

REPORT ON MACHINERY.

7980

1980
No. 30
Port of West Hartlepool
Received at London Office WED 16 APRIL 1890
No. in Survey held at Stockton & Whitby Date, first Survey 30th Sept 1889 Last Survey 5th April 1890
Reg. Book. (Number of Vials 42) 2245
on the Screw Steamer "Fairmead" Tons 1432
Master Nicholson Built at Whitby By whom built Messrs. Turnbull & Sons When built 1890
Engines made at Stockton By whom made Messrs. Blair & Co. Ltd. when made 1890
Boilers made at Stockton By whom made Messrs. Blair & Co. Ltd. when made 1890
Registered Horse Power 175 (OR) Owners J. Turnbull & Son Port belonging to Whitby

ENGINES, &c.—

Description of Engines Inverted, Triple Expansion, 3 Cylinders, & 3 Cranks
Diameter of Cylinders 22, 36, 59 Length of Stroke 39 No. of Rev. per minute 58 Point of Cut off, High Pressure 1/2 stroke Low Pressure 1/2 stroke
Diameter of Screw shaft 11 3/4 Diam. of Tunnel shaft 11 Diam. of Crank shaft journals 11 1/2 Diam. of Crank pin 12 size of Crank webs 19 x 7 3/8
Diameter of screw 15.6 Pitch of screw 16.0 No. of blades 4 state whether moveable no total surface 62.5 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 After Well, &c. Bilges, Ballast Tanks, Sea and Fore Hold.
No. of Donkey Engines 2 Size of Pumps (7 1/2 x 9) (4 x 8) Where do they pump from Ballast—all tanks, &c. Bilges, Sea, Fore Hold &c. Feed—Sea, Hotwell, and 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 2 and sizes 4 1/2 dia. Are they connected to condenser, or to circulating pump Circulating pump.
How are the pumps worked By levers from the after piston rod 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 None How are they protected ✓
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 New vessel, before commissioning.
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 Two Description Cyl. Mult. Single Ended Whether Steel or Iron Steel
Working Pressure 160 lb. Tested by hydraulic pressure to 320 lb. Date of test 27th Febry. 1890.
Description of superheating apparatus or steam chest None Heating surface 3300 sq. ft.
Can each boiler be worked separately yes Can the superheater be shut off and the boiler worked separately No superheater
No. of square feet of fire grate surface in each boiler 42 Description of safety valves Spring No. to each boiler 2
Area of each valve 7.07 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 13.6 1/2"
Length of boilers 10.0 description of riveting of shell long. seams Double butt strap circum. seams double lap Thickness of shell plates 1 1/2"
Diameter of rivet holes 1 1/4" whether punched or drilled drilled pitch of rivets 1 1/2" 2" 3 3/4" Lap of plating 8 3/4"
Per centage of strength of longitudinal joint 83.3 working pressure of shell by rules 162 lb. size of manholes in shell 16 x 12
Size of compensating rings 28 x 24 x 1 1/2" No. of Furnaces in each boiler 3
Outside diameter 3.4 length, top 6.3 bottom 6.3 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 175 lb. combustion chamber plating, thickness, sides 9/16 back 9/16 top 9/16
Pitch of stays to ditto, sides 7/8 x 7/8 back 7/8 x 7/8 top 7/8 x 7/8 stays are fitted with nuts or riveted heads nuts working pressure of plating by rules 162 lb. Diameter of stays at smallest part 1 1/16 working pressure of ditto by rules 173 lb. end plates in steam space, thickness 1 1/8
Pitch of stays to ditto 16 1/2 x 15 how stays are secured double nut & washer working pressure by rules 166 lb. diameter of stays at smallest part 2 3/8 working pressure by rules 161 lb. Front plates at bottom, thickness 1 Back plates, thickness 1
Greatest pitch of stays 12" working pressure by rules 177 lb. Diameter of tubes 3 1/4" pitch of tubes 4 5/8 x 4 1/2 thickness of tube plates, front 1 back 5/8 how stayed stay tube pitch of stays 13 1/2 x 9 1/4 width of water spaces 1 1/4
Diameter of Superheater or Steam chest — 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 —

Steel
DONKEY BOILER— Description *Vertical with 4 cross water tubes*
Made at *Stockton* by whom made *Riley Bros.* when made *25.3.90* where fixed *In Stockton*
Working pressure *80 lbs* tested by hydraulic pressure to *160 lbs* No. of Certificate *1010* fire grate area *28.2 sq. ft.* description of
valves *Spring* No. of safety valves *one* area of each *16.9 sq. in.* if fitted with easing gear *Yes* if steam from main boiler *no*
enter the donkey boiler *No* diameter of donkey boiler *4' 0"* length *14' 0"* description of riveting *Long Lap double*
Thickness of shell plates *1/16"* diameter of rivet holes *3/16"* whether punched or drilled *Punched* pitch of rivets *2 3/8"* lap of plating *4 1/4"*
percentage of strength of joint *41.7* thickness of crown plates *1/16"* stayed by *4 stays 1 1/2" dia.*
Diameter of furnace, top *5' 6"* bottom *6' 0 1/4"* length of furnace *5' 2"* thickness of plates *5/8"* description of joint *Lap single*
Thickness of furnace crown plates *1/16"* stayed by *same as shell crown plate* working pressure of shell by rules *80*
Working pressure of furnace by rules *80.2 lbs* diameter of uptake *14"* thickness of plates *1/16"* thickness of water tubes *3/8"*

SPARE GEAR. State the articles supplied:— *One Propeller, one propeller shaft, 2 back top*
and Bottom end Bolts & nuts, 1 set Coupling Bolts & nuts, 2 main
Bearing Bolts & nuts, 1 set Piston springs, 1 set Feed valve
pump valves, Bolts & nuts assorted, Iron ass^d lugs, 3 Crank shaft
The foregoing is a correct description,
W. B. Blair & Co. Ltd. Manufacturer. of Engines & main boilers
W. B. Blair

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
while the Boilers were on examination under steam
found tight. The whole Machinery is now in good
and efficient condition and eligible in our
*opinion to have the notation **L.M.C. 4,90** marked*
the Society's Register Book.

It is submitted that this vessel is
*eligible to have **L.M.C. 4,90** recorded.*

W. B. Blair
16-4-90

The amount of Entry Fee .. £ 2 : - : received by me,
Special .. £ 30 : 18 : -
Donkey Boiler Fee .. £ : :
Certificate (if required) .. £ : : 15.4.1890.
To be sent as per margin.
(Travelling Expenses, if any, £ s. d. 15 " 8)

Committee's Minute

FRIDAY 18 APRIL 1890

+ LMB 4/90

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