

REPORT ON MACHINERY.

No. 5202

(Received at London Office) 19th OCT. 1882.

No. in Survey held at Hull Date, first Survey 13th Feb Last Survey 2nd Oct 1882
 Reg. Book. on the iron screw steamer "Holdersness" Tons 1578
983
 Master Law Built at Hull When built 1882
 Engines made at Hull By whom made Cartwright when made 1882
 Boilers made at Hull By whom made do when made 1882
 Registered Horse Power 130 Owners Holdersness S. S. Co. (Linn) Port belonging to Hull

ENGINES, &c.—

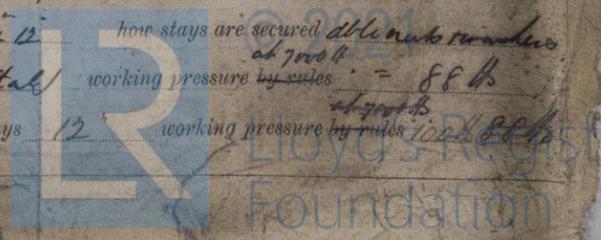
Description of Engines vertical, inverted, direct, compound, surface condenser
 Diameter of Cylinders 30" + 55" Length of Stroke 36" No. of Rev. per minute 40 Point of Cut off, High Pressure 7/119" Low Pressure 19/122"
 Diameter of Screw shaft 10 1/2" Diameter of Tunnel shaft 4 3/4" Diameter of Crank shaft journals 10 1/4" Diameter of Crank pin 10 1/4" size of Crank webs 7" + 11 1/4"
 Diameter of screw 13" 6" Pitch of screw 15.6 + 14" 0" No. of blades 4 state whether moveable no total surface 50
 No. of Feed pumps 2 diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work yes
 No. of Bilge pumps 2 diameter of ditto 3 1/4" Stroke 24" Can one be overhauled while the other is at work yes
 Where do they pump from all compartments, sea, + tanks.
 No. of Donkey Engines Two Size of Pumps 8" + 8" Where do they pump from the ballast engine from sea + after tank, with delivery overboard. The feed engine is connected to bilge system + also pumps from the sea, the fore tank, the fore tank with delivery to deck, overboard, main donkey boiler. Condenser - water suction fore tank
 Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes in E.R. Are the sluices on Engine room bulkheads always accessible yes
 No. of bilge injections one and sizes 4/4 Are they connected to condenser, or to circulating pump to circulating pump.
 How are the pumps worked By rocking levers from piston and crosshead.
 Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Valves
 Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates all except Are the discharge pipes above or below the deep water line below
Kingston valve in stokehold for bilge + condenser
 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 x
 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 now new
 Is the screw shaft tunnel watertight Reputed and fitted with a sluice door yes worked from upper platform.

BOILERS, &c.—

Number of Boilers One Description circular, multitubular, made of steel
 Working Pressure 85 lb Tested by hydraulic pressure to 170 lb Date of test 4th September 1882
 Description of superheating apparatus or steam chest none fitted
 Can each boiler be worked separately x Can the superheater be shut off and the boiler worked separately x
 No. of square feet of fire grate surface in each boiler 63 Description of safety valves Cameron & Denton's spring loaded
 No. to each boiler 2 area of each valve 21.64 Are they fitted with easing gear yes
 No. of safety valves to superheater x area of each valve x are they fitted with easing gear x
 Smallest distance between boilers and bunkers or woodwork main Boiler 20" - Donkey Boiler 3"
 Diameter of boilers 15.6 1/2" Length of boilers 11.2 description of riveting of shell long. seams double butt with circum. seams double lap
with straps
 Thickness of shell plates 7/8" diameter of rivet holes 1/8" whether punched or drilled drilled pitch of rivets 4 1/2"
 Lap of plating 1 1/2 straps per centage of strength of longitudinal joint 71 per cent at 2 1/2 times working pressure of shell by rules
shearing 86.7 lb
 Size of manholes in shell 16" x 12" size of compensating rings 28" x 24" x 7/8"
 No. of Furnaces in each boiler 4 outside diameter 37 1/16" length, top 7.6 bottom 10.6
 Thickness of plates 17/32" description of joint butt joint with double straps - the one on each side rings are fitted shaped at greatest length between rings 8' 0"
back end
 Working pressure of furnace by the rules 85 lb
 Combustion chamber plating, thickness, sides 1/2" back 1/2" top 1/2"
 Pitch of stays to ditto sides 8" x 8" to 8 1/2" back 8" x 8" top 8 1/4"
 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 106 lb to 120 lb
 Diameter of stays at smallest part 1 1/16" + 1 7/16" working pressure of ditto by rules 107 lb to 140 lb
 End plates in steam space, thickness 13/16" pitch of stays to ditto 16" x 16" and 16" x 12" how stays are secured double nut round
at 7000 lb
 Working pressure by rules 92 lb diameter of stays at smallest part 2" + 1 3/4" (steel) working pressure by rules 88 lb
 Front plates at bottom, thickness 11/16" Back plates, thickness 11/16" greatest pitch of stays 12" working pressure by rules 102 lb
at 7000 lb

