

REPORT ON MACHINERY.

No. 5324

(Received at London Office 21st JUNE, 1883.)

No. in Survey held at Reg. Book.

Date, first Survey 9th Nov. 82 Last Survey 16th June 1883

on the iron steam ship 'Bolama' Tons 539

Master Triahlo Built at Hull When built 1883

Engines made at Hull By whom made Charles Co. when made 1883

Boilers made at Hull By whom made d. when made 1883

Registered Horse Power 90 Owners Empresa Nacional Port belonging to Lisbon

ENGINES, &c.—

Description of Engines Compound. Surface condensing. Vertical inverted, direct acting.

Diameter of Cylinders 24" 14 1/2" Length of Stroke 33 No. of Rev. per minute 75 Point of Cut off, High Pressure 18" Low Pressure 19"

Diameter of Screw shaft 8 1/4" Diameter of Tunnel shaft 8" Diameter of Crank shaft journals 9" Diameter of Crank pin 9" size of Crank webs 10 3/4" x 6 1/2"

Diameter of screw 11 1/8" Pitch of screw 12.6 brass 14.6" No. of blades 4 state whether moveable No total surface

No. of Feed pumps 2 diameter of ditto 4 1/2" Stroke 8" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 4 1/2" Stroke 8" Can one be overhauled while the other is at work yes

Where do they pump from Fore & main hold, & engine room and one from sea with a deck delivery.

No. of Donkey Engines one Size of Pumps 5 1/2" dia. & 8" stroke Where do they pump from Sea, Tanks & main compartments.

also from hot well, and has deliveries to deck, overboard, the main & donkey boilers & their condensers

Are all the bilge suction pipes fitted with roses yes Are the roses always accessible yes in engine room

No. of bilge injections one and sizes 4 1/2" valve Are they connected to condenser, or to circulating pump to circulating pump.

How are the pumps worked by rocking levers from piston crosshead

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 below.

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 Cuttin pipe & for parts How are they protected under wood flooring

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

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 now new

Is the screw shaft tunnel watertight reputed and fitted with a sluice door yes worked from upper platform

BOILERS, &c.— (Steel).

Number of Boilers two Description Circular, multitubular, ordinary marine type.

Working Pressure 80 lb. Tested by hydraulic pressure to 160 lb. Date of test 13th April. 83.

Description of superheating apparatus or steam chest None fitted

Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately X

No. of square feet of fire grate surface in each boiler 229.50 sq. ft. Description of safety valves Camern & Co. patent spring loaded.

No. to each boiler two area of each valve 9.6 sq. inch Are they fitted with easing gear yes

No. of safety valves to superheater X area of each valve X are they fitted with easing gear X

Smallest distance between boilers and bunkers or woodwork 23" to deck.

Diameter of boilers 10' 9" Length of boilers 9' 3" description of riveting of shell long. seams double riv' butt with circum. seams double riv' caps

Thickness of shell plates 19/32" diameter of rivet holes 13/16" whether punched or drilled drilled pitch of rivets 3 7/16"

Lap of plating 8" straps per centage of strength of longitudinal joint 75. working pressure of shell by rules 86 lb

Size of manholes in back 16" x 12" size of compensating rings 28" x 24" x 7/32"

No. of Furnaces in each boiler 2 outside diameter 40" length, top 6' 6" bottom 8' 8"

Thickness of plates 1/2" description of joint butted with double straps if rings are fitted are attached greatest length between supports 6' 6"

Working pressure of furnace by the rules 86 lb.

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

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

If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 95 lb

Diameter of stays at smallest part 1 7/16" working pressure of ditto by rules 126 to 141 lb

End plates in steam space, thickness 3/4" pitch of stays to ditto 16 1/2" x 15 1/2" x 15" how stays are secured double nuts & washers

Working pressure by rules 88 lb diameter of stays at smallest part 2" working pressure by rules 88 lb

Front plates at bottom, thickness 19/32" Back plates, thickness 19/32" greatest pitch of stays 12" x 9" working pressure by rules 80 lb

HUL 396-0026

Diameter of tubes $3\frac{1}{2}$ " pitch of tubes $4\frac{7}{8}$ " thickness of tube plates, front $\frac{5}{8}$ " back $\frac{7}{8}$ "
How stayed *Stay tubes as approved* pitch of stays $13\frac{1}{2}$ " in mid width of water spaces $1\frac{1}{8}$ "
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 *Vertical cylinder with internal furnace & side uptake Iron shell & steel*
Made at *Stull* By whom made *Earle & Co.* when made *1883*
Where fixed *on deck* working pressure *45 lb.* Tested by hydraulic pressure to *90 lb.* No. of Certificate *141*
Fire grate area *10' 0"* Description of safety valves *Spring loaded* No. of safety valves *one* area of each *7 sq. inches*
If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*
Diameter of donkey boiler *4' 6"* length *9' 0"* description of riveting *single riveted lap*
thickness of shell plates *3/8"* diameter of rivet holes *13/16"* whether punched or drilled *punched*
pitch of rivets *1 7/8"* lap of plating per centage of strength of joint *56*
thickness of crown plates *7/16"* stayed by *one 2 3/4" vertical stay*
Diameter of furnace, top *40 1/2"* bottom *45"* length of furnace *5' 0"*
thickness of plates *7/16"* description of joint *single riveted lap*
thickness of furnace crown plates *7/16"* stayed by *one vertical stay (astern)*
Working pressure of shell by rules *60 lb.* working pressure of furnace by rules *77 lb.*
diameter of uptake *11"* thickness of plates *1/2"* thickness of water tubes *3/8"*

The foregoing is a correct description,

For

Manufacturer.

EARLE'S SHIPBUILDING & ENGINEERING COY. LIMITED

Frank H. Pearson

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

Boilers made to approved design & with the Engines placed in the ship in accordance with the Society's rules. and now in my opinion in safe working condition
The case is respectfully submitted as eligible for the notification **L.M.C 6.83**
in the Register Book
(List of spare gear attached)

Has been submitted that the vessel is eligible to have the notification & L.M.C recorded
M 21/6/83

The amount of Entry Fee £ 2 : 11 : 0 received by me,

Special *Donkey Boiler* £ 13 : 10 : 0

Certificate (if required) .. £ *Gratis* 16/6/1883

To be sent as per margin.

(Travelling Expenses, if any, £)

Committee's Minute

FRIDAY 22 JUNE 1883

18

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