

REPORT ON MACHINERY.

No. 6625
WED. 1 FEB 1911

Received at London Office
MIDDLESBROUGH-ON-TEES.

Date of writing Report 31.1.11
When handed in at Local Office 11th Aug 11
Port of 11th Aug 11
No. in Survey held at Stockton-on-Tees
Date, First Survey 22nd May 1910 Last Survey 24th Jan 1911 (bud.)
Reg. Book. 1172
Name of vessel on the steel screw steamer "Terrier" (S.S. No 478)
Master Built at Sunderland By whom built J. L. Thompson & Sons Ltd When built 1911
Engines made at Stockton By whom made Blair & Co Ltd (No. 1679) when made 1911
Boilers made at Stockton By whom made Messrs Blair & Co Ltd when made 1911
Registered Horse Power Owners W. Wilhelmsen Port belonging to Fossberg
Nom. Horse Power as per Section 28 440 Is Refrigerating Machinery fitted for cargo purposes no Is Electric Light fitted Yes

ENGINES, &c.—Description of Engines Triple Expansion No. of Cylinders 3 No. of Cranks 3
Dia. of Cylinders 27-44 1/2-73 Length of Stroke 48 Revs. per minute 62 Dia. of Screw shaft as per rule 15.89 Material of screw shaft iron
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
Is the propeller boss yes If the liner is in more than one length are the joints burned one length 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 5'-6"
Dia. of Tunnel shaft as per rule 13.36 Dia. of Crank shaft journals as per rule 14.02 Dia. of Crank pin 15 Size of Crank webs 28 3/4 x 9 3/4 Dia. of thrust shaft under
collars 15 Dia. of screw 18'-0" Pitch of Screw 18'-0" No. of Blades 4 State whether moveable no Total surface 100 sq ft
No. of Feed pumps 2 Diameter of ditto 3 1/2 Stroke 34 Can one be overhauled while the other is at work yes
No. of Bilge pumps 2 Diameter of ditto 5 Stroke 34 Can one be overhauled while the other is at work yes
No. of Donkey Engines 2 Sizes of Pumps Ballant 12x12 1/2 4x8 No. and size of Suctions connected to both Bilge and Donkey pumps
in Engine Room 3 @ 3 1/2" + 1-3 1/2" Blr Room by tank In Holds, &c. 2 @ 3 1/2" in each hold; Tunnel
wall one @ 2 1/2"
No. of Bilge Injections 1 sizes 7" Connected to condenser, or to circulating pump yes Is a separate Donkey Suction fitted in Engine room of 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 yes
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 wood ceiling
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 21-12-10 of Stern Tube 21-12-10 Screw shaft and Propeller 17-1-11
Is the Screw Shaft Tunnel watertight see hull Report Is it fitted with a watertight door yes worked from top platform

MILLERS, &c.—(Letter for record (S)) Manufacturers of Steel Messrs J. Spencer & Sons
Total Heating Surface of Boilers 7329 Is Forced Draft fitted no No. and Description of Boilers 3 Single Ended
Working Pressure 180 Tested by hydraulic pressure to 360 Date of test 8.9.10 No. of Certificate 4494
Can each boiler be worked separately yes Area of fire grate in each boiler 64 sq ft No. and Description of Safety Valves to
each boiler 2 direct spring Area of each valve 8.29 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 2 ft Mean dia. of boilers 15'-6" Length 11'-6" Material of shell plates steel
Thickness 1 1/2" Range of tensile strength 28-32 Are the shell plates welded or flanged no Descrip. of riveting: cir. seams 2 Riv. lap
Long. seams 2 Riv. 3 Riv Diameter of rivet holes in long. seams 1 5/8" Pitch of rivets 9 1/4" Lap of plates or width of butt straps 19 5/8 x 1 3/8
5 Rivets per pitch
Percentages of strength of longitudinal joint rivets 87.5 Working pressure of shell by rules 184 Size of manhole in shell 16" x 12"
plate 85-83
No. and Description of Furnaces in each boiler 3 (Gunison) Material steel Outside diameter 46 7/8"
Length of plain part top 7/8" bottom 1 1/2" Thickness of plates crown 7/8" bottom 7/8" Description of longitudinal joint welded No. of strengthening rings
Working pressure of furnace by the rules 190 Combustion chamber plates: Material steel Thickness: Sides 23/32 Back 1/2 Top 23/32 Bottom 3/4
Pitch of stays to ditto: Sides 8 5/8 x 11 Back 9 5/8 x 9 1/2 Top 9 3/4 x 10 If stays are fitted with nuts or riveted heads nuts Working pressure by rules 180 lb
Material of stays steel Diameter at smallest part 1.59 Area supported by each stay 97.5 Working pressure by rules 184 End plates in steam space:
Material steel Thickness 1 1/4 Pitch of stays 20 1/2 x 20 How are stays secured nuts Working pressure by rules 185 Material of stays steel
Diameter at smallest part 3.04 Area supported by each stay 394.62 Working pressure by rules 192 Material of Front plates at bottom steel
Thickness 1 1/2 Material of Lower back plate steel Thickness 1 Greatest pitch of stays 14 1/2 x 9 1/2 Working pressure of plate by rules 241
Diameter of tubes 3 1/2 Pitch of tubes 4 3/4 x 4 3/8 Material of tube plates steel Thickness: Front 1 1/2 Back 1 3/8 Mean pitch of stays 11 3/2"
Pitch across wide water spaces 14 1/2 Working pressures by rules 181 Girders to Chamber tops: Material steel Depth and
Thickness of girder at centre 8 x 1 3/8 Length as per rule 32 Distance apart 9 3/4 Number and pitch of stays in each 2 @ 10"
Working pressure by rules 186 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
Pitch of rivets Working pressure of shell by rules Diameter of flue Material of flue plates Thickness
Stays 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

