

REPORT ON MACHINERY.

Port of MIDDLESBROUGH-ON-TEESReceived at London Office THUR. 9 MAR 1899No. in Survey held at StocktonDate, first Survey 6th Sept 1898 Last Survey 27th Feb 1899

Reg. Book.

(Number of Visits 42)

No. Sup. on the

J. S. Bardsey.Gross 3381.81
Net 2184.45Master R. Gare.Built at HornabyBy whom built Richardson, Duck & CoWhen built 1899Engines made at StocktonBy whom made Blair & Coy Ltdwhen made 1899Boilers made at StocktonBy whom made Blair & Coy Ltdwhen made 1899Registered Horse Power 294Owners Jarrar, Groves & CoPort belonging to LondonNom. Horse Power as per Section 28 294Is Electric Light fitted no

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders Three No. of Cranks 3

Diameter of Cylinders 24 1/2, 40 1/2 & 66 1/2 Length of Stroke 42 Revolutions per minute 58 Diameter of Screw shaft as per rule 12 1/2
as fitted 10 9/16 Diameter of Crank shaft journals 12 3/4 Diameter of Crank pin 13 1/4 Size of Crank webs 20 x 8 7/8 B
as fitted 12 1/2 Diameter of screw 17-0 Pitch of screw 16-6 No. of blades 4 State whether moveable not Total surface 78 1/2 sq. ft.

To. of Feed pumps 2 Diameter of ditto 3 Stroke 30 Can one be overhauled while the other is at work yes

To. of Bilge pumps 2 Diameter of ditto 4 1/2 Stroke 30 Can one be overhauled while the other is at work yes

To. of Donkey Engines two Sizes of Pumps 9 x 10 4 x 8 No. and size of Suctions connected to both Bilge and Donkey pumps

Engine Room Three 3 1/2 diameter In Holds, &c. Fore & Main holds two each 3 1/2 dia
Aft and Aftermost holds two each 3 1/2 dia. Tunnel well one 2 1/2 dia.

To. 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

What pipes are carried through the bunkers none 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

Then were 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 4530 sq. ft. Is forced draft fitted no

No. and Description of Boilers 2. S.E. Multitubular Working Pressure 166 lb Tested by hydraulic pressure to 320 lb

Date of test 24.1.99 Can each boiler be worked separately yes Area of fire grate in each boiler 61.5 No. and Description of safety valves to

each boiler 2 d.a. Spring Area of each valve 8.29 Pressure to which they are adjusted 165 lb Are they fitted

with easing gear yes Smallest distance between boilers or uptakes and bunkers or woodwork no side Outside Mean diameter of boilers 15-6

Length 10-6 Material of shell plates steel Thickness 1 1/2 Description of riveting: circum. seams ends d.s. lap long. seams d. butt str.

Diameter of rivet holes in long. seams 1 1/4 Pitch of rivets 8 1/4 1 row 4 1/8 2 rows Lap of plates & width of butt straps 6 1/2 & 18 1/4

Percentages of strength of longitudinal joint 90.6 Working pressure of shell by rules 168 lb Size of manhole in shell 17 x 13

Size of compensating ring 31 x 27 x 1 1/2 No. and Description of Furnaces in each boiler 3 Corrugated Material steel Outside diameter 46

Length of plain part top 3-6-9 bottom 3-6-9 Thickness of plates crown 1 1/2 bottom 3/2 Description of longitudinal joint welded No. of strengthening rings —

Working pressure of furnace by the rules 178 lb Combustion chamber plates: Material steel Thickness: Sides 1/8 Back 1/8 Top 1/8 Bottom 1

Thickness of stays to ditto: Sides 9 1/4 x 9 1/2 Back 9 1/2 x 9 1/2 Top 9 1/2 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 176 lb

Material of stays steel Diameter at smallest part 1 9/16 Area supported by each stay 92.6 Working pressure by rules 186 lb and plates in steam space:

Material steel Thickness 1 3/16 Pitch of stays 20 x 19 3/4 How are stays secured d. nuts Working pressure by rules 169 lb Material of stays steel

Diameter at smallest part 2 7/8 Area supported by each stay 395 Working pressure by rules 164 lb Material of Front plates at bottom steel

