

# REPORT ON MACHINERY.

No. 909.

MON. 16 OCT 1899

Port of Philadelphia  
 No. in Survey held at Wilmington, Del. Date, first Survey Oct. 18, 1898. Last Survey Sept. 21, 1899.  
 Reg. Book. 535 on the Steel Steamship Ponce's Machinery (Number of Visits 20)  
 Master D. Lloyd Built at Wilmington By whom built The Heald & Hollingsworth Tons { Gross 3503  
 Engines made at Wilmington, Del. By whom made The Heald & Hollingsworth Net 2519  
 Boilers made at Wilmington, Del. By whom made The Heald & Hollingsworth when built 1899  
 Registered Horse Power 303 Owners N. Y. & Porto Rico S. S. Co. when made 1899  
 Nom. Horse Power as per Section 28 303 Port belonging to New York.

ENGINES, &c.— Description of Engines Triple Expansion No. of Cylinders 3  
 Diameter of Cylinders 24, 37, 62 Length of Stroke 42 Revolutions per minute 85 Diameter of Screw shaft 12.22  
 Diameter of Tunnel shaft 11.36 as per rule 11.36 Diameter of Crank shaft journals 12 1/4 Diameter of Crank pin 12 1/4 Size of Crank webs 8 1/2, 9  
 Diameter of screw 14 1/2 Pitch of screw 16 1/2 No. of blades 4 State whether moveable No Total surface 66 1/2  
 No. of Feed pumps one duplex Diameter of ditto 8 1/2 Stroke 12 Can one be overhauled while the other is at work independent Pump  
 No. of Bilge pumps one duplex Diameter of ditto 6 1/2 Stroke 8 Can one be overhauled while the other is at work Yes  
 No. of Donkey Engines one duplex Sizes of Pumps 12" & 6" & 7" & 4" & 12 1/2" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room two In Holds, &c. to all holds, as per Pumping Plan.  
 No. of bilge injections one sizes 7" Connected to condenser, or to circulating pump Is a separate donkey suction fitted in Engine room & size Yes, 3 1/2"  
 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 Valves  
 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 forward bilge suction How are they protected boxed in  
 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 before landing Is the screw shaft tunnel watertight Yes  
 Is it fitted with a watertight door Yes worked from upper Engine Room platform

OILERS, &c.— (Letter for record 51) Total Heating Surface of Boilers 4102 sq. ft.  
 No. and Description of Boilers Two, Cylindrical, tubular Working Pressure 180 lb. Tested by hydraulic pressure to 360 lb.  
 Date of test July 22 Can each boiler be worked separately Yes Area of fire grate in each boiler 550 sq. ft. No. and Description of safety valves to  
 each boiler two, Marine type Area of each valve 9.62 Pressure to which they are adjusted 183 lb. Are they fitted  
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork 13" Mean diameter of boilers 14 1/2"  
 Length 117 9/8 Material of shell plates Steel Thickness 1 5/16 Description of riveting: circum. seams double riv. lap long. seams triple riv. double lap  
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 7 1/2" Lap of plates on width of butt straps 20 1/2"  
 Per centages of strength of longitudinal joint 87.7 plate 81.66 Working pressure of shell by rules 187 lb. Size of manhole in shell 12" x 16"  
 Size of compensating ring ord. 30" No. and Description of Furnaces in each boiler three, Cornish Material Steel Outside diameter 48"  
 Length of plain part top 8' 11" Thickness of plates bottom 1 9/32 Description of longitudinal joint welded No. of strengthening rings Computed  
 Working pressure of furnace by the rules 196 lb. Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 9/16"  
 Pitch of stays to ditto: Sides 7' 7 1/2" Back 7' 7 1/4" Top 6 1/2' 7 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 218 lb.  
 Material of stays Steel Diameter at smallest part 1.316" Area supported by each stay 500" Working pressure by rules 217 lb. End plates in steam space:  
 Material Steel Thickness 1 1/32" Pitch of stays 15' 13 1/2" How are stays secured double nuts Working pressure by rules 233 lb. Material of stays Steel  
 Diameter at smallest part 2 1/2" Area supported by each stay 202.50" Working pressure by rules 216 lb. Material of Front plates at bottom Steel  
 Thickness 1 1/16" Material of Lower back plate Steel Thickness 1 1/32" Greatest pitch of stays as per Plan Working pressure of plate by rules ?  
 Diameter of tubes 3" Pitch of tubes 4 1/4" long Material of tube plates Steel Thickness: Front 1 1/16" Back 1 1/16" Mean pitch of stays 8 1/2"  
 Pitch across wide water spaces 13" Working pressures by rules 210 lb. Girders to Chamber tops: Material Steel Depth and  
 thickness of girder at centre 7 1/2' x 2' Length as per rule 33' Distance apart 7 3/4' Number and pitch of Stays in each 4 stays 6 1/2" pitch  
 Working pressure by rules 181 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 —  
 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 —

