

REPORT ON MACHINERY.

Port of MIDDLESBROUGH ON TEES

MUN 25 JUL 1898

Received at London Office

Survey held at Stockton

Date, first Survey 2nd Dec 1897 Last Survey 16th July 1898

Surveyed by S. S. Euston

(Number of Visits 31)

Tons ^{Gross} 2728
_{Net} 1747

Built at Stockton

By whom built Robner & Son

When built 1898

Machinery made at Stockton

By whom made Blair & Coy Limited

when made 1898

Machinery made at Stockton

By whom made Blair & Coy Limited

when made 1898

Registered Horse Power 200

Owners Euston J. J. Coy

Port belonging to Cardiff

Horse Power as per Section 28 245

Is Electric Light fitted No

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
 Diameter of Cylinders 22 1/2, 37 1/2, 61" Length of Stroke 42" Revolutions per minute 58 Diameter of Screw shaft 10 1/8"
 Diameter of Tunnel shaft 11 3/4" Diameter of Crank shaft journals 12" Diameter of Crank pin 12 1/2" Size of Crank webs Built
 Diameter of screw 16'-0" Pitch of screw 16'-6" No. of blades 4 State whether moveable Not Total surface 7309 sq. ft.
 No. of Feed pumps 2 Diameter of ditto 3" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Bilge pumps 2 Diameter of ditto 4 1/2" Stroke 30" Can one be overhauled while the other is at work Yes
 No. of Donkey Engines 2 Sizes of Pumps 9x10 4x8" No. and size of Suctions connected to both Bilge and Donkey pumps
 Engine Room Three Centre 3 1/2" wings 3" In Holds, &c. Fore, Main & aft holds two each
 Diameter of bilge injections 1 sizes 7" 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 None
 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 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
 Were the stern tube, propeller, screw shaft, and all connections examined in dry dock on stocks Is the screw shaft tunnel watertight Apparently
 Is it fitted with a watertight door Yes worked from upper platform

BOILERS, &c.—(Letter for record (S)) Total Heating Surface of Boilers 3760 sq. ft. Is forced draft fitted No
 Name and Description of Boilers 2. S.E. Multitubular Working Pressure 160 lbs Tested by hydraulic pressure to 320 lbs
 No. of tests 265.98 Can each boiler be worked separately Yes Area of fire grate in each boiler 50" No. and Description of safety valves to
 each boiler two dir. Act. Spring Area of each valve 7.06 sq" Pressure to which they are adjusted 165 lbs Are they fitted
 with easing gear Yes Smallest distance between boilers or uptakes and bunkers or woodwork no side bunkers Mean diameter of boilers 14'-7 7/8"
 Length 10'-0" Material of shell plates Steel Thickness 1 7/32" Description of riveting: circum. seams ends of r.b. long. seams d. butt Mt.
 Diameter of rivet holes in long. seams 1 1/4" Pitch of rivets 1 row 8 3/8" 2 rows 4 3/16" Lap of plates & width of butt straps 6 1/2" & 19 1/4"
 Percentages of strength of longitudinal joint 89. plate 85. Working pressure of shell by rules 169 lbs Size of manhole in shell 17" x 13"
 Size of compensating ring 31 x 27 x 1 7/32" No. and Description of Furnaces in each boiler 3 Ribbed Material Steel Outside diameter 41"
 Length of plain part top 6'-3" bottom 6'-3" Thickness of plates top 5/16" bottom 5/16" Description of longitudinal joint welded No. of strengthening rings —
 Working pressure of furnace by the rules 170 lbs Combustion chamber plates: Material Steel Thickness: Sides 9/16" Back 9/16" Top 9/16" Bottom 15/16"
 Pitch of stays to ditto: Sides 7 3/4" x 7 3/4" Back 7 3/4" x 6 3/4" Top 7 1/2" x 7 1/4" If stays are fitted with nuts or riveted heads Nuts Working pressure by rules 182 lbs
 Material of stays Steel Diameter at smallest part 1 7/16" Area supported by each stay 543 sq" Working pressure by rules 198 lbs End plates in steam space:
 Material Steel Thickness 15/16" Pitch of stays 15" How are stays secured d. nuts washers Working pressure by rules 185 lbs Material of stays Steel
 Diameter at smallest part 2 3/8" Area supported by each stay 225 sq" Working pressure by rules 197 lbs Material of Front plates at bottom Steel
 Thickness 1" Material of Lower back plate Steel Thickness 1" Greatest pitch of stays 12" Working pressure of plate by rules 240 lbs
 Diameter of tubes 3 1/4" Pitch of tubes 4 5/8" x 4 1/2" Material of tube plates Steel Thickness: Front 1" Back 1 3/16" Mean pitch of stays 9 1/8"
 Pitch across wide water spaces 14" Working pressures by rules 195 lbs Girders to Chamber tops: Material Steel Depth and
 thickness of girder at centre 7 x 1 1/2" Length as per rule 27 1/2" Distance apart 7 1/2" Number and pitch of Stays in each 3. 7 1/4"
 Working pressure by rules 174 lbs Superheater or Steam chest; how connected to boiler None 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 —