Thickness 1 Material of Lower back plate steel Thickness 1 1/8 Greatest pitch of stays 14 Working pressure of plate by rules 305 lb

Diameter of tubes 3 1/2 Pitch of tubes 4 7/8 x 4 3/4 Material of tube plates steel Thickness: Front 1 Back 1 3/16 Mean pitch of stays 9 7/8

Pitch across wide water spaces 14 1/4 Working pressures by rules 189 lb Girders to Chamber tops: Material steel Depth and

Thickness of girder at centre 7 x 1 5/8 Length as per rule 27 1/4 Distance apart 9 1/2 Number and pitch of Stays in each 2. 9 1/2

Working pressure by rules 171 lb 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

as — Pitch of rivets — Working pressure of shell by rules — Diameter of flue — Material of flue plates — Thickness —

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— Description *Cylindrical Mult^{or} 2 plain furnaces*
 Made at *Stockton* By whom made *Blair & Co. Ld* When made *24.1.99* Where fixed *deckhouse*
 Working pressure *90 lbs* Tested by hydraulic pressure to *180 lbs* No. of Certificate *1877* Fire grate area *28 1/2* Description of safety valves *d. spring*
 No. of safety valves *2*. Area of each *5.94* Pressure to which they are adjusted *90 lbs* If fitted with easing gear *yes* If steam from main boilers can enter the donkey boiler *no*. Diameter of donkey boiler *9' 6"* Length *9' 6"* Material of shell plates *steel* Thickness *9/16*
 Description of riveting long. seams *d. butt str.* Diameter of rivet holes *1 1/8"* Whether punched or drilled *dr.* Pitch of rivets *1 1/2"*
 Lap of plating *10 1/4"* Per centage of strength of joint *84*. Thickness of shell plates *7/8"* Radius of do. *Pitch* of Stays to do. *18"*
 Dia. of stays. *2 3/8"* Diameter of furnace Top *35"* Bottom *—* Length of furnace *6' 2"* Thickness of furnace plates *1/2"* Description of joint *d. butt str.* Thickness of furnace crown plates *9/16"* Stayed by *1 5/16" off stay 8' 2 1/2" p.* Working pressure of shell by rules *108 lbs*
 Working pressure of furnace by rules *98 lbs* Diameter of uptake *3"* Thickness of uptake plates *7/8"* Thickness of water tubes *—*

SPARE GEAR. State the articles supplied:— *Propeller and tailshaft. — Top and bottom end bolts and nuts. Main bearing and coupling bolts & nuts. Seed, bridge and donkey pump valves. — Bolts nuts, wire etc.*

The foregoing is a correct description,
FOR BLAIR & CO., LIMITED. Manufacturer.

P. W. Blair DIRECTOR
 Dates of Survey: During progress of work in shops— *1898. Sept. 6. 13. 27. Oct. 18. 26. Nov. 2. 4. 7. 11. 15. 21. 25. 30. Dec. 5. 12. 19. 22. 28. 1899. Jan. 6. 9. 12. 16. 18. 19. 21. 23.*
 During erection on board vessel— *31. Feb. 3. 4. 7. 8. 9. 10. 11. 13. 13. 14. 15. 21. 22. 23. 27.*
 Total No. of visits *Forty-three.*

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 and secured on board the vessel and were on completion tried under steam at moorings with satisfactory results.

*The machinery is now in my opinion in a good and efficient working condition and eligible to the notation of: **T.L.M.C. 2.99.** in the Society's Register. —*

It is submitted that
 this vessel is eligible for
THE RECORD. T.L.M.C. 2.99.

A.C.A.

9. 3. 99.

10. 3. 99

The amount of Entry Fee. £ 2 : 0 : 0 When applied for, *6. 3. 1899.*
 Special £ 34 : 14 : 0
 Donkey Boiler Fee £ 2 : 2 : 0 When received, *8. 3. 1899.*
 Travelling Expenses (if any) £ : : : *8. 3. 1899.*

Committee's Minute

Assigned

FRI. 10 MAR 1899

MACHINERY CERTIFICATE

WRITTEN.

+ T.L.M.C. 2.99

John Sanderson

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



© 2020

Lloyd's Register Foundation