

REPORT ON MACHINERY.

No. 13086

Port of *Glasgow*

No. in Survey held at *Glasgow*

Date, first Survey *16th June 1893* Last Survey *12th July 1894*

Reg. Book.

(Number of Visits *69*)

on the

S. S. Mazagon

Tons { Gross *4994*
Net *2286*

Master *L. M. Milner* Built at *Glasgow*

By whom built *A. Stephen & Son*

When built *1894*

Engines made at *Glasgow*

By whom made *A. Stephen & Son*

when made *1894*

Boilers made at *do*

By whom made *do*

when made *1894*

Registered Horse Power *430*

Owners *Pen. & Or. St. New. Coy*

Port belonging to *Glasgow*

Nom. Horse Power as per Section 28 *417*

ENGINES, &c.— Description of Engines *Triple Expansion* No. of Cylinders *Three*
Diameter of Cylinders *27" 45" & 72"* Length of Stroke *48"* Revolutions per minute *65* Diameter of Screw shaft *as per rule 12.8"*
Diameter of Tunnel shaft *as fitted 12 3/4"* Diameter of Crank shaft journals *13 1/4"* Diameter of Crank pin *13 1/2"* Size of Crank webs *built*
Diameter of screw *18'-0"* Pitch of screw *18'-10"* No. of blades *4* State whether moveable *Yes* Total surface *80 sq. ft*
No. of Feed pumps *2* Diameter of ditto *4"* Stroke *30"* Can one be overhauled while the other is at work *Yes*
No. of Bilge pumps *2* Diameter of ditto *4 1/2"* Stroke *30"* Can one be overhauled while the other is at work *Yes*
No. of Donkey Engines *2* Sizes of Pumps *Feed 8" x 8" x 5"* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *Three 3 1/2" & one 6" & one 3 1/2"* In Holds, &c. *Six 3 1/2" & 2 3/4"*

Suctions *1* sizes *6"* Connected to *condenser, or to circulating pump* *Yes* Is a separate donkey suction fitted in Engine room & size *4" & 3 1/2"*
Suction pipes fitted with roses *Yes* Are the roses in Engine room always accessible *Yes* Are the sluices on Engine room bulkheads always accessible *Yes*
Suctions with the sea direct on the skin of the ship *Yes* Are they Valves or Cocks *both*
Suctions 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 *Yes*
Suctions 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*
Suctions carried through the bunkers *bilge suction* How are they protected *wood casing*
Suctions, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *Yes*
Suctions, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *Yes*
Suctions, propeller, screw shaft, and all connections examined in dry dock *on stocks* Is the screw shaft tunnel watertight *Yes*
Suctions with a watertight door *Yes* worked from *upper platform*

S, &c.— (Letter for record *(S)*) Total Heating Surface of Boilers *7142*
Description of Boilers *Two d. e. Multitubular* Working Pressure *160 lbs* Tested by hydraulic pressure to *320 lbs*
Test *26.1.94* Can each boiler be worked separately *Yes* Area of fire grate in each boiler *100 sq. ft* No. and Description of safety valves to
2 *Direct Spring* Area of each valve *12.55 sq. in* Pressure to which they are adjusted *165 lbs* Are they fitted
gear *Yes* Smallest distance between boilers or uptakes and bunkers or *woodwork* *12"* Mean diameter of boilers *14'-0"*
6" Material of shell plates *Steel* Thickness *1 1/8"* Description of riveting: circum. seams *d. riv. lap* long. seams *d. butt str*
rivet holes in long. seams *1 3/16"* Pitch of rivets *8 1/2" & 4 1/4"* Lap of plates & width of butt straps *6 1/2" & 18"*
Strength of longitudinal joint *86.2* Working pressure of shell by rules *163 lbs* Size of manhole in shell *End 12" x 16"*
Compensating ring *flanged in* No. and Description of Furnaces in each boiler *Six Persoon* Material *Steel* Outside diameter *38"*
Length of plate part *37'-0 3/4"* Thickness of plates *8 1/2"* Description of longitudinal joint *welded* No. of strengthening rings *—*
Working pressure of furnace by the rules *160 lbs* Combustion chamber plates: Material *Steel* Thickness: Sides *9 1/16"* Back *—* Top *9 1/16"* Bottom *13 1/16"*
Pitch of stays to ditto: Sides *7 1/2"* Back *—* Top *7 1/2"* If stays are fitted with nuts or riveted heads *Nuts* Working pressure by rules *194 lbs*
Material of stays *Steel* Diameter at smallest part *1 1/2"* Area supported by each stay *56.2 sq. in* Working pressure by rules *173 lbs* End plates in steam space:
Material *Steel* Thickness *1"* Pitch of stays *16 1/2"* How are stays secured *d. nuts* Working pressure by rules *162 lbs* Material of stays *Steel*
Diameter at smallest part *2 5/8"* Area supported by each stay *272.2 sq. in* Working pressure by rules *160 lbs* Material of Front plates at bottom *Steel*
Thickness *1 3/16"* Material of Lower back plate *d. welded* Thickness *1 3/16"* Greatest pitch of stays *— d. e.* Working pressure of plate by rules *—*
Diameter of tubes *3 1/2"* Pitch of tubes *4 5/8"* Material of tube plates *Steel* Thickness: Front *3 1/4"* Back *13 1/16"* Mean pitch of stays *9 1/4"*
Pitch across wide water spaces *14 1/2"* Working pressures by rules *160 lbs by d. e.* Material of Chamber tops: Material *Steel* Depth and
thickness of girder at centre *9 1/2" x 3 1/4"* Length as per rule *36"* Distance apart *7 1/2"* Number and pitch of Stays in each *3. 7 1/2"*
Working pressure by rules *172 lbs* Superheater or Steam chest; how connected to boiler *—* 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 *—*

