

# REPORT ON MACHINERY.

No. 6803

Received at London Office

FRIDAY 16, JAN 1

No. in Survey held at Dumbarton  
Reg. Book.

Date, first Survey 28<sup>th</sup> Decem<sup>r</sup> 1883 Last Survey 15<sup>th</sup> Janu<sup>y</sup> 1885

(Number of Vials 38)

5030.1/3  
Tons 3230.9/4

on the Screw Steamer "Gaimoi"

Master Barlow

Built at Dumbarton

By whom built J. & C. Denny Brothers

When built 1884

Engines made at Dumbarton

By whom made Denny & Co

when made 1884

Boilers made at "

By whom made "

when made 1884

Registered Horse Power 800

Owners Shaw Saville & Co

Port belonging to Glasgow

## ENGINES, &c.—

Description of Engines Triples Expansion with four cylinders (Landem)

Diameter of Cylinders 34" 61" + 41" Length of Stroke 60" No. of Rev. per minute 68 Point of Cut off, High Pressure 1/2 Low Pressure 2/3

Diameter of Screw shaft 19" Diam. of Tunnel shaft 1 1/2" Diam. of Crank shaft journals 19" Diam. of Crank pin 20" size of Crank webs 13 3/4" x 35"

Diameter of screw 20" 0" Pitch of screw 24" 6" No. of blades four state whether moveable yes total surface 103 ft.

No. of Feed pumps two diameter of ditto 5 3/4" Stroke 30" Can one be overhauled while the other is at work yes

No. of Bilge pumps two diameter of ditto 5 3/4" Stroke 30" 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 one 8" x 6" x 9" one 10" x 8" x 10" Where do they pump from From sea bilge & ballast tanks

One centrifugal pump 6" suction to ballast tanks & bilges Special feed donkey pumps

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 two and sizes 8" Are they connected to condenser, or to circulating pump To circulating

How are the pumps worked By Levers

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 Main Steam How are they protected By iron casing

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 previous to launching

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Upper platform

## BOILERS, &c.—

Number of Boilers four Description Round double ended Whether Steel or Iron Steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test Two Boilers 14<sup>th</sup> October 1884 Two Boilers 6<sup>th</sup> November 1884

Description of superheating apparatus or steam chest Round Longitudinal

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately yes

No. of square feet of fire grate surface in each boiler 105 ft. Description of safety valves Direct Spring No. to each boiler three

Area of each valve 9.62" Are they fitted with easing gear yes No. of safety valves to superheater — area of each valve —

Are they fitted with easing gear — Smallest distance between boilers and bunkers or woodwork 4" Diameter of boilers 13" 2"

Length of boilers 14' 9" description of riveting of shell long. seams double butt strap circum. seams double riveted Thickness of shell plates 1 1/4"

Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 6 1/2" x 3 1/2" Lap of plating Straps 20 1/2" x 1 1/2" x 1"

Per centage of strength of longitudinal joint 81% working pressure of shell by rules 166 lbs size of manholes in shell 14" x 13"

Size of compensating rings Doubling plate fitted No. of Furnaces in each boiler Six

Outside diameter 3' 3" length, top 16 ft. bottom 14 ft. thickness of plates 8 1/16" description of joint Corrugated if rings are fitted —

Greatest length between rings — working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 9/16" back — top 9/16"

Pitch of stays to ditto, sides 8" x 6 1/2" back — top 8" x 6 1/2" If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 16 1/4 lbs Diameter of stays at smallest part 1 3/8" steel working pressure of ditto by rules 182 lbs end plates in steam space, thickness 1 1/16" + riveted

Pitch of stays to ditto 18 x 15" how stays are secured By double nuts working pressure by rules 168 lbs diameter of stays at smallest part 3" Solid working pressure by rules 185 lbs Front plates at bottom, thickness 1 3/16" Back plates, thickness —

Greatest pitch of stays — working pressure by rules — Diameter of tubes 3" pitch of tubes 4 1/4" x 4 1/4" thickness of tube plates, front 1 1/16" back 1 1/16" how stayed By tubes pitch of stays 8 1/2" x 12 3/4" width of water spaces 9" 6" 5"

Diameter of Superheater or Steam chest 3' 1 1/2" length 16' 4" thickness of plates 9/16" description of longitudinal joint double butt strap diam. of rivet holes 3/8"

Pitch of rivets 3" working pressure of shell by rules 241 lbs 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 1 1/16" how stayed By web pieces

Superheater or steam chest; how connected to boiler By web pieces



**DONKEY BOILER**— Description *Coil and Horizontal* 6805  
Made at *Dumfries* by whom made *Jenny & Co* when made *1884* where fixed *On main feed*  
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1501* fire grate area *21 ft* description of safety  
valves *First Spring* No. of safety valves *Two* area of each *4"* if fitted with easing gear *Yes* if steam from main boilers can  
enter the donkey boiler *No* diameter of donkey boiler *10' 0 3/8"* length *8' 11 3/8"* description of riveting *Double butt Staps double*  
Thickness of shell plates *1 1/16"* diameter of rivet holes *7/8"* whether punched or drilled *Drilled* pitch of rivets *3 3/4"* lap of plating *Staps*  
per centage of strength of joint *43* thickness of ~~cover~~ plates *1 3/16"* stayed by *Bar Staps 2 1/2 dia* *Screwed (Solid)*  
Diameter of furnace, top *3' 6"* bottom *✓* length of furnace *6 ft* thickness of plates *7/16"* description of joint *Double butt Staps*  
Thickness of ~~furnace~~ *Combustion Chamber* plates *7/16"* stayed by *Screw Staps 1 1/2 dia 9" x 8 3/8"* pitch working pressure of shell by rules *105 lbs*  
Working pressure of furnace by rules *95 lbs* diameter of uptake *—* thickness of plates *—* thickness of water tubes *—*

**SPARE GEAR.** State the articles supplied: *One half Crank Shaft, 1 Propeller Shaft, 1 pair Crank pin Brasses, 2 connecting  
rod bolts top & bottom ends, 1 Air & 1 Circulating pump rod with nuts, 1 set of valve spindle  
connecting bolts, 2 propeller blades, 1 P, 1 D, & 1 E, piston complete, 2 sets of feed & bilge pump  
sets of India rubber valves for the Air & Circulating pumps, 100 Boilers & 20 Condenser tubes & a Co  
The foregoing is a correct description, Quantity of other gear, also large assortment of bolts  
*Jenny & Co* Manufacturer.*

**General Remarks** (State quality of workmanship, opinions as to class, &c. *The Engines & Boilers of this be*  
*are of the best materials & workmanship and every care has been taken in*  
*carrying out all the details. And together with the whole of the machinery*  
*has been tried & tested under full power & found to be in good order and*  
*safe working condition & reliable in my opinion to be noted in the*  
*Register Book* **Lloyds M.C. 1/85**  
*The whole of the Shafting has been turned and finished at the*  
*Engineers works.*

*It is submitted that  
this vessel is eligible to  
have the notification  
+ L M C. 1.85 recorded in  
the Register Book C.V. 1.85*

The amount of Entry Fee .. £ 3 : - : - received by me,  
Special .. .. £ 60 : - : -  
Donkey Boiler Fee .. .. £ - : - : -  
Certificate (if required) .. £ - : - : - 13/11/85  
To be sent as per margin.  
Travelling Expenses, if any, £ - 16/- )

Committee's Minute

FRIDAY 16 JAN 1885

+ *JM*

*James Morrison*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
*Clyde District*