

## REPORT ON MACHINERY.

No. 16778

Port of Hull

Received at London Office

JUL 9 MAY 1905

No. in Survey held at Beverley & Hull Date, first Survey 10<sup>th</sup> April Last Survey 6<sup>th</sup> May 1905

Reg. Book.

(Number of Visits 6)514 on the Sho. H. Lizzie & AnnieTons Gross 108.58Net 92.95When built 1876 1877 6 moMaster J. Lord Built at H. Shields By whom built Softley & CoEngines made at Boston By whom made J. Peck & Son when made 1896Boilers made at Boston By whom made J. Peck & Son when made 1896Registered Horse Power 100 Owners G. J. Birch & Co Port belonging to Hull

Nom. Horse Power as per Section 28

Is Refrigerating Machinery fitted for cargo purposes NoIs Electric Light fitted No

## ENGINES, &amp;c.—Description of Engines

No. of Cylinders

No. of Cranks

Dia. of Cylinders \_\_\_\_\_ Length of Stroke \_\_\_\_\_ Revs. per minute \_\_\_\_\_ Dia. of Screw shaft \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Material of screw shaft \_\_\_\_\_

Is the screw shaft fitted with a continuous liner the whole length of the stern tube \_\_\_\_\_ Is the after end of the liner made water tight \_\_\_\_\_

in the propeller boss \_\_\_\_\_ If the liner is in more than one length are the joints burned \_\_\_\_\_ If the liner does not fit tightly at the part \_\_\_\_\_

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive \_\_\_\_\_ If two \_\_\_\_\_

liners are fitted, is the shaft lapped or protected between the liners \_\_\_\_\_ Length of stern bush \_\_\_\_\_

Dia. of Tunnel shaft \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Dia. of Crank shaft journals \_\_\_\_\_ as per rule \_\_\_\_\_ as fitted \_\_\_\_\_ Dia. of Crank pin \_\_\_\_\_ Size of Crank webs \_\_\_\_\_ Dia. of thrust shaft under \_\_\_\_\_

collars \_\_\_\_\_ Dia. of screw \_\_\_\_\_ Pitch of screw \_\_\_\_\_ No. of blades \_\_\_\_\_ State whether moveable \_\_\_\_\_ Total surface \_\_\_\_\_

No. of Feed pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Bilge pumps \_\_\_\_\_ Diameter of ditto \_\_\_\_\_ Stroke \_\_\_\_\_ Can one be overhauled while the other is at work \_\_\_\_\_

No. of Donkey Engines \_\_\_\_\_ Sizes of Pumps \_\_\_\_\_ No. and size of Suctions connected to both Bilge and Donkey pumps \_\_\_\_\_

In Engine Room \_\_\_\_\_ In Holds, &c. \_\_\_\_\_

No. of bilge injections \_\_\_\_\_ sizes \_\_\_\_\_ Connected to condenser, or to circulating pump \_\_\_\_\_ Is a separate donkey suction fitted in Engine room & size \_\_\_\_\_

Are all the bilge suction pipes fitted with roses \_\_\_\_\_ Are the roses in Engine room always accessible \_\_\_\_\_ Are the sluices on Engine room bulkheads always accessible \_\_\_\_\_

Are all connections with the sea direct on the skin of the ship \_\_\_\_\_ Are they Valves or Cocks \_\_\_\_\_

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates \_\_\_\_\_ Are the discharge pipes above or below the deep water line \_\_\_\_\_

Are they each fitted with a discharge valve always accessible on the plating of the vessel \_\_\_\_\_ Are the blow off cocks fitted with a spigot and brass covering plate \_\_\_\_\_

What pipes are carried through the bunkers \_\_\_\_\_ How are they protected \_\_\_\_\_

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times \_\_\_\_\_

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges \_\_\_\_\_

When were stern tube, propeller, screw shaft, and all connections examined in dry dock \_\_\_\_\_ Is the screw shaft tunnel watertight \_\_\_\_\_

Is it fitted with a watertight door \_\_\_\_\_ worked from \_\_\_\_\_

## BOILERS, &amp;c.—

(Letter for record \_\_\_\_\_)

Total Heating Surface of Boilers

Is forced draft fitted

No. and Description of Boilers \_\_\_\_\_ Working Pressure \_\_\_\_\_ Tested by hydraulic pressure to \_\_\_\_\_

Date of test \_\_\_\_\_ Can each boiler be worked separately \_\_\_\_\_ Area of fire grate in each boiler \_\_\_\_\_ No. and Description of safety valves to \_\_\_\_\_

each boiler \_\_\_\_\_ Area of each valve \_\_\_\_\_ Pressure to which they are adjusted \_\_\_\_\_ Are they fitted with easing gear \_\_\_\_\_

Smallest distance between boilers or uptakes and bunkers or woodwork \_\_\_\_\_ Mean dia. of boilers \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_

Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_ Are they welded or flanged \_\_\_\_\_ Descrip. of riveting: cir. seams \_\_\_\_\_ long. seams \_\_\_\_\_

Diameter of rivet holes in long. seams \_\_\_\_\_ Pitch of rivets \_\_\_\_\_ Lap of plates or width of butt straps \_\_\_\_\_

Per centages of strength of longitudinal joint \_\_\_\_\_ rivets \_\_\_\_\_ Working pressure of shell by rules \_\_\_\_\_ Size of manhole in shell \_\_\_\_\_

Size of compensating ring \_\_\_\_\_ No. and Description of Furnaces in each boiler \_\_\_\_\_ Material \_\_\_\_\_ Outside diameter \_\_\_\_\_

Length of plain part \_\_\_\_\_ top \_\_\_\_\_ bottom \_\_\_\_\_ Thickness of plates \_\_\_\_\_ crown \_\_\_\_\_ bottom \_\_\_\_\_ Description of longitudinal joint \_\_\_\_\_ No. of strengthening rings \_\_\_\_\_

