

Rpt. 4.

REPORT ON MACHINERY.

No. 12677

Port of Wool

MUN. 21 AUG 1905

No. in Survey held at Banbridge
Reg. Book.

Date, first Survey 33rd Feb. 05

Last Survey 17th Aug. 1905

(Number of Visits 72)

on the Steel Steamer Teesbridge

Master

Built at Newcastle

By whom built R. Stephenson & Co.

Tons

Gross 5408

Net 2616

When built 1905

Engines made at Banbridge

By whom made Richardson, Wigham & Co.

when made 1905

Boilers made at Banbridge

By whom made Richardson, Wigham & Co.

when made 1905

Registered Horse Power

Owners Brookly Magee & Co.

Port belonging to Banbridge

Nom. Horse Power as per Section 28 211

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted No

ENGINES, &c.—Description of Engines

No. of Cylinders Three

No. of Cranks Three

Dia. of Cylinders 25" 40" 67"

Length of Stroke 45"

Revs. per minute 60

Dia. of Screw shaft as per rule

Material of Iron

Is the screw shaft fitted with a continuous liner the whole length of the stern tube No

Is the after end of the liner made water tight No

in the propeller boss No If the liner is in more than one length are the joints burned No

If the liner does not fit tightly at the part No

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive No

If two No

liners are fitted, is the shaft lapped or protected between the liners No

Length of stern bush 60"

Dia. of Tunnel shaft as per rule 12 3/4"

Dia. of Crank shaft journals as per rule 12 3/4"

Dia. of Crank pin 13 1/2"

Size of Crank webs 25 1/2"

Dia. of thrust shaft under collars 13 1/2"

Dia. of screw 16 1/2"

Pitch of screw 16 1/2"

No. of blades 4

State whether moveable No

Total surface 846 sq ft

No. of Feed pumps Two

Diameter of ditto 3"

Stroke 27"

Can one be overhauled while the other is at work No

No. of Bilge pumps Two

Diameter of ditto 3 1/2"

Stroke 27"

Can one be overhauled while the other is at work No

No. of Donkey Engines Two

Sizes of Pumps 4 1/2" x 6" & 8 1/2" x 7"

No. and size of Suctions connected to both Bilge and Donkey pumps In Engine Room Three 8 1/2"

In Engine Room Three 8 1/2"

In Holds, &c. In all holds Two 3 1/2"

No. of bilge injections Five

Connected to condenser, or to circulating pump Five

Is a separate donkey suction fitted in Engine room & size 4 1/2"

Are all the bilge suction pipes fitted with roses No

Are the roses in Engine room always accessible No

Are the sluices on Engine room bulkheads always accessible No

Are all connections with the sea direct on the skin of the ship No

Are they Valves or Cocks both

Are they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates No

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 No

Are the blow off cocks fitted with a spigot and brass covering plate No

What pipes are carried through the bunkers No

How are they protected No

Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times No

Are the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges No

When were stern tube, propeller, screw shaft, and all connections examined in dry dock Jan. 1905

Is the screw shaft tunnel watertight No

Is it fitted with a watertight door No

worked from Main Deck

Is forced draft fitted No

BOILERS, &c.—

(Letter for record S)

Total Heating Surface of Boilers 4000 sq ft

Is forced draft fitted No

No. and Description of Boilers Two Cylindrical multibore

Working Pressure 180 lb

Tested by hydraulic pressure to 260 lb

Date of test 11/24/05

Can each boiler be worked separately No

Area of fire grate in each boiler 51 sq ft

No. and Description of safety valves to each boiler Two Opening

Area of each valve 5.94 sq in

Pressure to which they are adjusted 185 lb

Are they fitted with easing gear No

Smallest distance between boilers or uptakes and bunkers or woodwork 24"

Mean dia. of boilers 15.9"

Length 10.6"

Material of shell plates Steel

Thickness 1 1/2"

Range of tensile strength 38500-42000

Are they welded or flanged No

Descrip. of riveting: cir. seams all in lap

long. seams all in lap

seams all in lap

seams all in lap

Diameter of rivet holes in long. seams 1 1/2"

Pitch of rivets 8 1/2"

Lap of plates or width of butt straps 18"

Per centages of strength of longitudinal joint as per rule

Working pressure of shell by rules 180 lb

Size of manhole in shell 13" x 16 1/2"

Size of compensating ring 24" x 1 1/2" x 1 1/2"

No. and Description of Furnaces in each boiler Three

Material Steel

Outside diameter 49 1/2"

Length of plain part top 9"

Thickness of plates bottom 9 1/2"

Description of longitudinal joint Welded

No. of strengthening rings None

Working pressure of furnace by the rules 187 lb

Combustion chamber plates: Material Steel

Thickness: Sides 19 1/2"

Back 19 1/2"

Top 19 1/2"

Bottom 14 1/2"

Pitch of stays to ditto: Sides 7 1/2" x 8 1/2"

Back 7 1/2" x 8 1/2"

Top 7 1/2" x 8 1/2"

If stays are fitted with nuts or riveted heads No

Working pressure by rules 184 lb

Material of stays Steel

Diameter at smallest part 1 1/2"

Area supported by each stay 66"

Working pressure by rules 180 lb

Material Steel

Thickness 1"

Pitch of stays 16 1/2" x 16 1/2"

How are stays secured all nut

Working pressure by rules 181 lb

Material of stays Steel

Diameter at smallest part 2 1/2"