GLS170-0172

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DONKEY BOILER— Description *Multitubular*
Made at *Glasgow* By whom made *A. Stephen & Sons* When made *94* Where fixed *deckhouse*
Working pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* No. of Certificate *3502* Fire grate area *27 1/2* Description of safety valves *A. Spring*
No. of safety valves *2* Area of each *6"* Pressure to which they are adjusted *80 lbs* If fitted with casing gear *Yes* If steam from main boilers can enter the donkey boiler *No* Diameter of donkey boiler *9'-6"* Length *8'-6"* Material of shell plates *steel* Thickness *9/16*
Description of riveting long. seams *treb. riv. lap* Diameter of rivet holes *7/8* Whether punched or drilled *drilled* Pitch of rivets *3 7/8*
Lap of plating *6 1/8* Per centage of strength of joint *75.9* Thickness of ~~shell~~ *end* plates *23/32* Radius of do. — No. of Stays to d
Dia. of stays *2"* Diameter of furnace *Top 28" Bottom 36"* Length of furnace *6'-0"* Thickness of furnace plates *1 5/32*
joint *d. butt str* Thickness of ~~furnace~~ *C.C. str* plates *13/32* Stayed by *1 1/8" stays 7 1/2" pitch* Working pressure of shell by r
Working pressure of furnace by rules *91 lbs.* Diameter of ~~uptake~~ *tubes* *3"* Thickness of ~~uptake~~ *tube* plates *front 7/8* Thickness of ~~water tube~~ *plate*

SPARE GEAR. State the articles supplied:— *N. P. piston rod complete, Top and bottom end bolts. Slide Valve spindle valve faces Air pump bucket rod. Ci pump bucket rod. Ind. bilge & donkey pump valves & seats. One piece crankshaft and propeller shaft &c —*

The foregoing is a correct description,

A. Stephen & Sons Manufacturer.

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

The above mentioned engines and boilers have been built under spec survey and are of good workmanship & material. The machinery has been well fitted on board and tried under steam with satisfactory results. The vessel name is now in my opinion eligible to the notation: "L. M. C. 7. 94." in Society's Register. —

*Attached One boiler print. —
" two forging reports. —*

It is submitted that this vessel is eligible for

THE RECORD L M C 7 94

The diameter of the I.P. Cylinder to be recorded as 48" instead of 48" as now recorded

*A.P.R.
17-7-94*

Certificate (if required) to be sent to *Glasgow*

WRITTEN.

The amount of Entry Fee. £ *3* : " : "

Special £ *40* : *14* : "

Donkey Boiler Fee £ " : " : "

Travelling Expenses (if any) £ " : " : "

When applied for,

9/4/94

When received,

13/4/94

J. M. Sanderson

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

Committee's Minute

Assigned

TUES. 17 JUL 1894

+ L. M. C. 7. 94

note drawn up J.P.C.

