

# REPORT ON MACHINERY

Let No. 11109  
New No. 48739

Port of Newcastle-on-Tyne & Leith

Received at London Office 19

No. in Survey held at Newcastle & Leith  
Reg. Book.

Date, first Survey 12<sup>th</sup> Jan. 1905 Last Survey 24<sup>th</sup> May 1905  
(Number of Visits 27)

on the S. S. "Carrying"

Master James B. B. Built at Leith By whom built John Brown & Co

Tons { Gross 147.51  
Net 3.97  
When built 1905

Engines made at Leith By whom made J. Brown & Co when made 1905

Boilers made at South Shields By whom made J. S. Eltingham & Co (No. 1468) when made 1905

Registered Horse Power Owners The Alexandra Shipping Co Ltd Port belonging to Liverpool

Nom. Horse Power as per Section 28 102<sup>1/2</sup> Is Refrigerating Machinery fitted no Is Electric Light fitted no

**ENGINES, &c.**—Description of Engines *Compound* No. of Cylinders 2 No. of Cranks 2  
 Dia. of Cylinders 16" 4 3/4" Length of Stroke 27" Revs. per minute 110 Dia. of Screw shaft as per rule 9.8" Material of screw shaft 2mm  
 Is the screw shaft fitted with a continuous liner the whole length of the stern tube no liners Is the after end of the liner made water tight in the propeller boss yes 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  
 Dia. of ~~Tunnel~~ <sup>Inter</sup> shaft as per rule 7.48" 8.29" Dia. of Crank shaft journals as per rule 8.56" 8.71" Length of stern bush 38"  
 Dia. of shaft as fitted 8.5" Dia. of Crank pin 8 3/4" Size of Crank webs 16 1/2" x 6" Dia. of thrust shaft under collars 8 3/4" Dia. of screw 9" 8" Pitch of screw 12-6" No. of blades 4 State whether moveable no Total surface 36"  
 No. of Feed pumps 2 ✓ Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes  
 No. of Bilge pumps 2 ✓ Diameter of ditto 2 1/2" Stroke 15" Can one be overhauled while the other is at work yes  
 No. of Donkey Engines 1 Sizes of Pumps 5 1/2" x 4" x 5" No. and size of Suctions connected to both Bilge and Donkey pumps  
 In Engine Room Two 2" ✓ In Holds, &c. one in fore cabin, one in aft cabin, one in after hold each 2" ✓  
 No. of bilge injections 1 sizes 3 3/4" Connected to condenser, or to circulating pump yes Is a separate donkey suction fitted in Engine room & size yes 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 none  
 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 valves fitted ✓  
 What pipes are carried through the bunkers none How are they protected ✓  
 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 how vessel Is the screw shaft tunnel watertight none  
 Is it fitted with a watertight door ✓ worked from ✓

