

REPORT ON MACHINERY.

No. **5333**

(Received in London Office **31/3/81**)

No. in Survey held at
Reg. Book.

Dumbarton

Date, first Survey **18th Aug 80** Last Survey **29th March 1881**

on the

S.S. "Pertusola"

590.04
Tons **342.90**

Master **Romagnelli**

Built at

Dumbarton

When built

1880-1

Engines made at

Dumbarton

By whom made

M. Paul & Co

when made

1880-1

Boilers made at

"

By whom made

"

when made

"

Registered Horse Power

90

Owners

Rubatina & Co

Port belonging to

Genoa

GINES, &c.—

Description of Engines

Compound Inverted Direct acting

Diameter of Cylinders **23" x 45"** Length of Stroke **30"** No. of Rev. per minute **90** Point of Cut off, High Pressure **1/6** Low Pressure **1/7**

Diameter of Screw shaft **7 1/2"** Diameter of Tunnel shaft **7 1/4"** Diameter of Crank shaft journals **7 1/2"** Diameter of Crank pin **7 1/2"** size of Crank webs **5 1/2" x 9"**

Diameter of screw **11 ft** Pitch of screw **11' 6"** No. of blades **4** state whether moveable **not** total surface **39 sq. ft.**

No. of Feed pumps **two** diameter of ditto **3 1/4"** Stroke **20"** Can one be overhauled while the other is at work **yes**

No. of Bilge pumps **two** diameter of ditto **4 1/2"** Stroke **12"** Can one be overhauled while the other is at work **yes**

Where do they pump from **Engine Room & gutterways in fore and aft holds.**

No. of Donkey Engines **one double pump** Size of Pumps **8" Cyl. 4" pump** Where do they pump from **Engine donkey from**

Engine Room Sea & hold & holds. Ballast pump from tanks.

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

No. of bilge injections **one** and sizes **3" dia** Are they connected to condenser, or to circulating pump **on suction of circulating pump**

How are the pumps worked **feed pumps by levers also air & circulating, bilge pumps by ecc. on end of shaft.**

Are all connections with the sea direct on the skin of the ship **Stool for injection** 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 **End.**

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 **Bilge pipes** How are they protected **cased in**

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 **before launching**

Is the screw shaft tunnel watertight **stiffing box on** and fitted with a sluice door **yes** worked from **top platform.**

BOILERS, &c.—

Number of Boilers

Two

Description

Cylindrical Single ended.

Working Pressure

70 lbs

Tested by hydraulic pressure to

140 lbs

Date of test

18th December 1880.

Description of superheating apparatus or steam chest

None

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

18.7

Description of safety valves

Direct Spring (Alley & Mc Lellan)

No. to each boiler

two

area of each valve

4.9 sq"

Are they fitted with easing gear

yes

No. of safety valves to superheater

2

area of each valve

2

are they fitted with easing gear

yes

Smallest distance between boilers and bunkers or woodwork

4 ft 8" side of ship.

Diameter of boilers

9' 0"

Length of boilers

8' 6 3/4"

description of riveting of shell long. seams

lap, triple

circum. seams

lap, single.

Thickness of shell plates

7/8"

diameter of rivet holes

7/8"

whether punched or drilled

punched

pitch of rivets

3 1/2"

Lap of plating

6"

per centage of strength of longitudinal joint

75%

working pressure of shell by rules

76 lbs

size of manholes in shell

15" x 11 1/2"

size of compensating rings

7/8" doubling plate.

No. of Furnaces in each boiler

two

outside diameter

2' 6 3/4"

length, top

5' 3"

bottom

7' 6"

Thickness of plates

7/16"

description of joint

butt double

if rings are fitted **at bottom**

greatest length

between rings 5' 6"

Working pressure of furnace by the rules

100 lbs

combustion chamber plating, thickness, sides

7/16" steel

back

7/16" steel

top

7/16" steel

pitch of stays to ditto

—

sides

8 3/4" x 8 3/4"

back

8 3/4" x 8 3/4"

top

8 3/4" x 8 3/4"

If stays are fitted with nuts or riveted heads

nuts

working pressure of plating by rules

70 lbs

Diameter of stays at smallest part

1 7/8" screwed

working pressure of ditto by rules

100 lbs.

End plates in steam space, thickness

7/16"

pitch of stays to ditto

15 1/2" x 15 1/2"

how stays are secured

nuts & washers

Working pressure by rules

72 lbs

diameter of stays at smallest part

1 7/8"

working pressure by rules

71 lbs.

Front plates at bottom, thickness

7/8" steel

Back plates, thickness

7/16"

greatest pitch of stays

14 3/8"

working pressure by rules

70 lbs.

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Diameter of tubes 3" exl. pitch of tubes 4 1/4" thickness of tube plates, front 3/8" back 3/8"
 How stayed Stay tubes pitch of stays 17" x 8 1/2" width of water spaces 1 1/4"
 Diameter of Superheater or Steam chest — length —
 Thickness of plates — description of longitudinal joint — diameter 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 —

DONKEY BOILER— Description Erect, with two water tubes
 Made at Dunbarton By whom made M. Paul & Co when made 1880
 Where fixed Stokehold working pressure 70 lbs Tested by hydraulic pressure to 140 lbs No. of Certificate 44
 Fire grate area 12 sq. ft. Description of safety valves Direct spring No. of safety valves one area of each 70"
 If fitted with easing gear yes If steam from main boilers can enter the donkey boiler non return pt.
 Diameter of donkey boiler 4' 6" length 9' 0" description of riveting lap, double,
 thickness of shell plates 3/8" diameter of rivet holes 13/16" whether punched or drilled punched
 pitch of rivets 3" lap of plating 3 3/4" per centage of strength of joint 73
 thickness of crown plates 7/16" stayed by uptake & 4-1 3/4" rods,
 Diameter of furnace, top 3' 6" bottom 4' 0" length of furnace 4 ft.
 thickness of plates 3/8" description of joint lap single,
 thickness of furnace crown plates 7/16" stayed by 4-1 3/4" rods,
 Working pressure of shell by rules 78 lbs working pressure of furnace by rules 70 lbs
 diameter of uptake 11" man thickness of plates 7/16" thickness of water tubes 7/16"

The foregoing is a correct description,
Matthew Paul & Co Manufacturer.

General Remarks (State quality of workmanship, opinions as to class, &c. The Engines and Boilers are now in good order and safe working condition, and eligible in my opinion to be noted + Lloyds M.C. 3.81

*It is submitted that this vessel is eligible to have the notification of Lloyd's M.C. recorded
 M 31/3/81*

Testing Station £2-2-0
 The amount of Entry Fee £2-0-0 received by me, [Signature]
 Special £13-10-0
 Certificate (if required) £1-0-0 30th Dec 1881
 To be sent as per margin.
 (Travelling Expenses, if any, £ 1-11-6)

Committee's Minute

Friday, April 1st 1881

+ Lloyds M.C.

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

Glasgow
 Lloyd's Register
 Foundation