

Indb No. 3142
Sta. No. 20629

REPORT ON MACHINERY.

Port of *Middlesbro on Sea*

THUR. AUG 1 1901

Received at London Office

No. in Survey held at *Stockton* Date, first Survey *23rd Oct. 1899* Last Survey *22nd July 1901*
Reg. Book. *762* on the *S. S. "Monomoy."* (Number of Visits *84*)

Tons } Gross *4881.34*
Net *3149.11*

Master *Mann* Built at *Sunderland* By whom built *J. L. Thompson & Co. L^{td}* When built *1901*
Engines made at *Stockton* By whom made *Blair & Co. L^{td}* when made *1901.*
Boilers made at *Stockton* By whom made *Blair & Co. L^{td}* when made *1901.*
Registered Horse Power _____ Owners *North Atlantic S. S. Co. L^{td}* Port belonging to *Bristol*
Nom. Horse Power as per Section 28 *492.* Is Refrigerating Machinery fitted *No* Is Electric Light fitted *No*

ENGINES, &c.—Description of Engines *Triple Expansion* No. of Cylinders *Three* No. of Cranks *Three*
Dia. of Cylinders *25 1/2, 44 & 75* Length of Stroke *51* Revs. per minute *58* Dia. of Screw shaft *as per rule 14.4* Lgth. of stern bush *58*
Dia. of Tunnel shaft *as per rule 13.09* Dia. of Crank shaft journals *as per rule 13.78* Dia. of Crank pin *15 3/4* Size of Crank webs *25 1/2 x 10 1/2* Dia. of thrust shaft under collars *15 3/4* Dia. of screw *19-0* Pitch of screw *20-0* No. of blades *4* State whether moveable *yes* Total surface *104 sq. ft.*
No. of Feed pumps *2.* Diameter of ditto *3 1/2* Stroke *36* Can one be overhauled while the other is at work *yes*
No. of Bilge pumps *2.* Diameter of ditto *5* Stroke *36* Can one be overhauled while the other is at work *yes*
No. of Donkey Engines *3.* Sizes of Pumps *B. 10 x 10 F. 4 x 8* No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room *Three 3 1/2 diameter.* In Holds, &c. *two. 3 1/2 in each hold*
2 1/2 aft well.
No. of bilge injections *1* sizes *4* Connected to condenser, or to circulating pump *yes* Is a separate donkey suction fitted in Engine room & size *yes 4*
Are all the bilge suction pipes fitted with roses *yes* Are the roses in Engine room always accessible *yes* Are the sluices on Engine room bulkheads always accessible *no*
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 _____ How are they protected _____
Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times *yes*
Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges *yes*
When were stern tube, propeller, screw shaft, and all connections examined in dry dock *3.6.01.* Is the screw shaft tunnel watertight *see ship Rept*
Is it fitted with a watertight door *yes* worked from *Top Platform*

OILERS, &c.— (Letter for record (S) Total Heating Surface of Boilers *6412 sq. ft* Is forced draft fitted *yes* Now down
No. and Description of Boilers *3 S. E. Multitubular* Working Pressure *200 lbs* Tested by hydraulic pressure to *400 lbs*
Date of test *6.10.00* Can each boiler be worked separately *yes* Area of fire grate in each boiler *54 1/2 sq. ft.* No. and Description of safety valves to each boiler *2. D. Det Spring* Area of each valve *8.29* Pressure to which they are adjusted *205 lbs* Are they fitted with easing gear *yes*
Smallest distance between boilers or uptakes and bunkers or woodwork *no side outside* Mean dia. of boilers *14-0* Length *11-6* Material of shell plates *S.*
Thickness *1 3/8* Range of tensile strength *27,32* Are they welded or flanged *no* Descrip. of riveting: cir. seams *d. r. lap* long. seams *d. butt str*
Diameter of rivet holes in long. seams *1 3/8* Pitch of rivets *9 3/8 & 4 9/16* Lap of plates & width of butt straps *6 1/2 & 20 1/8*
Per centages of strength of longitudinal joint rivets *84.9* Working pressure of shell by rules *214 lbs* Size of manhole in shell *17 x 13*
Size of compensating ring *31 x 27 x 1 3/8* No. and Description of Furnaces in each boiler *3 Ribbed* Material *S* Outside diameter *41*
Length of plain part *top 7-6 bottom 7-6* Thickness of plates *top 39/64 bottom 39/64* Description of longitudinal joint *welded* No. of strengthening rings _____
Working pressure of furnace by the rules *219 lbs* Combustion chamber plates: Material *S* Thickness: Sides *19/32* Back *19/32* Top *19/32* Bottom *1 1/16*
Pitch of stays to ditto: Sides *7 1/8 x 7 3/4* Back *7 1/8 x 7 1/2* Top *7 1/2 x 7 3/4* If stays are fitted with nuts or riveted heads *nuts* Working pressure by rules *209 lbs*
Material of stays *S.* Diameter at smallest part *1 7/16* Area supported by each stay *58.1* Working pressure by rules *223 lbs* End plates in steam space:
Material *S.* Thickness *1 1/16* Pitch of stays *16 1/4 x 14* How are stays secured *d. nuts washers* Working pressure by rules *232 lbs* Material of stays *S.*
Diameter at smallest part *2 5/8* Area supported by each stay *227.5* Working pressure by rules *237 lbs* Material of Front plates at bottom *S.*
Thickness *1 3/32* Material of Lower back plate *S.* Thickness *1 3/32* Greatest pitch of stays *12 1/4* Working pressure of plate by rules *242 lbs*
Diameter of tubes *2 1/2* Pitch of tubes *3 1/16 x 3 3/4* Material of tube plates *S.* Thickness: Front *1 3/32* Back *15/16* Mean pitch of stays *7 7/16*
Pitch across wide water spaces *13 1/2* Working pressures by rules *224 lbs* Girders to Chamber tops: Material *S.* Depth and thickness of girder at centre *7 3/4 x 2* Length as per rule *31 1/2* Distance apart *7 1/2* Number and pitch of Stays in each *3. 7 3/4*
Working pressure by rules *212 lbs* Superheater or Steam chest; how connected to boiler *no* Can the superheater be shut off and the boiler worked separately _____
Diameter _____ Length _____ Thickness of shell plates _____ Material _____ Description of longitudinal joint _____ Diam. of rivet holes _____ Pitch of rivets _____ Working pressure of shell by rules _____ Diameter of flue _____ Material of flue plates _____ Thickness _____
If stiffened with rings _____ Distance between rings _____ Working pressure by rules _____ End plates: Thickness _____ How stayed _____
Working pressure of end plates _____ Area of safety valves to superheater _____ Are they fitted with easing gear _____