**BOILERS, &c.**— (Letter for record S.) Total Heating Surface of Boilers 1560 sq ft Is forced draft fitted no  
 No. and Description of Boilers One single ended multitubular Working Pressure 170 lbs Tested by hydraulic pressure to 340 lbs  
 Date of test 12.4.05. Can each boiler be worked separately ✓ Area of fire grate in each boiler 56 sq ft No. and Description of safety valves to each boiler Two spring valves Area of each valve 7.07 sq in Pressure to which they are adjusted 175 lbs Are they fitted with easing gear yes  
 Smallest distance between boilers or uptakes and bunkers or woodwork way of tubes Mean dia. of boilers 14'-1 1/2" Length 10'-0" Material of shell plates steel  
 Thickness 1/2" Range of tensile strength 28 1/2-32 Are they welded or flanged no Descrip. of riveting: cir. seams DR Lap long. seams DBS. J. Riv.  
 Diameter of rivet holes in long. seams 1 3/8" Pitch of rivets 8" Lap of plates or width of butt straps 2 1/4"  
 Per centages of strength of longitudinal joint rivets 87 Working pressure of shell by rules 196 lbs Size of manhole in shell 16 x 12  
 Size of compensating ring flange ring No. and Description of Furnaces in each boiler 3. Fox Material S. Outside diameter 46"  
 Length of plain part top Thickness of plates crown 17" Description of longitudinal joint weld No. of strengthening rings ✓  
 Working pressure of furnace by the rules 175 Combustion chamber plates: Material S. Thickness: Sides 5/8" Back 5/8" Top 5/8" Bottom 3/4"  
 Pitch of stays to ditto: Sides 8 x 9 1/2" Back 8 1/2 x 8 1/2" Top 8 1/2 x 9 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 174  
 Material of stays S. Diameter at smallest part 1 5/8" Area supported by each stay 8 x 9 1/2" Working pressure by rules 177 End plates in steam space:  
 Material S. Thickness 1 1/4" Pitch of stays 19 x 17 1/2" How are stays secured DN 40 Working pressure by rules 236 Material of stays S.  
 Diameter at smallest part 2 2/32 Area supported by each stay 19 x 17 1/2" Working pressure by rules 200 Material of Front plates at bottom S.  
 Thickness 1" Material of Lower back plate S. Thickness 3/32" Greatest pitch of stays 17 1/2" x 8" Working pressure of plate by rules 175  
 Diameter of tubes 3 1/2" Pitch of tubes 4 3/4" x 4 3/4" Material of tube plates S. Thickness: Front 1" Back 7/8" Mean pitch of stays 9 1/2" x 9 1/2"  
 Pitch across wide water spaces 14 3/4" Working pressures by rules 176 lbs Girders to Chamber tops: Material S. Depth and thickness of girder at centre 6 5/8" x 2 5/8" Length as per rule 2'-7" Distance apart 8 1/4" Number and pitch of Stays in each 2 . 9"  
 Working pressure by rules 174 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

**DONKEY BOILER**— No. *1111* Description

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 \_\_\_\_\_  
 Dia. of donkey boiler \_\_\_\_\_ Length \_\_\_\_\_ Material of shell plates \_\_\_\_\_ Thickness \_\_\_\_\_ Range of tensile strength \_\_\_\_\_  
 Descrip. of riveting long. seams \_\_\_\_\_ Dia. 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 & two bottom end connecting rods bolts & nuts, two main bearing bolts, one set connecting bolts, one set feed & live pump valves, assorted bolts and nuts, 20m of various sizes*

The foregoing is a correct description,  
*John Lane & Co* Manufacturers

*Jos. J. Eltringham* Manufacturer of *Henry Doeg & Co. Boilers*

Dates of Survey while building  
 During progress of work in shops:— *Nov. 12, 18, 20, 26, Feb. 7, 13, 20, 27, Mch. 3, 12, 18, 23, 30, Apt. 6, 12.*  
 During erection on board vessel:— *1<sup>st</sup> July 1905, Aug. 11, 13, April 10, 13, 14, 20, May 2, 5, 9, 15, 24.*  
 Total No. of visits \_\_\_\_\_

Is the approved plan of main boiler forwarded herewith *yes*  
 " " " donkey " " " " *✓*

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

*This boiler has been constructed under special survey, the material & workmanship found sound & tested in accordance with the rules.*

*The machinery of this vessel has been built under special survey, the materials and workmanship are sound and good and under the vessel eighth in our opinion to have record of L.M.C. 5.05*

**It is submitted that this vessel is eligible for THE RECORD L.M.C. 5.05.**

*30.5.05*  
*30.5.05*

Certificate (if required) to be sent to \_\_\_\_\_

The amount of Entry Fee:— £ *2* : - :  
 Special *Leith* £ *10* : *4* :  
 Donkey Boiler Fee *Glasgow* £ *5* : *2* :  
 Travelling Expenses (if any) £ *15* : *6* :  
 When applied for, *29<sup>th</sup> May 1905*  
 When received, *2.6.05*

*J. Stoddart* G.A.S. & Co.  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute *FRI. 2 JUN 1905*

Assigned *+ hmc 5.05*

MACHINERY CERTIFICATE WRITTEN.



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