

REPORT ON MACHINERY.

9875

No. 9845

Port of Glasgow

HURS 5 JUNE 1890

No. in Survey held at Glasgow

Date, first Survey 4th Sept. 1889 last Survey May 28th 1890.

Reg. Book.

(Number of Visits 34)

1290 on the S. S. Cumberland

Gross 865
Net 552

Master Built at Glasgow By whom built Barclay Curle & Co.

When built 1866

Engines made at Glasgow By whom made Barclay Curle & Co. when made 1877

Boilers made at Glasgow By whom made Lindsay Burnet & Co. when made 1890.

Registered Horse Power 108 Owners Lath. Hull & Hamburg St. Packet Coy. Port belonging to Leith

ENGINES, &c.—

Description of Engines *Compound* S.S. No 3-10.77 No. of Cylinders *Two*
Diam. of Cylinders *29" & 49"* Length of Stroke *36"* Rev. per minute Point of Cut off, High Pressure Low Pressure
Diameter of Screw-shaft *9"* Diam. of Tunnel shaft *9"* Diam. of Crank shaft journals *9 1/2"* Diam. of Crank pin *9 1/2"* size of Crank webs *6 1/2" x 11"*
Diameter of screw *12 ft.* Pitch of screw *14 ft 6 in* No. of blades *four* state whether moveable *No* total surface *44 sq ft*
No. of Feed pumps *One* diameter of ditto *4 1/2"* Stroke *19"* Can one be overhauled while the other is at work ☒
No. of Bilge pumps *One* diameter of ditto *4"* Stroke *19"* Can one be overhauled while the other is at work ☒
Where do they pump from *Engine Room, Stokehold & Holdo, & Hot well*
No. of Donkey Engines *One* Size of Pumps *9" Cyl. 4 7/8" x 10"* Where do they pump from *Sea, hot well, Engine Room & Stokehold bilge & holds (& into condenser)*
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 *3 1/2"* Are they connected to condenser, or to circulating pump *both*
How are the pumps worked *Lever*
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 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 *30th April 1890.*
Is the screw shaft tunnel watertight *yes* and fitted with a sluice door *yes* worked from *Engine Room.*

BOILERS, &c.—

No. of Boilers *One* Description *Cylindrical Mult.* Material *Steel* Letter (for record) *S*
Working Pressure *65 lbs.* Tested by hydraulic pressure to *130 lbs.* Date of test *31st March 1890.*
Description of superheating apparatus or steam chest ☒
Can each boiler be worked separately ☒ Can the superheater be shut off and the boiler worked separately ☒
No. of square feet of fire grate surface in each boiler *63 sq ft* Description of safety valves *Direct Spring* No. to each boiler *Two*
Area of each valve *15th in* 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 *11"* Diameter of boilers *15' 9"*
Length of boilers *9' 6"* description of riveting of shell long. seams *Lap joint 3 rows* circum. seams *Lap joint 2 rows* Thickness of shell plates *3/4"*
Diameter of rivet holes *1 1/8"* whether punched or drilled *drilled* pitch of rivets *4" x 2"* Lap of plating *7" x 5"*
Per centage of strength of longitudinal joint *73%* working pressure of shell by rules *66 lbs.* size of manholes in shell *Mc. Gully patent 15" x 11"*
Size of compensating rings *Mc. Neills* No. of Furnaces in each boiler *Three* Description of Furnaces *Foxes corrugated*
Outside diameter *51"* length *9' 0"* thickness of plates *3/8"* description of joint *Welded* if rings are fitted ☒
Greatest length between rings ☒ working pressure of furnace by the rules *78 lbs* combustion chamber plating, thickness, sides *1/2"* back *1/2"* top *1/2"*
Pitch of stays to ditto, sides *9" x 10"* back *10 1/4" x 10 1/8"* top *10 1/2" x 10"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *73 lbs* Diameter of stays at smallest part *1 1/8"* working pressure of ditto by rules *75 lbs* end plates in steam space, thickness *3/4"*
Pitch of stays to ditto *18" x 18"* how stays are secured *D. nuts & washers* working pressure by rules *71 lbs.* diameter of stays at smallest part *2"* working pressure by rules *63 lbs.* Front plates at bottom, thickness *1 1/16"* Back plates, thickness *3/4"*
Greatest pitch of stays ☒ working pressure by rules ☒ Diameter of tubes *3 1/4"* pitch of tubes *4 1/2" x 4 3/8"* thickness of tube plates, front *3/4"* back *3/4"* how stayed *S. Tube* pitch of stays *13 1/2" x 13 1/8"* width of water spaces *5" to 12"*
Diameter of Superheater or Steam chest ☒ 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 ☒

GLS160-0036 (1/2)