DONKEY BOILER— No. *one* Description *Multitubular*
 Made at *J. Shields* By whom made *Messrs J. J. Eltringham & Co* When made *31. 8. 00* Where fixed *on deck*
 Working pressure *180 lbs* tested by hydraulic pressure to *360 lbs* No. of Certificate *5860* Fire grate area *34 7/8* Description of safety valves *two direct spring*
 No. of safety valves *two* Area of each *3.14* Pressure to which they are adjusted *180 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Dia. of donkey boiler *10'-0"* Length *10'-0"* Material of shell plates *Steel* Thickness *15/16"* Range of tensile strength *28/32 tons* Descrip. of riveting long. seams *5 rows lap* Dia. of rivet holes *15/16"* Whether punched or drilled *drilled* Pitch of rivets *5-3/8"*
 Lap of plating *10 3/8"* Per centage of strength of joint Rivets *82%* Thickness of shell crown plates *✓* Radius of do. *✓* No. of Stays to do. *✓*
 Dia. of stays. *✓* Diameter of furnace *35 1/2"* Bottom *✓* Length of furnace *6'-9"* Thickness of furnace plates *23/32* Description of joint *D.B.S.R* Thickness of furnace crown plates *✓* Stayed by *✓* Working pressure of shell by rules *181 lbs*
 Working pressure of furnace by rules *192 lbs* Diameter of uptake *3'-3 1/2"* Thickness of uptake plates *✓* Thickness of water tubes *✓*

SPARE GEAR. State the articles supplied:— *Two top end bolts and nuts, two bottom end bolts and nuts, two main bearing bolts and nuts set of coupling bolts & nuts, spare feed & bilge pump valves, assorted iron bolts & nuts*

The foregoing is a correct description,
 FOR BLAIR & Co., LIMITED, Manufacturer.s of Engines & Main boilers

P. W. Blair
 MANAGING DIRECTOR
 Dates During progress of work in shops— 1899. Oct 2, Nov 5, Dec 2, 1900 Jan 4 Feb 6, Mar 5, Apl. 4 May 3 June 4, July 5, Aug 3
 During erection on board vessel— Sept. 6, Oct 9, Nov 23, 1901 Jan 2, Feb 1, Mar 1, Apl 4 May 3, June 10
 building Total No. of visits (Mdb) 82 Slatorial 2 *Is the approved plan of main boiler forwarded herewith Blair's no plan yes*

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

These engines and boilers have been built and tested as required by the Society's Rules for Special Survey, and are of good workmanship and materials, they have been well fitted and secured on board the vessel and on completion tried under steam, at moorings, with good results.

The vessel has now returned to builders yard where the donkey boiler will be fitted, pumping arrangement completed and spare gear put on board. — V. M. Bro 9.7.01. This report forwarded to Sunderland Sur. for completion

The donkey boiler fitted and its valve adjusted under steam, spare gear supplied & pumping arrangement completed. M.B.

This vessel's machinery is now in our opinion in a good and efficient working condition and eligible to the notation of: L.M.C. 7: 01. — in the Society's Register.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 7: 01 F.D.

The amount of Entry Fee... £ 3 : : : When applied for, 30.7.19.01
 Special £ 44 12 : : :
 Donkey Boiler Fee £ : : : When received, 1.8.01
 Travelling Expenses (if any) £ : : :

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

Committee's Minute
 Assigned + L.M.C. 7: 01 F.D.

FRI. AUG 2 1901



MACHINERY CERTIFICATE WRITTEN.

Sunderland

Certificate (if required) to be sent to (The Surveyors are requested not to write on or below the space for Committee's Minute.)