

REPORT ON MACHINERY.

TUES 20 MAY 1890

68

Port of Middlesbro'

Received at London Office 18

No. in Survey held at Stockton

Date, first Survey 1st Nov 89 Last Survey 15 May 1890

Book.

(Number of Visits)

on the Screw Steamer *Therese Heymann*

Tons { Gross 2392.56
Net 1550.38

Registered at Stockton

Built at Stockton

By whom built Ropner & Co

When built 1890

Engines made at Stockton

By whom made Blair & Co Limited

when made 1890

Motors made at Stockton

By whom made Blair & Co Limited

when made 1890

Registered Horse Power 200

Owners The Therese Heymann & Co

Port belonging to London

ENGINES, &c.—

(Triple expansion)

Description of Engines Triple expansion (3 Cranks), Inverted direct acting, Surface condensing No. of Cylinders Three

Diameter of Cylinders 21 1/2" - 35 1/2" - 58 1/2" Length of Stroke 39" Rev. per minute 60 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke

Diameter of Screw shaft 11 1/4" Diam. of Tunnel shaft 11" Diam. of Crank shaft journals 11 1/2" Diam. of Crank pin 12" size of Crank webs 19" x 4 3/8"

Diameter of screw 15.6" Pitch of screw 15.0" No. of blades 4 state whether moveable No total surface 62 1/2 sq feet

No. of Feed pumps 2 diameter of ditto 3" Stroke 28" Can one be overhauled while the other is at work Yes

No. of Bilge pumps 2 diameter of ditto 4" Stroke 28" Can one be overhauled while the other is at work Yes

Where do they pump from Sea, Engine Room, Bilges, Ballast tanks, Fore Hold & Funnel

No. of Donkey Engines Two Size of Pumps Feed (4" x 8") Ballast (1 1/2" x 9") Where do they pump from Feed - Sea, Holdwell & Tanks

Ballast - Sea, Bilges of Engine Room, Fore Hold, Tunnel bell and all Ballast 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 Yes

No. of bilge injections one and sizes 6" Are they connected to condenser, or to circulating pump Circulating pump

How are the pumps worked By levers from piston Rod Crosshead of 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

How are pipes carried through the bunkers None How are they protected None

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 Yes and fitted with a sluice door Yes worked from Top platform in Engine Room

BOILERS, &c.—

No. of Boilers Two Description Single end, by low, built up Material Steel Letter (for record)

Working Pressure 160 lbs Tested by hydraulic pressure to 220 lbs Date of test 12th April 1890 (1119)

Description of superheating apparatus or steam chest None Heating surface 3150 sq feet

Can each boiler be worked separately Yes Can the superheater be shut off and the boiler worked separately Yes

Area of square feet of fire grate surface in each boiler 41 sq ft Description of safety valves Spring No. to each boiler Two

Area of each valve 4.06 sq in Are they fitted with easing gear Yes No. of safety valves to superheater Two area of each valve 4.06 sq in

Are they fitted with easing gear Yes Smallest distance between boilers and bunkers or woodwork 16" Diameter of boilers 13' 3 1/8"

Length of boilers 10' 0" description of riveting of shell long. seams Diagonal Treble circum. seams Lap Double Thickness of shell plates 1 1/8"

Diameter of rivet holes 1 1/8" whether punched or drilled Drilled pitch of rivets 8" circum. 4 1/2" Lap of plating 1 1/2" wide, circum 6"

Percentage of strength of longitudinal joint 85.1% working pressure of shell by rules 164.6 lbs size of manholes in shell 16" x 12"

Area of compensating rings 28" x 24" x 1 1/8" No. of Furnaces in each boiler 3 Description of Furnaces Corrugated

Outside diameter 3' 3" length 6' 3" thickness of plates 3 3/4" description of joint Welded if rings are fitted Yes

Greatest length between rings 169 lbs combustion chamber plating, thickness, sides 9/16" back 9/16" top 9/16"