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**DONKEY BOILER**— Description *Cylindrical, Tubular.*  
 Made at *Wilmington Del* By whom made *The Harlan & Hollingsworth Co.* When made *1899.* Where fixed *on Main Deck.*  
 Working pressure *100%* Tested by hydraulic pressure to *200*. No. of Certificate *—* Fire grate area *25/20* Description of safety valves *Marine type*  
 No. of safety valves *two* Area of each *4.90* Pressure to which they are adjusted *100%* If fitted with easing gear *Yes.* If steam from main boilers can enter the donkey boiler *No, reduction Valve.* Diameter of donkey boiler *8 ft 0"* Length *9 ft 4"* Material of shell plates *Steel* Thickness *1/2"*  
 Description of riveting long. seams *double riv. double straps* Diameter of rivet holes *7/8"* Whether punched or drilled *drilled* Pitch of rivets *4 1/8"*  
 Straps *9 1/4" wide* Per centage of strength of joint Rivets *86.7.* End *2 1/32"* Radius of do. *Pitch* of Stays to do *13 3/4" x 10"*  
 Dia. of stays *1 3/4"* Diameter of furnace *32"* Length of furnace *7' 1"* Thickness of furnace plates *5/16"* Description of joint *double, completed* Thickness of furnace crown plates *—* Stayed by *—* Working pressure of shell by rules *102.7*  
 Working pressure of furnace by rules *118.* Diameter of uptake *—* Thickness of uptake plates *—* Thickness of water tubes *2 3/4"*

**SPARE GEAR.** State the articles supplied:— *One set Brasses top & Bottom Conn. Rod. 1 set Link braces, one Exc. screw & strap, a set of Valves for each Pump, 6 studs each for Cyl. & Valve Rod & Pins. 6 Main Boiler tubes, 6 Donkey Boiler tubes, 12 Cond. tubes. 2 Safety Valve Springs. 2 Conn. Rod bolts end end, 2 M. Scoring Bolts, set of Coupl. bolts, set of Piston Springs, Quantity of ass. bolts & material of various sizes & kinds.*  
 The foregoing is a correct description,  
*The Harlan & Hollingsworth Company* Manufacturer.  
*By J. H. Ganss* President

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

The Engines and Boilers of this Vessel are of modern Design, good Workmanship & Material. All Pumps are independent, Steam Reversing Gear, Filter, Evaporator Feed Heater, Steam turning Engines etc, are fitted, also automatic Lubrication & a complete Water-Low. All shafting, Piston rods, valve spindles, etc. are of forged Steel.

The Boilers have been built according to approved Plans, all Materials tested, as required by the Rules, as shown on Test Reports annexed. The Boilers and Engines are well fastened to strong and substantial Foundations, and on several Trials were found to work well. The Ellis and Sives induced Draft is fitted to Boilers.

The Boilers have been tested to twice the Working Pressure, and Safety Valves set under steam. Letters referring to this case are dated December 2, 1898 and January 6, 1899.

I would recommend, that the Record + L.M.C. 9.99 be made in the Registerbook in the case of this Vessel.

It is submitted that  
 this vessel is eligible for  
**THE RECORD. + L.M.C. 9.99. F.D.**

*RS*  
 16.10.99

*BRMS*  
 16/10/99

Certificate (if required) to be sent to

The amount of Entry Fee..	£ 3 : 0 : 0	When applied for,
Special .. .. .	£ 35 : 3 : .	September 2, 1899
Donkey Boiler Fee .. ..	£ 2 : 2 : .	When received,
Travelling Expenses (if any)	£ 25 : 10 : .	Sept 28 1899

For New York  
 Fee \$24.50 = £5.0.0  
 Exp: \$23.00

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

Committee's Minute **TUES. 17 OCT 1899**

Assigned

**+ L.M.C. 9.99**

MACHINERY CERTIFICATE  
 WRITTEN



Lloyd's Register  
 Foundation