Form No. 8-3/10/80 2000.

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Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{3}{4} + 4\frac{3}{4}$ thickness of tube plates, front $\frac{11}{16}$ back $\frac{11}{16}$
 How stayed *stay tubes as for an awning, 1 dble butt strap* width of water spaces $\frac{1}{4}$
 Diameter of Superheater or Steam chest *when plates are fronted* length
 Thickness of plates description of longitudinal joint diameter 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

*No Superheater
nor Steam Chest*

DONKEY BOILER— Description *fireless, multitubular with 2 furnaces + brick comb-chamber*
 Made at *Bull* By whom made *Charles G* when made *1892*
 Where fixed *in St. Nicholas* working pressure *85 lb* Tested by hydraulic pressure to *170 lb* No. of Certificate *101*
 Fire grate area *16 sq. ft.* Description of safety valves *C.A. patent spring loaded* No. of safety valves *one* area of each *9.6 sq. in.*
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *yes (Equal pressures)*
 Diameter of donkey boiler *7' 3"* length *5.0* description of riveting *doubleriveted laps (long seam)*
 thickness of shell plates $\frac{11}{16}$ diameter of rivet holes $1\frac{1}{8}$ whether punched or drilled *long drilled + rev. punched*
 pitch of rivets $4" + 2\frac{1}{2}"$ lap of plating $5\frac{1}{2} + 3\frac{1}{4}$ per centage of strength of joint *64*
 thickness of ~~end~~ plates $\frac{7}{8}$ stayed by *4. 2 1/4 Stays*
 Diameter of furnaces *top outside 26* bottom *5.0* length of furnace *5.0*
 thickness of plates $\frac{7}{16}$ description of joint *welded*
 thickness of ~~tube~~ furnace crown plates $\frac{11}{16}$ stayed by *stay tubes 12 1/2 pitch*
 Working pressure of shell by rules *91 lb* working pressure of furnace by rules *132 lb*
 diameter of uptake *x* thickness of plates *x* ^{dia} thickness of ~~water~~ tubes $2\frac{1}{2}$ Pitched $3\frac{1}{2} \times 3\frac{3}{4}$

The foregoing is a correct description,
J. Madock Manufacturer.

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

*The machinery fitted on board in accordance with the Society's Rules and Boilers made to approved design are now, in my opinion in safe working condition and the case is respectfully submitted for the favourable consideration of the Committee with a view to the notification *L.M.C. 10.82* in the Register Book.*

(List of spare gear attached)

The amount of Entry Fee .. £ *2 0 0* received by me, *M. N.*
 Special on 130. H.P. £ *19 10 0*
 Donkey Boiler *2 2 0*
 Certificate (if required) .. £ *Gratis 17/10/18*
 To be sent as per margin.
 (Travelling Expenses, if any, £ ..)

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

Committee's Minute *Friday, 20th October 1892*

