

REPORT ON MACHINERY.

Port of Newcastle on Tyne.

Received at London Office WED, 12 JUN 1907

No. in Survey held at S. Shields
Reg. Book.

Date, first Survey 15th Nov 1906 Last Survey 4th June 1907
(Number of Visits 29)

on the S.S. Dan

Master _____ Built at S. Shields By whom built J. Readhead & Sons Ltd When built 1907.6
Engines made at S. Shields By whom made J. Readhead & Sons Ltd. when made 1907.6
Boilers made at S. Shields By whom made J. Readhead & Sons Ltd. when made 1907.6
Registered Horse Power _____ Owners G. Reich & Partners Port belonging to Dubrovnik
Nom. Horse Power as per Section 28 326 ✓ Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted no

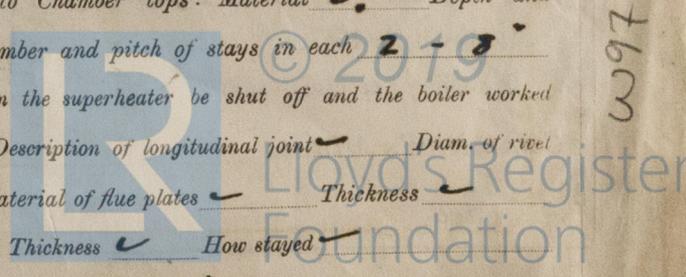
Tons { Gross 3608
Net 2316

ENGINES, &c.—Description of Engines Triple Compound. No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 24¹/₂. 41. 66 Length of Stroke 45 Revs. per minute 60 Dia. of Screw shaft 13.63 Material of I.
as fitted 14.0 screw shaft
Is 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 12.25 as per rule 12.25 Dia. of Crank shaft journals 13.29 as per rule 13.29 Dia. of Crank pin 13 Size of Crank webs 17¹/₂. 9 Dia. of thrust shaft under
collars 13 Dia. of screw 16.6 Pitch of Screw 16.6 / 19.0 No. of Blades 4 State whether moveable no Total surface 77 sq
No. of Feed pumps 2 Diameter of ditto 3³/₈ Stroke 24 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 4³/₈ Stroke 26 Can one be overhauled while the other is at work yes
No. of Donkey Engines 2 Sizes of Pumps 6 x 6 x 6 & 13¹/₂ x 9 x 13 No. and size of Suctions connected to both Bilge and Donkey pumps
In Engine Room 7 in - 3¹/₂ Bore. In Holds, &c. no 1. Hold. 2 - 3¹/₂ Bore. no 3. Hold 2 - 3¹/₂ Bore. no 4. Hold 2 - 3¹/₂ aft Wall 1 - 3¹/₂
No. of Bilge Injections 1 sizes 5¹/₂ Connected to condenser, or to circulating pump C.P. Is a separate Donkey Suction fitted in Engine room & size 1 - 3¹/₂
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 ✓
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.
Dates of examination of completion of fitting of Sea Connections 30.6.07 of Stern Tube 30.6.07 Screw shaft and Propeller 6.5.07
Is the Screw Shaft Tunnel watertight yes Is it fitted with a watertight door yes worked from Top Platform.

BOILERS, &c.—(Letter for record V.) Manufacturers of Steel Spencer. Hawthorn.
Total Heating Surface of Boilers 5210 sq Is Forced Draft fitted no No. and Description of Boilers 2. Cyl. built. S.E.
Working Pressure 180 lb Tested by hydraulic pressure to 360 lb Date of test 25.6.07 No. of Certificate 7666
Can each boiler be worked separately yes Area of fire grate in each boiler 63 sq No. and Description of Safety Valves to
each boiler 2. Spring Area of each valve 7.068 Pressure to which they are adjusted 185 lb Are they fitted with easing gear yes
Smallest distance between boilers or uptakes and bunkers or woodwork 22 Mean dia. of boilers 16-6³/₈ Length 11-0 Material of shell plates S.
Thickness 1³/₈ Range of tensile strength 27/32. T. Are the shell plates welded or flanged no Descrip. of riveting: cir. seams L.D.R.
long. seams D.B.S. Diameter of rivet holes in long. seams 1³/₈ Pitch of rivets 9³/₈ Lap of plates or width of butt straps 21¹/₂
Per centages of strength of longitudinal joint 85.5 rivets 85.3 plate Working pressure of shell by rules 183 lb. Size of manhole in shell 16 x 12
Size of compensating ring 7 x 1³/₈ No. and Description of Furnaces in each boiler 3. horizon Material S. Outside diameter 48
Length of plain part 1 top Thickness of plates 19/32 crown. Description of longitudinal joint Weld. No. of strengthening rings ✓
bottom. Working pressure of furnace by the rules 196 lb Combustion chamber plates: Material S. Thickness: Sides 7/8 Back 7/8 Top 7/8 Bottom 1¹/₁₆
Pitch of stays to ditto: Sides 8²/₈ Back 8¹/₄. 8 Top 8¹/₂. 8 If stays are fitted with nuts or riveted heads both. Working pressure by rules 192 lb
Material of stays I. Diameter at smallest part 1.99 Area supported by each stay 68 Working pressure by rules 220 End plates in steam space:
Material S. Thickness 1¹/₂ Pitch of stays 18¹/₄. 18 How are stays secured O.N.W. Working pressure by rules 220 lb Material of stays S.
Diameter at smallest part 7.26 Area supported by each stay 328 Working pressure by rules 220 Material of Front plates at bottom S.
Thickness 3/4 Material of Lower back plate S. Thickness 13/16 Greatest pitch of stays 16 x 15 Working pressure of plate by rules 182 lb
Diameter of tubes 3¹/₂ & 4 Pitch of tubes 2³/₄ Material of tube plates S. Thickness: Front 3/4 Back 3/4 Mean pitch of stays 9¹/₂
Pitch across wide water spaces 16 Working pressures by rules 182 lb. Girders to Chamber tops: Material S. Depth and
thickness of girder at centre 8¹/₂. 12 Length as per rule 29 Distance apart 8¹/₂ Number and pitch of stays in each 2 - 8
Working pressure by rules 187 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 ✓