Area supported by each stay 16 1/2" x 16 1/2"

Working pressure by rules 187 lb

Material of Front plates at bottom Steel

Thickness 1 1/2"

Material of Lower back plate Steel

Thickness 1 1/2"

Greatest pitch of stays 13"

Working pressure of plate by rules 196 lb

Diameter of tubes 3 1/2"

Pitch of tubes 4 1/2"

Material of tube plates Steel

Thickness: Front 15 1/2"

Back 12 1/2"

Mean pitch of stays 9"

Pitch across wide water spaces 14 1/2"

Working pressures by rules 185 lb

Girders to Chamber tops: Material Steel

Depth and thickness of girder at centre 8" x 14 1/2"

Length as per rule 31"

Distance apart 8 1/2"

Number and pitch of Stays in each Three 7 1/2"

Working pressure by rules 181 lb

Superheater or Steam chest; how connected to boiler No

Can the superheater be shut off and the boiler worked No

separately No

Diameter No

Length No

Thickness of shell plates No

Material No

Description of longitudinal joint No

Diam. of rivet No

Pitch of rivets No

Working pressure of shell by rules No

Diameter of flue No

Material of flue plates No

Thickness No

Is stiffened with rings No

Distance between rings No

Working pressure by rules No

End plates: Thickness No

How stayed No

Working pressure of end plates No

Area of safety valves to superheater No

Are they fitted with easing gear No

Foundation

W621-0044

DONKEY BOILER— No. 1 Description Blue enameled Patent
 Made at Middleton By whom made Richard H. Westgarth & Co. When made 1905 Where fixed Upper deck
 Working pressure 80 tested by hydraulic pressure to 160 No. of Certificate 3452 Fire grate area 28.0 Description of safety valves Spring
 No. of safety valves 2 Area of each 3.98 Pressure to which they are adjusted 80 If fitted with easing gear Yes If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 7.6 Length 17.3 Material of shell plates S Thickness 19/32 Range of tensile strength 27/22 Descrip. of riveting long. seams DR Lap Dia. of rivet holes 15/16 Whether punched or drilled Drilled Pitch of rivets 3
 Lap of plating 4 5/8 Per centage of strength of joint 88.25 Thickness of shell crown plates 19/32 Radius of do. Hemisph No. of Stays to do. 2
 Dia. of stays 1/2 Diameter of furnace Top 3.9 Bottom 5.11 1/2 Length of furnace 4.8 1/2 Thickness of furnace plates 5/8 Description of joint S.R.L. Thickness of furnace crown plates 19/32 Stayed by Stayed Working pressure of shell by rules 80
 Working pressure of furnace by rules 86 Diameter of uptake tube 2 1/2 Thickness of uptake plates 19/32 Thickness of water tubes 3/16

SPARE GEAR. State the articles supplied: Propeller, two top end, two bottom end, two main bearing 1 The set coupling bolts, fuel & water valves assorted bolts & nuts, a few bars of iron & other small gear.

The foregoing is a correct description,
 for **RICHARDSON'S WESTGARTH & CO., LIMITED** Manufacturer.

Managing Director,
 Dates: During progress of work in shops - 1905. Feb. 23. Mar. 1. 31. Apr. 3. 4. 6. 7. 10. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. May. 1. 4. 5. 6. 10. 11. 12. 13. 15. 17. 19. 22. 23. 24. 26. 28. June. 1. 3. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. July. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. Aug. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Sept. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Oct. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. Nov. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. Dec. 1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31.
 of Survey while building: During erection on board vessel - Apr. 72. Nov. Five
 Total No. of visits Apr. 72. Nov. Five Is the approved plan of main boiler forwarded herewith Yes
 " " " donkey " " " No

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

The main steam pipes (iron) have been tested to 450 lb and found tight and sound.

The Port Main Boiler shell has a crack in way of the top manhole which has been compensated for by means of a large 1 1/2" doubling plate efficiently fitted and riveted on, and so fitted that the manhole door joint is taken by the doubling plate. The Boiler has been examined inside after steaming and the crack which is bludged had not extended.

The Machinery and Boilers of this vessel have been constructed under Special Survey and placed on board in accordance with the Society's Rules. They are now in our opinion in safe working condition and the case is respectfully submitted for the notification + L.M.C. P. 05. in the Register Book. It is respectfully submitted that the Port Boiler shell in way of manhole be again examined at the end of the Builder's guarantee 31st December 1905 as per Contract's letter 26 July 1905.

The donkey boiler has been fitted & with its safety valves tested under steam at Newcastle.

The amount of Entry Fee... £ 2 : : When applied for, 1.9 AUG 1905
 Special ... £ 34 : :
 Donkey Boiler Fee ... £ : :
 Travelling Expenses (if any) £ : :
 When received, 23/8/05

It is submitted that this vessel is eligible for THE RECORD L.M.C. 8.05. For it is submitted that the Port Boiler in way of manhole has a crack in the shell which has been repaired by a large 1 1/2" doubling plate. The case is respectfully submitted for the notification + L.M.C. P. 05. in the Register Book. It is respectfully submitted that the Port Boiler shell in way of manhole be again examined at the end of the Builder's guarantee 31st December 1905 as per Contract's letter 26 July 1905.

Committee's Minute TUES. 22 AUG 1905
 Assigned + L.M.C. 8.05

John H Heck.
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