Area of stays to ditto, sides 4 1/4" x 1/2" back 4 1/4" x 1/2" top 4 1/4" x 1/2" stays are fitted with nuts or riveted heads Sub working pressure of plating by rules 162 lbs

Diameter of stays at smallest part 1 1/8" working pressure of ditto by rules 148 lbs end plates in steam space, thickness 1 1/8"

Area of stays to ditto 16 1/2" x 1 1/8" how stays are secured Double duty working pressure by rules 166 lbs diameter of stays at smallest part 2 1/2"

working pressure by rules 148 lbs Front plates at bottom, thickness 1" Back plates, thickness 1"

Greatest pitch of stays 12 1/2" working pressure by rules 162.8 lbs Diameter of tubes 2 1/4" pitch of tubes 4 1/2" x 4 5/8" thickness of tube plates, front 1" back 3/8"

How stayed Stay tubes pitch of stays 9 1/4" x 9" width of water spaces 5"

Diameter of Superheater or Steam chest 1" length 1" thickness of plates 1" description of longitudinal joint Welded diam. of rivet holes 1"

Area of rivets 1" working pressure of shell by rules 162 lbs diameter of flue 1" thickness of plates 1" If stiffened with rings Yes

Distance between rings 1" working pressure by rules 162 lbs end plates of superheater, or steam chest; thickness 1" how stayed Stay tubes

Superheater or steam chest; how connected to boiler Stay tubes

Lloyd's Register Foundation

Shell
DONKEY BOILER—

Description *Meredith's Patent.*

Made at *Stockton* by whom made *Riley Bros.* when made *21.4.90* where fixed *In Stockton*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs*; No. of Certificate *1025* fire grate area *16 sq. feet* description of safety valves *Spring* No. of safety valves *one* area of each *9.67* 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 *Long Lap Double*
Thickness of shell plates *3/8"* diameter of rivet holes *1 1/16"* whether punched or drilled *drilled* pitch of rivets *2 1/16"* lap of plating *4 1/2"*
per centage of strength of joint *71* thickness of crown plates *3/8"* stayed by *Hemispherical*
Diameter of furnace, top *4' 1 1/2"* bottom *4' 1 1/4"* length of furnace *2' 0"* thickness of plates *1/2"* description of joint *Lap Single*
Thickness of furnace crown plates *1/2"* stayed by *Hemispherical* working pressure of shell by rules *80*
Working pressure of furnace by rules *81 lbs* diameter of uptake *✓* thickness of plates *✓* thickness of water tubes *✓*

SPARE GEAR.

State the articles supplied:— *1 Set Coupling Bolts Nuts, 2 Main Bearing Bolts, 2 Crank pin Bolts Nuts, 2 Cross head Bolts Nuts, 1 Set Feed Bridge pins, 1 Set piston springs, 1 Spare Propeller, Bolts Nuts asst, Iron cast sizes.*

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED. Manufacturers of Main Engines & Boilers.
J. Bonchetti Secy

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

The materials and workmanship are of the best description.

The Engines and Boilers of this vessel have been constructed under Special Survey. When fitted on board the Engines were tried and worked satisfactorily, and the Main Boilers with steam up were found tight, their safety valves being set to carry a working pressure of 160 lbs per sq. inch.

*The whole Machinery is now in good and efficient condition and eligible in my opinion to have the notation **L.M.C. 5, 90** marked in the Society's Register Book.*

It is submitted that this vessel is eligible to have + L.M.C. 5. 90 recorded.

*M.L.D.
20.5.90*

The amount of Entry Fee .. £ 2 : : : received by me,
Special .. £ 30 : 12 : :
Donkey Boiler Fee .. £ : : :
Certificate (if required) .. £ : : : 19.5 1890
To be sent as per margin.
(Travelling Expenses, if any, £)

Committee's Minute **FRI 23 MAY 1890**

+ L.M.C. 5790

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



Lloyd's Register Foundation