If not, state whether, and if the report also sent on the hull of the ship?

16-314
2097-0094



VERTICAL DONKEY BOILER— Manufacturers of Steel

No. _____ Description _____

Made at _____ By whom made _____ When made _____ Where fixed _____

Working pressure tested by hydraulic pressure to _____ Date of test _____ No. of Certificate _____ Fire grate area _____ Description of Safety _____

Valves _____ No. of Safety Valves _____ Area of each _____ Pressure to which they are adjusted _____ Date of adjustment _____

If fitted with easing gear _____ If steam from main boilers can enter the donkey boiler _____ Dia. of donkey boiler _____ Length _____

Material of shell plates _____ Thickness _____ Range of tensile strength _____ Descrip. of riveting long. seams _____

Dia. of rivet holes _____ Whether punched or drilled _____ Pitch of rivets _____ Lap of plating _____ Per centage of strength of joint _____ Rivets _____ Plates _____

Working pressure of shell by rules _____ 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 of joint _____

Working pressure of furnace by rules _____ Thickness of furnace crown plates _____ Stayed by _____

Diameter of uptake _____ Thickness of uptake plates _____ Thickness of water tubes _____ Dates of survey _____

SPARE GEAR. State the articles supplied:— Two top and bolts & nuts, Two bottom end ditto
Two main bearing bolts, One cut coupling ditto, One cut feed and ledge
pump valves, Assorted bolts, nuts, and pins, One propeller shaft, one
propeller.

The foregoing is a correct description,

John Headhead Manufacturer.

| | | |
|--------------------------------|--------------------------------------|---|
| Dates of Survey while building | During progress of work in shops - - | 1906. Nov. 15. Dec. 4. 13. 18. 21. 1907. Jan. 2. 7. 10. 15. 25. Feb. 4. 13. 15. 1906. Mar. 17. 20. 24. 27. 28. Apr. 3. 8. 12. 17. 22. 25. 30. |
| | During erection on board vessel - - | May 29. 14. 15. 17. 23. 28. June 3. 4. |
| | Total No. of visits | 39. |

Is the approved plan of main boiler forwarded herewith *Yes*
" " " donkey " " " *Yes*

| | | | | | | | | | |
|---|--------------|----------------------------|------------------|-----------------------------|--------------|------------------------------------|----------------|--------------------------------|--|
| Dates of Examination of principal parts—Cylinders | 28.3.07 | Slides | 8.6.07 | Covers | 8.6.07 | Pistons | 20.3.07 | Rods | 8.4.07 |
| Connecting rods | 8.4.07 | Crank shaft | <i>Donkey</i> | Thrust shaft | 30.4.07 | Tunnel shafts | 30.4.07 | Screw shaft | 30.4.07 |
| Propeller | 2.5.07 | Stern tube | 25.4.07 | Steam pipes tested | 15.5.07 | Engine and boiler seatings | 6.5.07 | Engines holding down bolts | 21.5.07 |
| Completion of pumping arrangements | 23.5.07 | Boilers fixed | 17.5.07 | Engines tried under steam | 23.5.07 | Main boiler safety valves adjusted | 23.5.07 | Thickness of adjusting washers | <i>P 7/16. 5 7/16. P 13/32. 5 5 13/32.</i> |
| Material of Crank shaft | <i>I. S.</i> | Identification Mark on Do. | <i>J.M. 1-07</i> | Material of Thrust shaft | <i>I. S.</i> | Identification Mark on Do. | <i>W.L.</i> | Material of Tunnel shafts | <i>S. I.</i> |
| Identification Marks on Do. | <i>W.L.</i> | Material of Screw shafts | <i>S. I.</i> | Identification Marks on Do. | <i>W.L.</i> | Material of Steam Pipes | <i>Copper.</i> | Test pressure | <i>400 lb.</i> |

General Remarks (State quality of workmanship, opinions as to class, &c. *The above machinery and Boilers have been constructed under Special Survey. The materials and workmanship are sound, and the manner of fitting in board is satisfactory.*)

It is submitted that this vessel is eligible for THE RECORD. + LMC 6.07
J.P.R.
12/6/07
12.6.07

Certificate (if required) to be sent to _____

| | | | |
|------------------------------|----------|-------------------|-------------|
| The amount of Entry Fee.. | £ 5 : | When applied for, | 11 JUN 1907 |
| Special | £ 36 6 : | When received, | 14.6.07 |
| Donkey Boiler Fee .. . | £ . : | | |
| Travelling Expenses (if any) | £ . : | | |

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

Committee's Minute
Assigned + LMC 6.07



MACHINERY CERTIFICATE WRITTEN.