

REPORT ON MACHINERY.

BOX CASE

5786

(Received at London Office)

22nd FEB. 83.

Survey held at *Middlesbrough & Merton*

Date, first Survey *16 June 1882*

Last Survey *16 February 1883*

on the *S.S. Ybarra No 11*

Tons *2245*
1442

By Otero

Built at *Middlesbrough*

When built *1882-3*

By whom made *Blair & Co (Sd)* when made *1882-3*

By whom made *Blair & Co (Sd)* when made *1882-3*

rated Horse Power *200*

Owners *Ybarra, Hermanos Co*

Port belonging to *Bilbao*

INES, &c.—

ption of Engines *Compound, Reversed, Surface Condensing*
ter of Cylinders *38" 71"* Length of Stroke *45"* No. of Rev. per minute *60* Point of Cut off, High Pressure *1/4* Low Pressure *1/2*

ter of Screw shaft *13 1/4* Diameter of Tunnel shaft *12 3/4* Diameter of Crank shaft journals *13* Diameter of Crank pin *13 1/2* size of Crank webs *18 1/2 x 10*

ter of screw *16 ft* Pitch of screw *17 ft* No. of blades *4* state whether moveable *yes* total surface *but asculand*

Feed pumps *Two* diameter of ditto *4 1/4* Stroke *33"* Can one be overhauled while the other is at work *yes*

Bilge pumps *Two* diameter of ditto *4 1/4* Stroke *33"* Can one be overhauled while the other is at work *yes*

do they pump from *Ballast Tanks, Engine Room & after well.*

Donkey Engines *Two* *drum* acting *Size of Pumps 7 1/2 dia x 9 1/2 Stroke 5 1/4 x 8* Where do they pump from *Large pump from ballast tanks.*

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*

bilge injections *One* and sizes *6" dia* Are they connected to condensers or to circulating pump *circulating pump*

are the pumps worked *by lines connected to piston rod & crosshead of after engine.*

connections with the sea direct on the skin of the ship *yes* Are they Valves or Cocks *both*

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 *Below*

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*

pipes are carried through the bunkers *none* How are they protected *—*

all pipes, cocks, valves, and pumps in connection with the machinery accessible at all times *yes*

the pipes, cocks, and valves arranged so as to prevent an unintentional connection between the sea and the bilges *yes*

were stern tube, propeller, screw shaft, and all connections examined in dry dock *New vessel*

screw shaft tunnel watertight *Joint to 20* and fitted with a sluice door *Yes* worked from *Top platform in engine room*

TERS, &c.—

ter of Boilers *Two* Description *Cylindrical, Multi-tubular, Fitted from both ends.*

ing Pressure *80 lbs* Tested by hydraulic pressure to *160 lbs* Date of test *29-12-82*

ption of *superheating apparatus* or steam chest *Cylindrical, Vertical, Constructed at neck.*

each boiler be worked separately *yes* Can the superheater be shut off and the boiler worked separately *no Superheated*

square feet of fire grate surface in each boiler *48* Description of safety valves *Spring loaded by Blair & Co (Sd)*

each boiler *Two* area of each valve *15.9 17* Are they fitted with easing gear *yes*

safety valves to superheater *—* area of each valve *—* are they fitted with easing gear *—*

Diameter of tubes $3''$ pitch of tubes $4\frac{1}{4} \times 4\frac{3}{8}$ thickness of tube plates, front $\frac{13}{16}$ back $\frac{13}{16}$
 How stayed *Stay tubes* pitch of stays $12\frac{3}{4} \times 8\frac{3}{4}$ width of water spaces $1\frac{1}{4}$ between tubes, $5''$ between furnaces
 Diameter of Superheater or Steam chest $3'-7''$ length $5'-6''$
 Thickness of plates $\frac{1}{2}$ description of longitudinal joint *lap. DR.* diameter of rivet holes $\frac{3}{16}$ pitch of rivets $3\frac{1}{8}$
 Working pressure of shell by rules 118 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 $\frac{5}{8}$ How stayed *by 4 Stay, each $2\frac{1}{4}$ effective diam*
 Superheater or steam chest; how connected to boiler *by flanged neck plate $\frac{7}{8}$ thick, 16 diam*
DONKEY BOILER— Description *a cylindrical vertical with Furnace*
 Made at *Middlesbrough* By whom made *R. Dixon & Co* when made *Nov 22-1-83*
 Where fixed *in Hottenfield* working pressure 70 lb Tested by hydraulic pressure to 140 lb No. of Certificate 8
 Fire grate area 19.6 sq ft Description of safety valves *Direct-Action* No. of safety valves *Two* area of each 7.07 sq in
 If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
 Diameter of donkey boiler $6'-0''$ length $10'-6''$ description of riveting *lap. steam, lap. DR.*
 thickness of shell plates $\frac{1}{2}$ diameter of rivet holes $\frac{13}{16}$ whether punched or drilled *punched*
 pitch of rivets $2\frac{1}{2}$ lap of plating $4\frac{1}{8}$ per centage of strength of joint 67.4
 thickness of crown plates $\frac{9}{16}$ stayed by *14 Stay, each $1\frac{1}{2}$ effective diam*
 Diameter of furnace, top $5\frac{1}{2}'$ bottom $6\frac{1}{4}'$ length of furnace $5'-0''$
 thickness of plates $\frac{9}{16}$ description of joint *lap. Single riveted*
 thickness of furnace crown plates $\frac{9}{16}$ stayed by *as shell crown*
 Working pressure of shell by rules 71 lb working pressure of furnace by rules 74.3 lb
 diameter of uptake $13''$ thickness of plates $\frac{3}{8}$ thickness of water tubes $\frac{3}{8}$

The foregoing is a correct description,
Robt Blair & Co Manufacturers of Main Engines & Boilers only.
R. Blair

General Remarks (State quality of workmanship, opinions as to class, &c.)
The Machinery & Boilers of this vessel have been constructed under special
super. material & workmanship good and satisfactory.
All internal plates of main Boilers are of steel, manufactured at
the works of Messrs J & W. Bendish, Glasgow.
The Engines and Boilers of this vessel are in good order and safe working
condition and, in my opinion, eligible to receive the Registration
in the Register Book.

The amount of Entry Fee .. £ 5 : : received by me,
 Special .. £ 30 : :
 Certificate (if required) .. £ : : 17-2-1883.
 To be sent as per margin.
 (Travelling Expenses, if any, £ ..)

Committee's Minute
 Tuesday 27th February 1883.
R. Blair

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