DONKEY BOILER— Description *Cylindrical Mult*
Made at *Glasgow* by whom made *Christy Burnet & Co.* when made *1890* where fixed *On Deck*.
Working pressure *50 lbs.* tested by hydraulic pressure to *100 lbs.* No. of Certificate *2495* fire grate area *11.25* ft. description of say
valves *Direct Spring* No. of safety valves *Two* area of each *3.5* sq. in. if fitted with easing gear *yes* if steam from main boilers &
enter the donkey boiler *no* diameter of donkey boiler *7' 6"* length *7' 3"* description of riveting *Lap. double*
Thickness of shell plates *7/16"* diameter of rivet holes *1 3/16"* whether punched or drilled *drilled* pitch of rivets *2 1/2" x 1 3/8"* lap of plating *3 3/4" x 2 1/2"*
per centage of strength of joint *67 1/2* thickness of ^{End} crown plates *7/8"* stayed by *44 Iron Stays. D. nuts & washers*
diameter of furnace, ^{out} top *36 3/4"* bottom *✓* length of furnace *4' 6"* thickness of plates *3/8"* description of joint *D. butt strap*
Thickness of furnace crown plates *1/4"* ^{Comb. Chamber} stayed by *1 1/2" steel stays. Pitch 4p 10 1/2" x 9" sides 10 1/2" x 9"* working pressure of shell by rules *69 lbs.*
Working pressure of furnace by rules *76 lbs.* diameter of uptake *✓* thickness of plates *9/16" & 7/8"* thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:—*1 set of feed pump valves, 2 spare springs for Main Boiler safety valves, 1 spare spring for D. Boiler, 2 connecting rod top end bolts & nuts, 2 connecting rod bottom end bolts & nuts, 2 main bearing bolts, 1 set of coupling bolts, 1 set of bilge pump valves, 1 spare propeller.*

The foregoing is a correct description,

Barclay Curle & Co. Ld. Manufacturer.
By James Gilchrist

(48 75 G.C.)

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

These Boilers have been constructed under Special Survey. The material is of good quality and workmanship. They have undergone a satisfactory hydraulic test in my presence, (as per Certificates).

They have been fitted on board the vessel by Barclay Curle & Co. Ld. All parts of machinery opened out, and thoroughly overhauled.

Vessel placed in Dry Dock, propeller shaft drawn in for examination and found in good condition.

All sea cocks and valves put in good working order.

All the repairs to machinery have been completed in a satisfactory manner. No opportunity afforded for adjusting safety valves under steam; the vessel has sailed for Hamburg, and from thence to Leith, when the survey can be completed.

This vessel's machinery is in good and efficient working condition and eligible in my opinion to remain as classed in Register Book, with the additional notation **N.B. 90. L.M.C. 5, 90**

Subject to Main & Donkey Boiler safety valves being adjusted under steam, and favourably reported on.

It is submitted that this Vessel will be eligible to have + N.B. 90 & L.M.C. 5, 90 recorded, when the safety valves of the Main and donkey boilers have been adjusted under steam. N.A.

5-6-90

The amount of Entry Fee £ *4 : 10 : 0* received by me, *4/6/90*

Special .. £ *6 : 6 : 0* *29/4/90*

Main & Donkey Boiler Fee .. £ *18*

Certificate (if required) .. £ *18*
To be sent as per margin.

(Travelling Expenses, if any, £ ..)

Committee's Minute

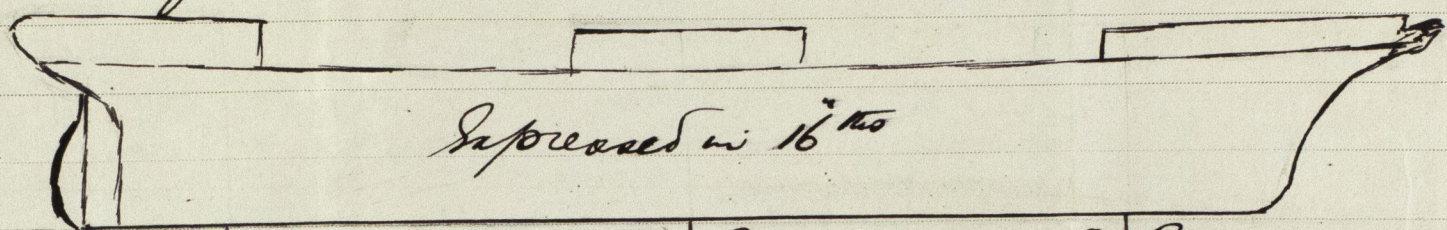
FRI 6 JUNE 1890

TUES 10 JUNE 1890

A. Stewart
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Glasgow
Lloyd's Register
Foundation

from M. L. to bulge keelsons each side. Angles to two lower deck beams in cross bunker, the bunker plating & tie plates on W.D. beams at sides of engine hatchway renewed. Several frames in Fette repaired and reverse frames fitted to all frames in poop & extended part of fore-castle. All the sparring renewed of 2 white pine. A new top banded into mizen mast. All standing rigging renewed of J.S. wire. A new 2 m. d. lass & four beam-branches fitted on board. Steering gear repaired. The chain cables ranged & these with anchors examined. The inside of vessel repainted.



	S	P	S	P	S	P
Sails A	11	11	10	11 $\frac{1}{16}$	11	11
B	10	10	10	10 $\frac{1}{16}$	10	9
C	10	10	11	10 $\frac{1}{16}$	10	10
D	10	10	10	11 $\frac{1}{16}$	10	10
E	10	9	10	11 $\frac{1}{16}$	11	10
F	9	8	10	10 $\frac{1}{16}$	10	10
G	8	8	9	9 $\frac{1}{16}$	9	8
H	9	8	9	8 $\frac{1}{16}$	8	8
I	8	8	8	9 $\frac{1}{16}$	8	8
Doubled - K	1 $\frac{3}{16}$	1 $\frac{3}{16}$	1 $\frac{4}{16}$	1 $\frac{7}{16}$	1 $\frac{3}{16}$	1 $\frac{3}{16}$

J. D. N.