

## REPORT ON MACHINERY.

No. 50819

Port of Newcastle-on-Tyne

FRI. 11 MAY 1906

Received at London Office

No. in Survey held at South Shields  
Reg. Book.Date, first Survey Dec 1<sup>st</sup>Last Survey 27<sup>th</sup> May 1906(Number of Visits 21)on the S. S. TREMAYNEMaster J. SymonsBuilt at South ShieldsBy whom built J. Readhead & SonsGross 3881Tons Net 2507When built 1906Engines made at South ShieldsBy whom made J. Readhead & Sonswhen made 1906Boilers made at doBy whom made dowhen made 1906

Registered Horse Power

Owners E. Hain & SonsPort belonging to St. JoesNom. Horse Power as per Section 28 330.76Is Refrigerating Machinery fitted noIs Electric Light fitted no

## ENGINES, &amp;c.—Description of Engines

Tri-compoundNo. of Cylinders 3No. of Cranks 3Dia. of Cylinders 25 x 42 x 68Length of Stroke 45Revs. per minute 60Dia. of Screw shaft 13.8Material of bronscrew shaft 14Is the screw shaft fitted with a continuous liner the whole length of the stern tube yes

Is the after end of the liner made water tight

in the propeller boss yes If the liner is in more than one length are the joints burned ✓

If the liner does not fit tightly at the part

between the bearings in the stern tube, is the space charged with a plastic material insoluble in water and non-corrosive ✓

If two

liners are fitted, is the shaft lapped or protected between the liners ✓Length of stern bush 4-8"Dia. of Tunnel shaft 12.46as per rule 12.5Dia. of Crank shaft journals 13.08as per rule 13.14Dia. of Crank pin 13 1/4Size of Crank webs 17 1/2 x 9

Dia. of thrust shaft under

collars 13 1/4Dia. of screw 16.6Pitch of screw 16.6 - 19No. of blades 4State whether moveable noTotal surface 81 1/2No. of Feed pumps 2Diameter of ditto 3 1/4Stroke 2 1/4Can one be overhauled while the other is at work yesNo. of Bilge pumps 2Diameter of ditto 4 3/8Stroke 2 1/4Can one be overhauled while the other is at work yesNo. of Donkey Engines 2Sizes of Pumps 1 1/2 x 9 x 136 x 4 x 68 x 4 x 6

No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room Three of 3 1/2Independent suction 3 1/2In Holds, &c. Fore Hold No. 1 Two of 3 1/2No. 2 Two of 3 1/2No. 3 Two of 3 1/2No. 4 Two of 3 1/2Funnel well 2 1/2No. of bilge injections 1sizes 5 1/2Connected to condenser or to circulating pump yesIs a separate donkey suction fitted in Engine room & size yes 5 1/2Are all the bilge suction pipes fitted with roses yesAre the roses in Engine room always accessible yesAre the sluices on Engine room bulkheads always accessible ✓Are all connections with the sea direct on the skin of the ship yesAre they Valves or Cocks BothAre they fixed sufficiently high on the ship's side to be seen without lifting the stokehold plates yesAre the discharge pipes above or below the deep water line aboveAre they each fitted with a discharge valve always accessible on the plating of the vessel yesAre the blow off cocks fitted with a spigot and brass covering plate yesWhat pipes are carried through the bunkers noneHow are they protected ✓Are all pipes, cocks, valves, and pumps in connection with the machinery and all boiler mountings accessible at all times yesAre the bilge suction pipes, cocks, and valves arranged so as to prevent any communication between the sea and the bilges yesWhen were stern tube, propeller, screw shaft, and all connections examined in dry dock New VesselIs the screw shaft tunnel watertight yesIs it fitted with a watertight door yesworked from Top platform

## BOILERS, &amp;c.—

(Letter for record 2)Total Heating Surface of Boilers 5026 1/2Is forced draft fitted noNo. and Description of Boilers Two Single endedWorking Pressure 180Tested by hydraulic pressure to 360 lbDate of test 31-3-06 Can each boiler be worked separately yesArea of fire grate in each boiler 60.5

