

# REPORT ON MACHINERY.

18

To. 15420 Inho no 18

Port of Sunderland & Middlebro'

TUES 25 MARCH 1890

Received at London Office

No. in Survey held at Sunderland & Middlebro' Date, first Survey 18<sup>th</sup> Sept 1890 Last Survey 8<sup>th</sup> March 1890

(Number of Visits 16)

Tons 506

on the S.S. "America"

Master Hooley Built at Middlebro' By whom built Raylton Dixon & Coy When built 1890

Engines made at Sunderland By whom made John Dickinson when made 1890

Boilers made at Sunderland By whom made John Dickinson when made 1890

Registered Horse Power 128 Owners Capt J. M. Kuhule Port belonging to Bergen

## ENGINES, &c.

Description of Engines Triple compound, three cranks (Triple expansion)

Diameter of Cylinders 14 1/2, 29, 44 Length of Stroke 33 No. of Rev. per minute 60 Point of Cut off, High Pressure 1/2 Low Pressure 1/2 stroke

Diameter of Screw shaft 9" Diam. of Tunnel shaft 8 1/2" Diam. of Crank shaft journals 9" Diam. of Crank pin 9" size of Crank webs patent

Diameter of screw 11-6" Pitch of screw 14-3" No. of blades 4 state whether moveable not total surface 38 sq ft

No. of Feed pumps 2 diameter of ditto 2 3/4" Stroke 15" Can one be overhauled while the other is at work yes

No. of Bilge pumps 2 diameter of ditto 3 1/2" Stroke 15" Can one be overhauled while the other is at work yes

Where do they pump from Sea, Bilges, Tunnel, After peak and Tanks

No. of Donkey Engines 2 Size of Pumps 10x10, 3 1/2 x 5 1/4 Where do they pump from Feed - Sea, Hotwell, Tanks

and Boilers. Ballast - All tanks, Bilges and Sea thru 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 3" Are they connected to condenser, or to circulating pump circulating pump

How are the pumps worked by levers on after engine

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 none How are they protected yes

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 8<sup>th</sup> March 1890

Is the screw shaft tunnel watertight yes and fitted with a sluice door yes worked from Top platform in engine room

## BOILERS, &c.

Number of Boilers one Description Ordinary marine type Whether Steel or Iron steel

Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs Date of test 21-12-89

Description of superheating apparatus or steam chest none

Can each boiler be worked separately only one Can the superheater be shut off and the boiler worked separately no superheater

No. of square feet of fire grate surface in each boiler 50 sq ft Description of safety valves direct spring No. to each boiler 2

Area of each valve 8.30 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 12" Diameter of boilers 14-6"

Length of boilers 11-0" description of riveting of shell long. seams treble riveted circum. seams treble riveted in middle Thickness of shell plates 19 1/32

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

Percentage of strength of longitudinal joint 83.8 sp working pressure of shell by rules 160 lbs size of manholes in shell 16 x 13"

Size of compensating rings 8" x 1 1/8" No. of Furnaces in each boiler 3

Outside diameter 3-5 1/8" length, top 4 feet - bottom 4 feet thickness of plates 9/16" description of joint welded if rings are fitted no

Greatest length between rings — working pressure of furnace by the rules 160 lbs combustion chamber plating, thickness, sides 14/32 back 9/16 top 14/32

Pitch of stays to ditto, sides 1 1/4 x 1 1/4 back 1 1/4 x 1 1/4 top 1 1/4 x 1 1/4 If stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 160 lbs

Diameter of stays at smallest part 1 3/8" working pressure of ditto by rules 160 lbs end plates in steam space, thickness 1 5/32"

Pitch of stays to ditto 1 1/4 x 1 1/4 how stays are secured nuts working pressure by rules 160 lbs diameter of stays at smallest part 2 3/4"

Greatest pitch of stays 13" working pressure by rules 160 lbs with abutting plate 3 1/2 Front plates at bottom, thickness 3/4" Back plates, thickness 23/32"

plates, front 15/16" back 1/8" how stayed stay tubes pitch of stays 9 1/2" thickness of tube 4 3/4" width of water spaces 1 1/4 - 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 —

Total heating surface 1925 sq ft

Description of furnaces Swiss patent

Lloyd's Register Foundation

**DONKEY BOILER-**

Description *Vertical with 3 cross water Tubes.*

Made at *Stockton* by whom made *J. Sadron 604 St* when made *29.1.90* where fixed *In Stockton*

Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *2059* fire grate area *18 sq ft* description of safety valves *Spring*

No. of safety valves *one* area of each *9 1/2 sq in* if fitted with easing gear *Yes* if steam from main boilers can enter the donkey boiler *No* diameter of donkey boiler *5' 6"* length *11' 0"* description of riveting *Lap Double*

Thickness of shell plates *1/2"* diameter of rivet holes *1 3/16"* whether punched or drilled *Drilled* pitch of rivets *2 3/4"* lap of plating *4 1/4"* per centage of strength of joint *64.3* thickness of crown plates *1/2"* stayed by *Five Stay 1 1/2" dia*

Diameter of furnace, top *4' 4"* bottom *4' 10"* length of furnace *4' 10 1/2"* thickness of plates *9/16"* description of joint *Lap Single*

Thickness of furnace crown plates *9/16"* stayed by *Same as shell crown plate* working pressure of shell by rules *10*

Working pressure of furnace by rules *87.8 lbs* diameter of uptake *12"* thickness of plates *3/8"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied: - *Two Each Connecting Rod Top & Bottom End Bolts*  
*Nuts. One set Coupling Bolts & nuts, one set Feed Bilge pump valve*  
*One Propellor. Bolts, Nuts and Iron of assorted sizes.*

The foregoing is a correct description,

FOR JOHN DIXONSON

*J. Sadron*

Manufacturers of main engines and boiler.

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

The main steam pipes have been tested by hydraulic pressure to 320 lbs. The engines and boiler have been constructed under special survey and when tried under steam was found satisfactory. The vessel has proceeded to Middlesbrough when the following work requires to be done viz. Bilge pipes to connect. Sluices to fit to bulkheads tunnel to complete. Donkey boiler to fit with mountings and tried under steam.

I am of opinion when the above mentioned work has been satisfactorily completed that the above mentioned vessel is eligible for the notification in the Register Book of L.M.C. 3-90

*Wm Salmon*  
*Sunderland.*

The work mentioned above has now been satisfactorily completed.

It is submitted that this vessel is eligible to have + L.M.C. 3. 90 recorded - W.A.

*25.3.90*

The amount of Entry Fee .. £ *2* : - : - received by me,

Special .. £ *19* : *4* : -

Donkey Boiler Fee .. £ - : - : -

Certificate (if required) .. £ - : - : - *24.3.1890*

(Travelling Expenses, if any, £ )

Committee's Minute **FRIDAY 28 MARCH 1890**

*+ L.M.C. 3/90*

*Wm Austin*  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.  
**WED. 27 DEC 1893**



MD5729/57