

REPORT ON MACHINERY

VED. 4 APR 1900

Port of *Glasgow*

No. in Survey held at *Paisley* Date, first Survey *19 Decr 1898* Last Survey *27th March 1900*

Reg. Book. on the *vehicular S. Henry Finnieston (4 screws)* (Number of visits *50*) Tons { Gross *263.91* Net *8.0*

Master Built at *Paisley* By whom built *Fleming & Ferguson Ltd* When built *1899*

Engines made at *Paisley* By whom made *Fleming & Ferguson* when made *1900*

Boilers made at *do* By whom made *do* when made *1900*

Registered Horse Power Owners *Clyde Navigation Trustees* Port belonging to *Glasgow*

Com. Horse Power as per Section 28 *61* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *Yes*

ENGINES, &c. Description of Engines *Two sets, Triple Expansion fore & aft screws to each set* No. of Cylinders *Six* No. of Cranks *6*
 Dia. of Cylinders *10, 15 1/2 & 22* Length of Stroke *18"* Revs. per minute *160* Dia. of Screw shaft *as per rule 4.92"* Lgth. of stern bush *20 3/4"*
 Dia. of Tunnel shaft *as per rule 2.45"* Dia. of Crank shaft journals *as per rule 4.69"* Dia. of Crank pin *5 1/2"* Size of Crank webs *9 1/2 x 3 1/2"* Dia. of thrust shaft under
 pillars *5 1/2"* Dia. of screw *6-0"* Pitch of screw *5-0"* No. of blades *3* State whether moveable *Solid* Total surface *11 sq ft*
 No. of Feed pumps *each set* Diameter of ditto *1 3/4"* Stroke *10"* Can one be overhauled while the other is at work *Yes*
 No. of Bilge pumps *each set* Diameter of ditto *1 3/4"* Stroke *10"* Can one be overhauled while the other is at work *Yes*
 No. of Donkey Engines *Two* Sizes of Pumps *5 x 3 1/2 x 5 & 5 x 3 1/2 x 5* No. and size of Suctions connected to both Bilge and Donkey pumps
 in Engine Room *Two 2 1/4"* In Holds, &c. *Four 2 1/4"*

No. of bilge injections *1* sizes *6"* Connected to condenser, &c. 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 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 *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*

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 *26/3/00* Is the screw shaft tunnel watertight *None*

Is it fitted with a watertight door *✓* worked from *✓*

OILERS, &c. — (Letter for record *S*) Total Heating Surface of Boilers *1103 sq ft* Is forced draft fitted *No*

No. and Description of Boilers *Two Single Ended* Working Pressure *160 lb* Tested by hydraulic pressure to *320 lb*

Date of test *8/5/99* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *23 3/4 sq ft* No. and Description of safety valves to

each boiler *Two, Direct Spring* Area of each valve *3.14 sq ft* Pressure to which they are adjusted *160 lb* Are they fitted with easing gear *Yes*

Smallest distance between boilers or uptakes and bunkers or woodwork *10"* Mean dia. of boilers *8-6"* Length *9-0"* Material of shell plates *Steel*

Thickness *3/16"* Range of tensile strength *27/32* Are they welded or flanged *Neither* Descrip. of riveting: cir. seams *Double R Lap* long. seams *Double R Butt*

Diameter of rivet holes in long. seams *7/8"* Pitch of rivets *6"* Lap of plates or width of butt straps *12 7/8 x 5/8* outside

Per centages of strength of longitudinal joint plate *99.1* Working pressure of shell by rules *175 lb* Size of manhole in shell *16" x 12"*

Size of compensating ring *N/A* No. and Description of Furnaces in each boiler *Two, Horizontal* Material *Steel* Outside diameter *33"*

Length of plain part *5 1/2"* Thickness of plates *13/32* Description of longitudinal joint *Welded* No. of strengthening rings *None*

Working pressure of furnace by the rules *172 lb* Combustion chamber plates: Material *Steel* Thickness: Sides *9/16"* Back *9/16"* Top *9/16"* Bottom *1/16"*

Pitch of stays to ditto: Sides *8 1/2 x 8"* Back *8 1/4 x 8 1/4"* Top *8 x 8"* If stays are fitted with nuts or riveted heads *Nuts inside* Working pressure by rules *161 lb*

Material of stays *Steel* Diameter at smallest part *2.03"* Area supported by each stay *102 sq in* Working pressure by rules *178 lb* End plates in steam space:

Material *Steel* Thickness *13/16"* Pitch of stays *15 3/4 x 14 1/2"* How are stays secured *Double Nuts* Working pressure by rules *162 lb* Material of stays *Steel*

Diameter at smallest part *4.57"* Area supported by each stay *228 sq in* Working pressure by rules *199* Material of Front plates at bottom *Steel*

Thickness *13/16"* Material of Lower back plate *Steel* Thickness *13/16"* Greatest pitch of stays *13"* Working pressure of plate by rules *200 lb*

Diameter of tubes *3"* Pitch of tubes *4 1/8"* Material of tube plates *Steel* Thickness: Front *3/4"* Back *1/16"* Mean pitch of stays *10 3/4"*

Pitch across wide water spaces *13"* Working pressures by rules *268 lb* Girders to Chamber tops: Material *Steel* Depth and

thickness of girder at centre *6 1/2 x 1 1/2"* Length as per rule *25"* Distance apart *8"* Number and pitch of Stays in each *Two, 8"*

Working pressure by rules *184 lb* Superheater or Steam chest; how connected to boiler *None* 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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DONKEY BOILER—

No. *ne.*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: *As required by the rules & the following, 2 propellers
one pair crank pin brasses, one pair main bearing brasses, one set air pump valves, 4
guards & studs for air pump, one spring for each set of escape valves, 6 plain & 2 stay
tubes &c. &c.*

The foregoing is a correct description,

Manufacturer.

*For Fleming & Ferguson, Ltd.
M. Wilson*

Dates of Survey while building
During progress of work in shops—
During erection on board vessel—
Total No. of visits

1898:— Dec. 19. 1899:— Feb. 8. 9. 21. Mar. 8. 15. 27. Apr. 11. 14. 19. 20. May. 2. 10. 16. 18. 24. June. 1. 7. 19. 28. July. 18. 25.
Aug. 5. 8. Sep. 6. 8. 14. 22. 28. Oct. 6. 13. 24. Nov. 1. 4. 14. 16. 24. Dec. 1. 5. 14. 18. 26. 1900:— Jan. 12. 15. Feb. 6. Mar. 1.
13. 19. 21. 27.

Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " *None.*

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

*In addition to the aforementioned propelling machinery, there is
a set of Inverted Triple Expansion Engines 8", 12" & 18" diameter by 12" stroke
used for raising & lowering the vehicle & passenger platform.*

*The machinery of this vessel has been built under special
survey, the materials and workmanship being of good quality,
it has been securely fitted on board, and satisfactorily tried
under full steam.*

*In our opinion the machinery of this vessel is now eligible
for record of \times L.M.C. 3-00 (unred) in register book.*

Boiler plan. Forging. & Electric Lighting reports now forwarded.

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

 \times L.M.C. 3.00.

Elec. Light

*unred.
4/4/00.*

The amount of Entry Fee. £ 1 : : When applied for,
Special £ 9 : 3 : 314/1000
Donkey Boiler Fee £ : : :
Travelling Expenses (if any) £ : : :
When received, 6/14/00

Committee's Minute

Assigned

+ L.M.C. 3.00

FRI. 6 APR 1900

James Morrison
George Murdoch
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.