VERTICAL DONKEY BOILER—

Manufacturers of Steel

None

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 Radius of do. Stayed by

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

SPARE GEAR. State the articles supplied:— Crosshead pins, 2 safety valve springs, 3 air pp valves
 1 Yail shaft, 1 Propeller, 1 set HP & LP piston pins, 1 set LP piston springs
 2 low rod end bolts & nuts, 2 low rod hot end bolts & nuts, 2 main bearing bolts & nuts
 1 set Coupling bolts, 1 set feed & bilge pump valves, Assorted bolts, nuts & wire

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

SECRETARY.

Dates of Survey while building

During progress of work in shops -- 1910. May 22 25 28 30 June 3 6 7 17 23 29 July 2 5 7 12 14 18 20 22 23 26 28 Aug 2 4 8 11 24 25 26 28 31 6 8 9 19

During erection on board vessel -- 1911. Jan 16 17 18 20 23 24 Dec 21 Feb 1 7 11

Total No. of visits 37 (incl.) + 4

Is the approved plan of main boiler forwarded herewith yes

" " " donkey " " " yes

Dates of Examination of principal parts—Cylinders 5.7.10 Slides 18.7.10 Covers 2.8.10 Pistons 20.7.10 Rods 20.7.10

Connecting rods 4.8.10 Crank shaft 24.8.10 Thrust shaft 12.7.10 Tunnel shafts 26 29 7.10 Screw shaft 8.9.10 Propeller 19.9.10

Stern tube 9.9.10 Steam pipes tested 16 20 1.11 Engine and boiler seatings 21 22 10 Engines holding down bolts 20.1.11

Completion of pumping arrangements 24.1.11 Boilers fixed 24.1.11 Engines tried under steam 24.1.11

Main boiler safety valves adjusted 24.1.11 Thickness of adjusting washers Port boiler PV = 7/60 : SV = 9/60
 Centre " PV = 9/32 : SV = 9/32
 Star " PV = 1/4 : SV = 5/16

Material of Crank shaft Steel Identification Mark on Do. 6589 Material of Thrust shaft Steel Identification Mark on Do. 7321-N

Material of Tunnel shafts Steel Identification Marks on Do. 7321-N Material of Screw shafts iron Identification Marks on Do. 6589

Material of Steam Pipes solid drawn copper 4 1/2 line x 5 L.S.G. Test pressure 400 lbs.

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

To complete the survey the spare gear requires to be examined. It is proposed to have this done at Sunderland. The Sunderland Surveyors have been advised

The machinery of this vessel has been built under Special Survey. The materials and workmanship are sound and good. The boilers and main steam pipes were tested by hydraulic pressure, and the engines and boilers were examined under steam, at a wharf and all found satisfactory. In my opinion the vessel will be eligible to have the notation of * L.M.C. with a date 2.11. when the survey has been completed

Spare Gear examined which completes this survey.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 2.11.

JWD 14/5/11
 WRS 14/5/11

N.H.P. = 440

The amount of Entry Fee .. £ 3 - 0 - 0

Special .. £ 42 - 0 - 0

Donkey Boiler Fee .. £ - : -

Travelling Expenses (if any) £ - : -

When applied for, 14/5/11

When received, 14.7.11

FRI. 17 FEB 1911

Committee's Minute

Assigned

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

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Certificate (if required) to be sent to