

REPORT ON MACHINERY.

10912

No. 10912

Port of *Glasgow*

No. in Survey held at *Dumbarton*

Date, first Survey *14th March 1891* Last Survey *Aug 26th 1890*

Reg. Book

on the *S.S. Pioneer*

(Number of Visits *13*)

Master

Built at *Dumbarton*

By whom built *Mr Denny*

Tons { Gross *136*
Net *82*

Engines made at *Dumbarton*

By whom made *Mr Paul & Co*

When built *1891*

Boilers made at *"*

By whom made *M. Paul & Co*

when made *1891*

Registered Horse Power *24*

Owners *Cooperation of Trinity House*

when made *1891*

Port belonging to *London*

INES, &c.—

Description of Engines *Compound*

Diam. of Cylinders *12 1/2" x 24"* Length of Stroke *10"* Rev. per minute *125* Point of Cut off, High Pressure *Variable*

Diam. of Screw shaft *4 3/4"* Diam. of Tunnel shaft *4 1/2"* Diam. of Crank shaft journals *4 3/4"* Diam. of Crank pin *4 3/4"* size of Crank webs *2 7/8" x 6"*

Dia. of screw *6" x 6"* Pitch of screw *9" x 6"* No. of blades *4* state whether moreable *Yes* total surface *42 sq ft*

No. of Feed pumps *One* diameter of ditto *2 1/2"* Stroke *4 1/2"* Can one be overhauled while the other is at work *Yes when Donkey*

No. of Bilge pumps *One* diameter of ditto *2 1/2"* Stroke *4 1/2"* Can one be overhauled while the other is at work *Yes pump is working*

Where do they pump from *All compartments*

No. of Donkey Engines *One* Size of Pump *3 1/2" x 2" x 4 1/2"* Where do they pump from *Sea Bilges Hotwell*

Donkey Engine with pump for Evaporator *3 1/2" x 1" x 3"*

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 *One* and sizes *2 1/2"* 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 *"* 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 *On ship before launching*

Is the screw shaft tunnel watertight *Yes* and fitted with a sluice door *Yes* worked from *Aboard*

BOILERS, &c.—

No. of Boilers *One* Description *Round Horizontal* Material *Steel*

Letter (for record) *S*

Working Pressure *100 lbs* Tested by hydraulic pressure to *220 lbs* Date of test *1st July 1891*

Description of superheating apparatus or steam chest *None*

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 *20 sq ft* Description of safety valves *Direct Spring* No. to each boiler *Two*

Area of each valve *3.14"* 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 *9"* Diameter of boilers *8' 9"*

Length of boilers *8 ft* description of riveting of shell long. seams *Double riveted* circum. seams *Double* Thickness of shell plates *19/32"*

Diameter of rivet holes *19/16"* whether punched or drilled *Drilled* pitch of rivets *4 3/4"* Lap of plating *8 1/2" x 17/16"*

Percentage of strength of longitudinal joint *83%* working pressure of shell by rules *128 lbs* size of manholes in shell *16" x 12"*

No. of compensating rings *Double piece* No. of Furnaces in each boiler *Two* Description of Furnaces *Plain*

Inside diameter *2' 9"* length *5 ft* thickness of plates *19/32"* description of joint *Welded* if rings are fitted *no*

Greatest length between rings *"* working pressure of furnace by the rules *119 lbs* combustion chamber plating, thickness, sides *9/16"* back *9/16"* top *9/16"*

Ch of stays to ditto, sides *8 1/2" x 8 1/2"* back *8 1/2" x 7"* top *8 1/2" x 6 1/4"* If stays are fitted with nuts or riveted heads *Nuts* working pressure of plating by rules *113 lbs*

Diameter of stays at smallest part *1 1/2" x 1 1/4"* working pressure of ditto by rules *144 lbs* and plates in steam space, thickness *29/32"*

Pitch of stays to ditto *14" x 12 1/2"* how stays are secured *By double nuts* working pressure by rules *125 lbs* diameter of stays at smallest part *2" solid = 2.68 area*

Greatest pitch of stays *12 1/4" x 4"* working pressure by rules *"* Diameter of tubes *2 1/2"* pitch of tubes *3 3/8" x 3 3/8"* thickness of tube plates, front *29/32"* back *19/16"* how stayed *By tubes* pitch of stays *14 1/4" x 14 1/4"* width of water spaces *about 6"*

Diameter of Superheater or Steam chest *None* 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 *"*

GLS163-0016

DONKEY BOILER—

Description

No Donkey Boiler

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

if fitted with easing gear

if steam from main boilers can

enter the donkey boiler

diameter of donkey boiler

length

description of riveting

Thickness of shell plates

diameter of rivet holes

whether punched or drilled

pitch of rivets

lap of plating

per centage of strength of joint

thickness of crown plates

stayed by

Diameter of furnace top

bottom

length of furnace

thickness of 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 plates

thickness of water tubes

SPARE GEAR. State the articles supplied:—

3 Propeller blades, one Crank Shaft, one
propeller shaft, one piston & Cyld cover for each Cylinder, 2 Connecting
rod bolts (top & bottom), 2 main bearing bolts, 1 set Crank pin bolts, 1 set of
valves for pumps, assortment of bolts, nuts, Springs &c

The foregoing is a correct description,

Matthew Paul & Co

Manufacturer.

General Remarks

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

These Engines & Boilers are
of good workmanship & materials and are now in good
order & safe working condition and eligible in our
opinion to be noted in the Register Book **Lloyd's**
M. C. 8/91

It is submitted that this Vessel is
eligible to have + L.M.C. 8.91 verified
M.A.

31.8.91

The amount of Entry Fee .. £ 1 : : : received by me,

Special

£ 8 : : : applied

Donkey Boiler Fee .. £ : : : :

Certificate (if required) .. £ : : : 31.8.1891

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

TUES. 1 SEP 1891

+ L.M.C. 8/91

James Molloy R. J. Devuillle
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.
Glyde District