

Rpt. 4.

## REPORT ON MACHINERY.

No. 631167.

Port of

Received at London Office WED 1 DEC 1909

No. in Survey held at

Gurston

Date, first Survey

20 Oct

Last Survey

24 Nov 1909

Reg. Book  
SUPPLEMENT  
18

on the Machinery of the Ship &amp;c. "DUNSTER CASTLE"

(Number of Visits 9.)

Tons { Gross 155  
Net

Master

Built at

Gurston

By whom built

J. D. &amp; O. B. &amp; Co. Ltd.

When built 1909

Engines made at

Glasgow

By whom made

Miller &amp; Mac. Fee (No 58)

when made 1909

Boilers made at

Glasgow

By whom made

Ewing &amp; Lawson (No 929)

when made 1909

Registered Horse Power

Owners

West Somerset &amp; Bristol Channel S.S. Co. Ltd. Port belonging to Liverpool

Nom. Horse Power as per Section 28

40

Is Refrigerating Machinery fitted for cargo purposes

no

Is Electric Light fitted

no

ENGINES, &amp;c.—Description of Engines Compound surface condensing No. of Cylinders 2 No. of Cranks 2

Dia. of Cylinders 12 1/2" &amp; 28" Length of Stroke 18" Revs. per minute 142 Dia. of Screw shaft as per rule Material of 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

Dia. of Tunnel shaft as per rule Dia. of Crank shaft journals as per rule Dia. of Crank pin Size of Crank webs Dia. of thrust shaft under

collars Dia. of screw Pitch of Screw No. of Blades State whether moveable Total surface

No. of Feed pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Bilge pumps Diameter of ditto Stroke Can one be overhauled while the other is at work

No. of Donkey Engines one Sizes of Pumps 5" &amp; 3" &amp; 5" No. and size of Suctions connected to both Bilge and Donkey pumps

In Engine Room one @ 2" forward and one @ 2" aft ✓ In Holds, &amp;c. two @ 2" port and starboard of main

hold: one @ 2" from fore peak tank ✓

No. of Bilge Injections one sizes 2 1/2" Connected to condenser to circulating pump yes Is a separate Donkey Suction fitted in Engine room &amp; size yes 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 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

Dates of examination of completion of fitting of Sea Connections 5-11-09 of Stern Tube 5-11-09 Screw shaft and Propeller 5-11-09

Is the Screw Shaft Tunnel watertight none Is it fitted with a watertight door ✓ worked from ✓

BOILERS, &amp;c.—(Letter for record S) Manufacturers of Steel

Total Heating Surface of Boilers 757 sq ft Is Forced Draft fitted no No. and Description of Boilers One S.E. cylindrical multitubular

Working Pressure 130 lbs. Tested by hydraulic pressure to 260 lbs. Date of test 26-10-09 No. of Certificate 10162

Can each boiler be worked separately ✓ Area of fire grate in each boiler 33 sq ft No. and Description of Safety Valves to

each boiler two - spring loaded Area of each valve 3.98 sq ft Pressure to which they are adjusted 135 lbs. Are they fitted with easing gear yes

Smallest distance between boilers or uptakes and bunkers or woodwork Port side 12" Mean dia. of boilers Length Material of shell plates

Baffle plates fitted inside bunkers on starboard side = 9" space

Thickness Range of tensile strength Are the shell plates welded or flanged Descrip. of riveting: cir. seams

long. seams Diameter of rivet holes in long. seams Pitch of rivets Lap of plates or width of butt straps

Per centages of strength of longitudinal joint rivets Working pressure of shell by rules Size of manhole in shell

Size of compensating ring No. and Description of Furnaces in each boiler Material Outside diameter

Length of plain part top Thickness of plates crown Description of longitudinal joint No. of strengthening rings

Working pressure of furnace by the rules Combustion chamber plates: Material Thickness: Sides Back Top Bottom

Pitch of stays to ditto: Sides Back Top If stays are fitted with nuts or riveted heads Working pressure by rules

Material of stays Diameter at smallest part Area supported by each stay Working pressure by rules End plates in steam space:

Material Thickness Pitch of stays How are stays secured Working pressure by rules Material of stays

Diameter at smallest part Area supported by each stay Working pressure by rules Material of Front plates at bottom

Thickness Material of Lower back plate Thickness Greatest pitch of stays Working pressure of plate by rules

Diameter of tubes Pitch of tubes Material of tube plates Thickness: Front Back Mean pitch of stays

Pitch across wide water spaces Working pressures by rules Girders to Chamber tops: Material Depth and

thickness of girder at centre Length as per rule Distance apart Number and pitch of stays in each

Working pressure by rules 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 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

W914-0066



# VERTICAL DONKEY BOILER—

Manufacturers of Steel

No. *1109* Description *Donkey fitted*

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*

Working pressure of shell by rules *Thickness of shell crown plates* Radius of do. *No. of stays to do.* Dia. of stays *Plates*

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:— *2 connecting rod caps and 2 bottom end, bolts and nuts; 2 main bearing bolts and nuts; 1 set of coupling bolts; 1 set fuel and bilge pump valves; 1 set of 10 pin Ramelbottom rings; assorted bolts and nuts, iron of various sizes; one condenser tube and funnel.*

The foregoing is a correct description,

Manufacturer.

Dates of Survey while building *During progress of work in shops - 1909. Oct 20. 27. 29. Nov 5. 9. 10. 19. 22. 24.*

*During erection on board vessel -*

Total No. of visits *9.*

Is the approved plan of main boiler forwarded herewith

Dates of Examination of principal parts—Cylinders *Slides* *Covers* *Pistons* *Rods*

Connecting rods *Crank shaft* *Thrust shaft* *Tunnel shafts* *Screw shaft* *Propeller 5-11-09*

Stern tube *27-10-09* Steam pipes tested *✓* Engine and boiler seatings *27/10 '09 19/11 '09* Engines holding down bolts *19-11-09*

Completion of pumping arrangements *19-11-09* Boilers fixed *19-11-09* Engines tried under steam *23-11-09*

Main boiler safety valves adjusted *23-11-09* Thickness of adjusting washers *Port 7/16" Hardwood 19/22"*

Material of Crank shaft *Identification Mark on Do.* Material of Thrust shaft *Identification Mark on Do.*

Material of Tunnel shafts *Identification Marks on Do.* Material of Screw shafts *Identification Marks on Do.*

Material of Steam Pipes *Stainless copper* Test pressure *In Glasgow letter dated 10<sup>th</sup> Nov. 1909*

General Remarks (State quality of workmanship, opinions as to class, &c. *The engine and boiler of this vessel have been fitted on board at this port; the main boiler safety valves were adjusted under steam.*

*The machinery was examined under working conditions and found satisfactory; and, in my opinion, is eligible for the notation of +LMC 11.09*

It is submitted that this vessel is eligible for THE RECORD

+LMC 11.09

*J.A.R.*

*2/2/09*

The amount of Entry Fee. £ : : *When applied for, at Glasgow 9. 11. 19. 09.*

Special *Spec. Fee* £ *2. 13. 4*

Donkey Boiler Fee £ : : *When received, 24/11/09*

Travelling Expenses (if any) £ : : *at Glasgow 19. 09.*

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

Committee's Minute

Assigned

LIVERPOOL

30 NOV 1909

*L No 6 11. 09.*

MACHINERY CERTIFICATE WRITTEN.



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