No. and Description of safety valves to

each boiler Two springArea of each valve 7.07Pressure to which they are adjusted 180 lbAre they fitted with easing gear yesSmallest distance between boilers or uptakes and bunkers or machinery 22"Mean dia. of boilers 16.6Length 10.4Material of shell plates steelThickness 1 3/8Range of tensile strength 27/32Are they welded or flanged noDescrip. of riveting: cir. seams Lap 3.7long. seams D.B.SDiameter of rivet holes in long. seams 1 3/8Pitch of rivets 9 3/8Gap of plates or width of butt straps 1-9 1/2"Per centages of strength of longitudinal joint 85.5plate 85.8Working pressure of shell by rules 182Size of manhole in shell 12 x 16Size of compensating ring 7 x 1 3/8No. and Description of Furnaces in each boiler Three MorrisonMaterial SteelOutside diameter 4 ftLength of plain part ✓Thickness of plates 19/32Description of longitudinal joint WeldedNo. of strengthening rings ✓Working pressure of furnace by the rules 196Combustion chamber plates: Material SteelThickness: Sides 5/8Back 5/8Top 5/8Bottom 7/8Pitch of stays to ditto: Sides 8 1/2 x 8 1/2Back 8 3/4 x 8 3/4Top 9 x 8If stays are fitted with nuts on riveted heads nutsWorking pressure by rules 182Material of stays IronDiameter at smallest part 2.81Area supported by each stay 11 1/2 x 8 1/2Working pressure by rules 203

End plates in steam space:

Material steelThickness 1 1/4Pitch of stays 20 x 20How are stays secured D.N.WWorking pressure by rules 180Material of stays steelDiameter at smallest part 7.24Area supported by each stay 20 x 20Working pressure by rules 181Material of Front plates at bottom steelThickness 3/4Material of Lower back plate steelThickness 1 3/8Greatest pitch of stays 12 x 14.5Working pressure of plate by rules 225Diameter of tubes 3 1/2Pitch of tubes 4 3/4Material of tube plates steelThickness: Front 3/4Back 3/4Mean pitch of stays 11 7/8 x 9 1/4Pitch across wide water spaces 14Working pressures by rules 182 lbGirders to Chamber tops: Material steelThickness of girder at centre 8 1/2 x 1 1/2Length as per rule 2.5Distance apart 9"Number and pitch of Stays in each Two of 8"Working pressure by rules 204

Superheater or Steam chest; how connected to boiler

Can the superheater be shut off and the boiler worked

separately ✓

Diameter

Length

Thickness of shell plates

Material

Description of longitudinal joint

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

Working pressure of end plates

Area of safety valves to superheater

Are they fitted with easing gear

Working pressure by rules

End plates: Thickness

How stayed

Working pressure by rules

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How stayed

W688-0176



**DONKEY BOILER—**

No. 1

Description Marine Type

Made at South Shields By whom made J. Headhead & Sons

When made 1906 Where fixed aboard main

Working pressure 80 tested by hydraulic pressure to 160

No. of Certificate 7202 Fire grate area

Description of safety valves

No. of safety valves

Area of each

Pressure to which they are adjusted

If fitted with easing gear

If steam from main boilers

enter the donkey boiler

Dia. of donkey boiler

Length

Material of shell plates

Thickness

Range of te

strength

Descrip. of riveting long seams

Rivets

Thickness of shell crown plates

Whether punched or drilled

Pitch of rivets

Lap of plating

Percentage of strength of joint

Plates

Thickness of shell crown plates

Radius of do.

No. of Stays to do.

Dia. of stays.

Diameter of furnace Top

Bottom

Length of furnace

Thickness of furnace plates

Description

joint

Thickness of furnace crown plates

Stayed by

Working pressure of shell by rules

Working pressure of furnace by rules

Diameter of uptake

Thickness of uptake plates

Thickness of water tubes

SPARE GEAR. State the articles supplied:—

1/2 crank shaft, propeller & propeller shaft  
2 Top end, 2 bottom end, 2 main bearing bolts & nuts, 1 set coupling  
1 set piston bolts, 1 set Air, air, feed & bilge pump valves, iron & bolts & nuts

The foregoing is a correct description,

J. Headhead & Sons Manufacturer.

Dates of Survey while building  
During progress of work in shops—  
During erection on board vessel—  
Total No. of visits

1905. Dec. 1906. Jan. 5. 12. 22. 30. Feb. 2. 14. 22. Mar. 28. 29. 30. 31. Apr. 9. 11. 25. May 2.

Is the approved plan of main boiler forwarded herewith Yes

General Remarks

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

The machinery of this vessel has been built under special  
Survey & in our opinion is eligible for record F.L.M.C. 5.06

It is submitted that  
this vessel is eligible for  
THE RECORD

F.L.M.C. 5.06

W. S. B.

The amount of Entry Fee. £ 3  
Special £ 36.11.0  
Donkey Boiler Fee £ 10  
Travelling Expenses (if any) £ 12.5.0

When applied for,

10 MAY 1906

When received,

FUES. 15 MAY 1906

Committee's Minute

Assigned

MACHINERY CERTIFICATE  
WRITTEN.

E. R. Dryden & W. Lane.  
Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.



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Foundation