011890-011895-0245



2 DONKEY BOILERS Description *Vertical with x tubes.*
 Made at *Warkton* By whom made *Riley Bros.* When made *20.6.98* Where fixed *Storehold -*
 Working pressure *160 lbs* tested by hydraulic pressure to *220 lbs* No. of Certificate *1727* Wire grate area *180* Description of safety valves *air spring*
 No. of safety valves *1* Area of each *9.62* Pressure to which they are adjusted *160 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no* Diameter of donkey boilers *5'-6"* Length *12'-0"* Material of shell plates *steel* Thickness *19/32*
 Description of riveting long seams *d. butt str* Diameter of rivet holes *7/8* Whether punched or drilled *drill* Pitch of rivets *3 3/4*
 Lap of plating *—* Per centage of strength of joint *76.7* Rivets *80* Thickness of shell crown plates *5/8* Radius of do. *5ft* No. of Stays to do. *6*
 Dia. of stays *2"* Diameter of furnace Top *4'-5"* Bottom *4'-10 3/4"* Length of furnace *4'-7"* Thickness of furnace plates *11/16* Description of joint *lap* Thickness of furnace crown plates *5/8* Stayed by *as above* Working pressure of shell by rules *192 lbs*
 Working pressure of furnace by rules *161 lbs* Diameter of uptake *13"* Thickness of uptake plates *1/2* Thickness of water tubes *3/8*

SPARE GEAR. State the articles supplied:— *Top and bottom end bolts & nuts*
Main bearing & coupling bolts & nuts. Feed pump
valves seat, bilge pump valves. Piston Springs.

The foregoing is a correct description,
 FOR BLAIR & CO., LIMITED. *Manufacturers of Engines & Main boilers*
W. Borrie

SECRETARY.

Dates of Survey while building
 During progress of work in shops— *1897. Dec. 2. 4. 1898. Jan. 11. Feb. 2. Apr. 16. 25. May 5. 11. 14. 26. 28. June 2. 6. 7. 8. 9. 10. 13. 14. 15*
 During erection on board vessel— *14. 20. 21. 23. 24. 27. 28. 30. July 15. 5. 6. 7. 11. 12. 14. 16.*
 Total No. of visits *Thirty seven*

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

These engines and boilers have been built under special survey and are of good workmanship and materials. — They have been properly fitted on board the vessel and on completion tried under steam with satisfactory results at moorings.

*This vessel's machinery is now in good working order and in my opinion eligible to the notation: **F. L. M. C. 7. 98.** —*

It is submitted that this vessel is eligible for THE RECORD.

+ L. M. C. 7. 98

JH
25/7/98

The amount of Entry Fee... £ 2 : : : When applied for.
 Special... £ 32 : 5 : : *22.7.98*
 Donkey Boiler Fee... £ : : : When received.
 Travelling Expenses (if any) £ : : : *22.7.98*

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

Col... 's Minute
 Assigned

TUES. 26 JUL 1898

MACHINERY CERTIFICATE WRITTEN.

+ L. M. C. 7. 98



© 2021

Lloyd's Register Foundation