

REPORT ON MACHINERY.

9676

No. *9676* Port of *Glasgow* Received at London Office *73*
 No. in Survey held at *Glasgow* Date, first Survey *21 Sept^r 1888* Last Survey *15th April 1889*
 Reg. Book. on the *S. S. Larnaca* (Number of Visits *36*) Tons
 Master Built at *Port Glasgow* By whom built *Russell & Co* When built *1889*
 Engines made at *Glasgow* By whom made *J. Howden & Co* when made *1889*
 Boilers made at " By whom made " " " when made *1889*
 Registered Horse Power *220* Owners Port belonging to

ENGINES, &c.—

Description of Engines *Triple Expansion*
 Diameter of Cylinders *22⁵ 35⁵ 58²* Length of Stroke *39*" No. of Rev. per minute *70*. Point of Cut off, High Pressure *Var.* Low Pressure *—*
 Diameter of Screw shaft *11¹/₂*" Diam. of Tunnel shaft *11*" Diam. of Crank shaft journals *11¹/₂*" Diam. of Crank pin *11¹/₂*" size of Crank webs *built*
 Diameter of screw *1¹/₂ x 6*" Pitch of screw *16 to 14 ft* No. of blades *4* state whether moveable *Yes* total surface *66 ft²*
 No. of Feed pumps *2* diameter of ditto *3*" Stroke *19*" Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *2* diameter of ditto *4¹/₂*" Stroke *19*" Can one be overhauled while the other is at work *Yes*
 Where do they pump from *All compartments*
 No. of Donkey Engines *Two* Size of Pumps *10" x 12" x 9" Ballast* *8" x 6" x 5" Feed* Where do they pump from *Sea to two bilges and tanks*
 Are all the bilge suction pipes fitted with roses *Yes* Are the roses always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*
 No. of bilge injections *One* and sizes *5¹/₂"* Are they connected to ~~condensing~~ circulating pump *Yes*
 How are the pumps worked *By Levers off P. Crosshead*
 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 *about*
 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 *—*
 Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *Yes*
 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 *On ship before leaving Greenock*
 Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Upper platform*

BOILERS, &c.—

Howden's Forced draught arr^g
 Number of Boilers *Two* Description *Round Horizontal* Whether Steel or Iron *Steel*
 Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs* Date of test *8th March 1889*
 Description of superheating apparatus or steam chest *None*
 Can each boiler be worked separately *Yes* Can the superheater be shut off and the boiler worked separately *—*
 No. of square feet of fire grate surface in each boiler *37 ft²* Description of safety valves *Direct Spring* No. to each boiler *Two*
 Area of each valve *8.3*" Are they fitted with casing gear *Yes* No. of safety valves to superheater *—* area of each valve *—*
 Are they fitted with casing gear *—* Smallest distance between boilers and bunkers or woodwork *about 10*" Diameter of boilers *13.0*"
 Length of boilers *11 ft⁴* description of riveting of shell long. seams *Triple riveted* circum. seams *Double riveted* thickness of shell plates *1¹/₈"*
 Diameter of rivet holes *1³/₁₆"* whether punched or drilled *Filled* pitch of rivets *4¹/₁₆" + 3³/₈"* Lap of plating *1³/₄" x Straps*
 Per centage of strength of longitudinal joint *84⁷/₁₀₀* working pressure of shell by rules *160 lbs* size of manholes in shell *12" x 16"*
 Size of compensating rings *Larged ring fitted* No. of Furnaces in each boiler *Three*
 Outside diameter *39*" length, top *8 ft⁰* bottom *10.6*" thickness of plates *9¹/₁₆"* description of joint *Cockle comb joints* Rings are fitted *—*
 Greatest length between rings *23*" working pressure of furnace by the rules *160 lbs* combustion chamber plating, thickness, sides *10¹/₁₆"* back *9¹/₁₆"* top *10¹/₁₆"*
 Pitch of stays to ditto, sides *8¹/₂"* back *4³/₄"* top *8⁵/₈"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *160 lbs* Diameter of stays at smallest part *1³/₈"* working pressure of ditto by rules *160 lbs* end plates in steam space, thickness *1³/₁₆"*
 Pitch of stays to ditto *15" x 14"* how stays are secured *By double nuts* working pressure by rules *160 lbs* diameter of stays at smallest part *2³/₈"* working pressure by rules *162 lbs* Front plates at bottom, thickness *1²/₁₆"* Back plates, thickness *1²/₁₆"*
 Greatest pitch of stays *—* working pressure by rules *—* Diameter of tubes *2¹/₂"* pitch of tubes *3³/₈"* thickness of tube plates, front *1³/₁₆"* back *1¹/₁₆"* how stayed *By tubes* pitch of stays *6³/₄"* width of water spaces *6*"
 Diameter of Superheater or Steam chest *None* length *—* thickness of plates *—* description of longitudinal joint *—* diam. 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 *—*

DONKEY BOILER— Description *Round Vertical*
 Made at *Newcastle* by whom made *Clarke Chapman* when made *1889* where fixed *Stockholm*
 Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2738* fire grate area *19 sq. ft.* description of safety valves *Direct Spring* No. of safety valves *one* area of each *9"* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *6' 4"* length *11' 6"* description of riveting *Laps*
 Thickness of shell plates *1/32"* diameter of rivet holes *1/8"* whether punched or drilled *Drilled* pitch of rivets *3/16"* lap of plating *1 1/2"*
 per centage of strength of joint *71%* thickness of crown plates *1/16"* stayed by *4 stays 1 1/2" dia + 1 uptake*
 Diameter of furnace, top *5' 5"* bottom *5' 9 3/4"* length of furnace *6' 1/2"* thickness of plates *1/16"* description of joint *Laps*
 Thickness of furnace crown plates *1/16"* stayed by *as above* working pressure of shell by rules *89 lbs*
 Working pressure of furnace by rules *85 lbs* diameter of uptake *1' 3"* thickness of plates *1/16"* thickness of water tubes *1/16"*

SPARE GEAR. State the articles supplied:— *2 Main bearing bolts, 2 top + bottom end connecting rod bolts, 1 set coupling bolts, Feed & size pumps valves & assortment of bolts, nuts, iron Springs &c 2 Propeller blades*

The foregoing is a correct description,
 Manufacturer.

James Norment & Co

General Remarks (State quality of workmanship, opinions as to class, &c.) *The above mentioned engines and boilers, which have been built under Special Survey, are now completed outwards in a satisfactory manner of good workmanship and material and are in our opinion eligible to be noted in the Society's Register Book: + L.M.C. 4. 89.*

All the shafting have been built, rough turned and finished at engine makers works and are as far as can be seen sound & good.

Law

It is submitted that this vessel is eligible to have + L.M.C. 4. 89. recorded. W.A. 16. 4. 89.

The amount of Entry Fee .. £ *2* : : received by me,
 Special .. £ *31* : :
 Donkey Boiler Fee .. £ : :
 Certificate (if required) .. £ : :
 To be sent as per form.
 (Travelling Expenses, if any, £ ..)

W.A.
Wm. Anderson *Walter Robison*
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute **THURS 18 APRIL 1889**
+ L.M.C. 4/89

Lloyd's Register
 Foundation
 Glasgow