Working pressure of furnace by the rules \_\_\_\_\_ Combustion chamber plates: Material \_\_\_\_\_ Thickness: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ Bottom \_\_\_\_\_

Pitch of stays to ditto: Sides \_\_\_\_\_ Back \_\_\_\_\_ Top \_\_\_\_\_ If stays are fitted with nuts or riveted heads \_\_\_\_\_ Working pressure by rules \_\_\_\_\_

Material of stays \_\_\_\_\_ Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ End plates in steam space: \_\_\_\_\_

Material \_\_\_\_\_ Thickness \_\_\_\_\_ Pitch of stays \_\_\_\_\_ How are stays secured \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of stays \_\_\_\_\_

Diameter at smallest part \_\_\_\_\_ Area supported by each stay \_\_\_\_\_ Working pressure by rules \_\_\_\_\_ Material of Front plates at bottom \_\_\_\_\_

Thickness \_\_\_\_\_ Material of Lower back plate \_\_\_\_\_ Thickness \_\_\_\_\_ Greatest pitch of stays \_\_\_\_\_ Working pressure of plate by rules \_\_\_\_\_

Diameter of tubes \_\_\_\_\_ Pitch of tubes \_\_\_\_\_ Material of tube plates \_\_\_\_\_ Thickness: Front \_\_\_\_\_ Back \_\_\_\_\_ Mean pitch of stays \_\_\_\_\_

Pitch across wide water spaces \_\_\_\_\_ Working pressures by rules \_\_\_\_\_ Girders to Chamber tops: Material \_\_\_\_\_ Depth and \_\_\_\_\_

thickness of girder at centre \_\_\_\_\_ Length as per rule \_\_\_\_\_ Distance apart \_\_\_\_\_ Number and pitch of Stays in each \_\_\_\_\_

Working pressure by rules \_\_\_\_\_ 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 \_\_\_\_\_



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Foundation



**DONKEY BOILER—** No. \_\_\_\_\_ Description *Hot Launch Type*  
 Made at *Boston* By whom made *J. Peck Son* When made *1896* Where fixed *On Deck*  
 Working pressure *70 lbs* Tested by hydraulic pressure to *120 lbs* No. of Certificate \_\_\_\_\_ Fire grate area *3 1/2* Description of safety valves *Spring*  
 No. of safety valves *One* Area of each *3 1/4* Pressure to which they are adjusted *70 lbs* If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler \_\_\_\_\_  
 Dia. of donkey boiler *40"* Length *5' 3"* Material of shell plates *Iron* Thickness *1/2"* Range of tensile strength \_\_\_\_\_  
 Descrip. of riveting long. seams *L. D. R.* Dia. of rivet holes *1 1/8"* Whether punched or drilled *Drilled* Pitch of rivets *2 3/4"*  
 Lap of plating *4 1/2"* Per centage of strength of joint \_\_\_\_\_ Rivets *68* Thickness of shell end plates *5/8"* Radius of do. \_\_\_\_\_ No. of Stays to do. *3*  
 Dia. of stays *1 1/2"* Pitch *12"* Diameter of furnace Top *25"* Bottom \_\_\_\_\_ Length of furnace *2' 0"* Thickness of furnace plates *1/2"* Description of joint *welded* Thickness of tube plates *5/8"* Stayed by *7 stay tubes 1/2" thick at 3 1/2" pitch* Working pressure of shell by rules *144 lbs*  
 Working pressure of furnace by rules *8000 T - 160 lbs* Diameter of uptake *2"* Thickness of uptake plates *7/16"* Thickness of water tubes \_\_\_\_\_

**SPARE GEAR.** State the articles supplied:— *Dome 12" high x 14" dia. 3/8" plate with flat top 7/16" stayed by 2 stays 1 1/2" eff. dia. Dome connected to shell by rivets 2" pitch 1 1/8" dia.*

*The foregoing is a correct description,*

*Manufacturer.*

Dates { During progress of work in shops - - }  
 of Survey { During erection on board vessel - - }  
 while building { Total No. of visits \_\_\_\_\_ }

*Is the approved plan of main boiler forwarded herewith*

*" " " donkey " " "*

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

*The engine's main boiler of this vessel have been lifted out, the vessel converted into a barge to be towed from and to Hull Spalding. The donkey boiler which has not been in use for some time, is now to be used for cargo purposes, but the least pressure at which it can be usefully employed is 70 lbs per sq. inch. The dimensions of boiler have been verified as above, & are considered good for this pressure. The boiler has been examined externally & internally as far as practicable on account of size, the shell, end plates, furnace, tubes, stays, & mountings found in good order, then tested by hydraulic pressure to 120 lbs & steam pressure of 70 lbs and the safety valve adjusted to blow off at this pressure.*

*The case is respectfully submitted for consideration as being eligible in my opinion to have the record of survey *D.B.S. 5.05* 70 lbs. and the *L.M.C.* notation, and machinery particulars to be removed from Register Book.*

*Engine & M. removed from vessel, which has been converted into a barge.*

*It is submitted that this vessel is eligible for THE RECORD*

The amount of Entry Fee. £ : : When applied for, \_\_\_\_\_  
 Special . . . . £ : : \_\_\_\_\_  
 Donkey Boiler Fee *£100* 1 : : When received, \_\_\_\_\_  
 Travelling Expenses (if any) £ : : *22.5.05*

Committee's Minute *£1.2*

*FRI. 12 MAY 1896*

Assigned

*D.B.S. 5.05*  
*Omit record of machinery*

*Expunge L.R. record*  
*James Barclay*  
*Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.*  
*6.5.05*



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