

REPORT ON MACHINERY.

No. 5941

(Received at London Office 19th DEC. 82.

No. in Survey held at Reg. Book.

Penfryn

Date, first Survey

Dec 8th 1881

Last Survey Dec 16th 1882

on the

Steamer "Manuel L. Villaverde"

1196.02

Tons 727.08

Francisco Saenz y Garcia

Built at

Penfryn

When built

1882

made at

Penfryn

By whom made

Robt. & Co.

when made

do

Boilers made at

do

By whom made

do

when made

do

Horse Power

250

Owners

Compania Transatlantica

Port belonging to

Barcelona

INES, &c.—

Description of Engines

Inverted Compound Surface Condensing

Diameter of Cylinders 38" + 68" Length of Stroke 142 No. of Rev. per minute 40 Point of Cut off, High Pressure 1/2 Low Pressure 1/2

Diameter of Screw shaft 12" Diameter of Tunnel shaft 11" Diameter of Crank shaft journals 12" Diameter of Crank pin 12" size of Crank webs 9" x 12 1/4

Diameter of screw 14" 6" Pitch of screw 18" 0 to 20" 0 No. of blades 4 state whether moveable yes total surface 39' 5" Sq. ft.

No. of Feed pumps 2 diameter of ditto 4" Stroke 18" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 4" 6" Stroke 15" Can one be overhauled while the other is at work yes

Where do they pump from Bilge of Engine Room and all Compartments of Vessel

No. of Donkey Engines Two Size of Pumps 4" x 8" Where do they pump from Sea. Hotwell. Bilge

of Engine Room and all Compartments & through 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 one and sizes 4" Are they connected to condenser, or to circulating pump Circulating Pump

How are the pumps worked by Revers attached to Crossheads

Are all connections with the sea direct on the skin of the ship yes Are they Valves or Cocks Stop Valves Hooks

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 Two Cold suction pipes How are they protected Wood Casings

Are all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times yes except in holds when full

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 launched

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top Platform of Engine

BOILERS, &c.—

Number of Boilers Two Description Cylindrical & Multitubular (Iron)

Working Pressure 40 lb Tested by hydraulic pressure to 140 lb Date of test Sep. 20th 1883

Description of superheating apparatus or steam chest Circular Horizontal Steam Receiver

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately No

No. of square feet of fire grate surface in each boiler 67' 5" Sq. ft. Description of safety valves Direct Spring

No. to each boiler Two area of each valve 19' 6" in Are they fitted with easing gear yes

No. of safety valves to superheater one area of each valve 4" 89" in are they fitted with easing gear yes

Smallest distance between boilers and bunkers or woodwork 12" to Bunkers

Diameter of boilers 15' 3" Length of boilers 10' 6" description of riveting of shell long. seams Double Butt Straps circum. seams Lap Double Riv

Thickness of shell plates 1" diameter of rivet holes 1 1/8" whether punched or drilled drilled pitch of rivets 5 3/8"

Lap of plating 14 3/4 Straps per centage of strength of longitudinal joint 80% working pressure of shell by rules 84 lb

Size of manholes in shell 16" x 12" size of compensating rings Flat Ring 9" x 1"

No. of Furnaces in each boiler 3 outside diameter 3' 10" length, top 4' 0" bottom 9' 9"

Thickness of plates 7/32" + 1/2" description of joint Double Butt if rings are fitted Double Riv greatest length between rings

Working pressure of furnace by the rules 80 lb

Combustion chamber plating, thickness, sides 1/2 back 1/2 top 1/2

Pitch of stays to ditto sides 9" + 9 back 9 1/2 + 9 1/2 top 9" + 8 1/2"

If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 85 lb

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 98 lb

End plates in steam space, thickness 3/4" pitch of stays to ditto 1 1/4" x 1 1/4" how stays are secured Rivets

Working pressure by rules 40 lb diameter of stays at smallest part 2 1/8" working pressure by rules 40 lb

Front plates at bottom, thickness 3/4" Back plates, thickness 3/4" greatest pitch of stays 16" working pressure by rules 40 lb

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Diameter of tubes $3\frac{1}{2}$ pitch of tubes $4\frac{3}{4} \times 4\frac{3}{4}$ thickness of tube plates, front $\frac{5}{8}$ back $\frac{5}{8}$
 How stayed *End stays* pitch of stays $9\frac{1}{2} \times 14\frac{3}{4}$ width of water spaces 9
 Diameter of Superheater or Steam chest $3' 0$ length $20' 6"$
 Thickness of plates $\frac{1}{2}$ description of longitudinal joint *Lap d r* diameter of rivet holes $1\frac{5}{16}$ pitch of rivets $2\frac{3}{4}$
 Working pressure of shell by rules 190 lb 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 $\frac{3}{4}$ How stayed *Stitch d*
 Superheater or steam chest; how connected to boiler *By Stop Valves Hopper Pipes*

DONKEY BOILER—

Description *Circular Vertical 3 Water Tubes in Shell*
 Made at *Heathrow* By whom made *Roburty Ho* when made *1882*
 Where fixed *Stoke Newington* working pressure 40 lb Tested by hydraulic pressure to 140 lb No. of Certificate *—*
 Fire grate area 14 sq ft Description of safety valves *Direct Spring* No. of safety valves *one* area of each $4\frac{1}{2}$ sq ft
 If fitted with easing gear *Yes* If steam from main boilers can enter the donkey boiler *No*
 Diameter of donkey boiler $5' 6"$ length $13' 0"$ description of riveting *Longitudinal - 60° angle*
 thickness of shell plates $\frac{7}{16}$ diameter of rivet holes $1\frac{3}{16}$ whether punched or drilled *punched*
 pitch of rivets $2\frac{1}{4}$ lap of plating $4\frac{1}{4}$ per centage of strength of joint 63%
 thickness of crown plates $\frac{9}{16}$ stayed by *Eight Round Stays* $1\frac{3}{4}$ dia effective
 Diameter of furnace, top $4' 6"$ bottom $4' 8"$ length of furnace $5' 6"$
 thickness of plates $\frac{15}{32}$ description of joint *Single Riveted Lap*
 thickness of furnace crown plates $\frac{1}{2}$ stayed by *Eight Round Stays* $1\frac{3}{4}$ dia effective
 Working pressure of shell by rules 79 lb working pressure of furnace by rules 70 lb one row $1\frac{1}{4}$ secured
 diameter of uptake $12\frac{1}{2} \times 18$ thickness of plates $\frac{7}{16}$ thickness of water tubes $\frac{7}{16}$ (in tubes)

The foregoing is a correct description,

Roburty Ho

Manufacturer.

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

The above Engines and Boilers have been surveyed during construction and are in conformity with the rules. The material and workmanship are of good description, and eligible in my opinion to be noted in the Register Book "LLOYD'S REG." 12-82

The amount of Entry Fee £ 3 : 0 : 0 received by me,

Special £ 32 : 10 : 0

Certificate (if required) £ *Gratis* 18/12/1882

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

Tuesday, 19th December, 1882.

+ *LMC**J. M. G. G. G.*

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

Clyde District

Lloyd's Register
Foundation