* Tested by hydraulic pressure to *340 lb*
 Date of test *19/9/94* Can each boiler be worked separately *-* Area of fire grate in each boiler *25 sq ft* No. and Description of safety valves to
 each boiler *two spring loaded* Area of each valve *4.9 sq in* Pressure to which they are adjusted *170 lb* Are they fitted
 with easing gear *yes* Smallest distance between boilers or uptakes and bunkers or woodwork *8"* Mean diameter of boilers *9' 9"*
 Length *9' 0"* Material of shell plates *steel* Thickness *1 1/4"* Description of riveting: circum. seams *all on lap* long. seams *all on lap 3/4"*
 Diameter of rivet holes in long. seams *1 1/2"* Pitch of rivets *6.43"* Lap of plates or width of butt straps *14 1/4"*
 Per centages of strength of longitudinal joint *83.9%* Working pressure of shell by rules *172 lb* Size of manhole in shell *16" x 12"*
 Size of compensating ring *30" x 26" x 1 1/4"* No. and Description of Furnaces in each boiler *two plain* Material *steel* Outside diameter *35"*
 Length of plain part *top 5' 6" bottom 6' 0"* Thickness of plates *top 1 1/4" bottom 1 1/4"* Description of longitudinal joint *brided* No. of strengthening rings *-*
 Working pressure of furnace by the rules *173 lb* Combustion chamber plates: Material *steel* Thickness: Sides *9 1/4"* Back *9 1/4"* Top *9 1/4"* Bottom *10 1/4"*
 Pitch of stays to ditto: Sides *8"* Back *8"* Top *8"* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *171 lb*
 Material of stays *steel* Diameter at smallest part *1 1/2"* Area supported by each stay *8' x 8"* Working pressure by rules *185 lb* End plates in steam space:
 Material *steel* Thickness *1 1/4"* Pitch of stays *14 1/2"* How are stays secured *all nuts* Working pressure by rules *170 lb* Material of stays *steel*
 Diameter at smallest part *2 1/4"* Area supported by each stay *14 1/2" x 12 1/2"* Working pressure by rules *204 lb* Material of Front plates at bottom *steel*
 Thickness *1 1/4"* Material of Lower back plate *steel* Thickness *1 1/4"* Greatest pitch of stays *8"* Working pressure of plate by rules *170 lb*
 Diameter of tubes *6 1/2"* Pitch of tubes *4 3/4"* Material of tube plates *steel* Thickness: Front *1 1/4"* Back *5 3/4"* Mean pitch of stays *14 1/2" x 9 1/2"*
 Pitch across wide water spaces *14"* Working pressures by rules *170 lb* Girders to Chamber tops: Material *steel* Depth and
 thickness of girder at centre *6 1/2" x 1 1/2"* Length as per rule *21 5/8"* Distance apart *7 1/4"* Number and pitch of Stays in each *two 8"*
 Working pressure by rules *170 lb* Superheater or Steam chest; how connected to boiler *-* Can the superheater be shut off and the boiler worked
 separately *-* Diameter *-* Length *-* Thickness of shell plates *-* Material *-* Description of longitudinal joint *-* Diam. of rivet
 holes *-* Pitch of rivets *-* Working pressure of shell by rules *-* Diameter of flue *-* Material of flue plates *-* Thickness *-*
 If stiffened with rings *-* Distance between rings *-* Working pressure by rules *-* End plates: Thickness *-* How stayed *-*
 Working pressure of end plates *-* Area of safety valves to superheater *-* Are they fitted with easing gear *-*

HVL40q-0267

DONKEY BOILER— Description *As donkey boiler*

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 _____ Pressure to which they are adjusted _____ If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____
Diameter of donkey boiler _____ Length _____ Material of shell plates _____ Thickness _____
Description of riveting long. seams _____ Diameter of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____
Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Thickness of shell crown plates _____ Radius of do. _____ No. of Stays to do. _____
Dia. of stays _____ Diameter of furnace Top _____ Bottom _____ Length of furnace _____ Thickness of furnace 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 uptake plates _____ Thickness of water tubes _____

SPARE GEAR. State the articles supplied:— *Two top end bolts. Two bottom end bolts. Two main bearing bolts. One set coupling bolts. One set Dead pump valves. One set Bilge pump valves. One set check valves. Safety valves spring.*
The vessel efficient with masts and sails as a steamer.
The foregoing is a correct description,
Thos Smith Manufacturer.

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

The Machinery and Boiler of this Steam Hawker have been constructed under Special Survey and placed on board in accordance with the Society's Rules. They are now in my opinion in safe working condition and the case is respectfully submitted in the Notification H.L.N.C. 10.94. in the Register Book.

It is submitted that this vessel is eligible for THE RECORD + L.M.C. 10-94

[Large handwritten signature]

Certificate (if required) to be sent to *Hall*
The amount of Entry Fee.. £ *1:0*
Special £ *0:0*
Donkey Boiler Fee £ *✓* : :
Travelling Expenses (if any) £ *✓* : :
When applied for, *11/10/94*
When received, *23.10.1894* *NCL 24*

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

Committee's Minute *TUES. 10 OCT 1894*
Assigned *+ L.M.C. 10.94*



(The Surveyors are requested not to write on or below the space for Committee's Minute.)