

REPORT ON MACHINERY.

Port of *Greenock.*

Received at London Office

No. in Survey held at *Greenock & Port Glasgow* Date, first Survey *19th Feb 1901* Last Survey *15th Feb 1902*(Number of Visits *78*)on the *Screw Steamer "Gibraltar"*Tons ^{Gross}
_{Net}Built at *Port Glasgow* By whom built *Russell & Co.*When built *1901 & 2.*Engines made at *Greenock* By whom made *John G. Kincaid & Co.* when made *1901 & 2*Boilers made at *Paisley* By whom made *Bow. McLachlan & Co.* when made *1901.*

Registered Horse Power

Port belonging to *Glasgow*

Horse Power as per Section 28

*335*Is Refrigerating Machinery fitted *No*Is Electric Light fitted *No.*GINES, & Co.—Description of Engines *Inverted Direct Acting Triple Expansion* No. of Cylinders *Three* No. of Cranks *Three*Dia. of Cylinders *25" 41" 67"* Length of Stroke *45"* Revs. per minute *48* Dia. of Screw shaft *as per rule 1 1/2"* Lgth. of stern bush *57"*Dia. of Tunnel shaft *as per rule 12 3/4"* Dia. of Crank shaft journals *as per rule 13 1/4"* Dia. of Crank pin *13 1/2"* Size of Crank webs *19 1/2" x 8 1/2"* Dia. of thrust shaft underlars *13 1/8"* Dia. of screw *1 1/2"* Pitch of screw *1 1/2"* No. of blades *Four* State whether moveable *No* Total surface *95 sq. ft.*Dia. of Feed pumps *Two* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *Yes.*Dia. of Bilge pumps *Two* Diameter of ditto *4"* Stroke *24"* Can one be overhauled while the other is at work *Yes.*Dia. of Donkey Engines *Two* Sizes of Pumps *12 x 10 & duplex 4 x 8"* No. and size of Suctions connected to both Bilge and Donkey pumpsEngine Room *Four 3 1/2"* In Holds, &c. *Eight 3 1/2" in holds & one 2 1/2" in tunnel well.*Dia. of bilge injections *One size 6"* Connected to condenser, or to circulating pump *As a separate donkey suction fitted in Engine room & size 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 *—*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 cocks fitted with a spigot and brass covering plate *Yes*How are they protected *By lead casing*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 *on ship before launching* Is the screw shaft tunnel watertight *Yes*Is it fitted with a watertight door *Yes* worked from *Top platform*

BOILERS, & Co.— (Letter for record) Total Heating Surface of Boilers Is forced draft fitted

and Description of Boilers *See Glasgow report No 19435* Working Pressure Tested by hydraulic pressure to

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

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

Greatest 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

Percentages of strength of longitudinal joint Working pressure of shell by rules Size of manhole in shell

No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part Thickness of plates Description of longitudinal joint No. of strengthening rings

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

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

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

Diameter Length Thickness of shell plates Material Description of longitudinal joint Diam. of rivet

Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness

Fitted 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. Description *none fitted in this vessel.*
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 boiler
enter the donkey boiler Dia. of donkey boiler Length Material of shell plates Thickness Range of strength
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 Descripti
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:— *propeller, 3 cylinder escape valves & springs, 2 Connect
Rod Bolt & nuts, 2 Crosshead, 2 Crank Shaft journals Bolt & nuts, 12 Coupler
Bolt & nuts, 6 Junk Ring Bolt, 3 cylinder cover studs nuts, 2 Feed pump valve
2 Relief pump valves, 12 Boiler tubes, 12 Condenser tubes, 1 set safety valve spring
The foregoing is a correct description, 1 set air pump valve, 1 set circulating pump val
1 set pump for L.P. piston etc etc.
J. H. G. / Kincaid & Co Manufacturer.
p. 124.*

Dates of Survey while building	During progress of work in shops -	1901. Feb 19. May 17. 31. June 3. 7. 10. 13. 15. 21. 27. July 1. 3. 16. 17. 20. 23. 29. Aug
	During erection on board vessel -	10. 13. 14. 15. 19. 20. 22. 23. 26. 28. 29. 30. Sep 3. 5. 7. 11. 13. 16. 19. 23. 25. 27. Oct 3. 5. 7. 8. 9. 11. 13.
	Total No. of visits	25. 29. Nov 5. 11. 22. 25. 26. 29. Dec 2. 3. 4. 5. 6. 9. 11. 12. Is the approved plan of main boiler forwarded herewith
		1902. Jan 11. 21. 29. 31 Feb 3. 6. 15. 7 H. visits " " " donkey " " "

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

Material of screw shaft *Iron* Is the screw shaft fitted with a continuous liner the whole length of the stern tube *yes*
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
non-corrosive If two liners are fitted, is the shaft lapped or protected between the liners

These Engines were specially surveyed during construction, workmanship good. Main steam pipes tested by hydraulic pressure to 380 lbs. tests satisfactory. The Engines & Boilers are satisfactorily fitted in vessel, and have been tested under full steam, they now in good order & safe working condition, and in our opinion eligible to be noted in Register Book LMC 2, 02.

It is submitted that this vessel is eligible for THE RECORD. LMC 2. 0

The amount of Entry Fee... £ 3 : : : When applied for, 18. 2. 1902
Special Glasgow... £ 24 : 10 : :
Donkey Boiler Fee... £ 12 : 5 : :
Travelling Expenses (if any) £ : : : When received, 20. 2. 1902
Committee's Minute Glasgow, 24 FEB. 1902
Assigned L.M.C. 2, 02.
Machinery Certificate WRITTEN 26.2.02
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