

## REPORT ON MACHINERY.

No. 23092

Received at London Office

WED. SEP. 10. 1913

Date of writing Report

10

When handed in at Local Office

6.9.10 Port of Glasgow

No. in Survey held at  
Reg. Book.

15 up. on the

Master

Built at Dublin

By whom built Dublin Dockyard Ltd. When built 1913

Engines made at

By whom made David Rowan &amp; Co. (2:602) when made 1913

Boilers made at

By whom made David Rowan &amp; Co. (2:602) when made 1913

Registered Horse Power

Owners Canadian Government Port belonging to

Nom. Horse Power as per Section 28 161

Is Refrigerating Machinery fitted for cargo purposes No

Is Electric Light fitted Yes

ENGINES, &amp;c.—Description of Engines

Triple Expansion

No. of Cylinders 3

No. of Cranks 3

Dia. of Cylinders 16, 24½, 40

Length of Stroke 30

Revs. per minute 160

Dia. of Screw shaft

as per rule 8.45

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

Yes

If two

liners are fitted, is the shaft lapped or protected between the liners

Length of stern bush 3' 0"

Dia. of Tunnel shaft

as per rule 7.998

Dia. of Crank shaft journals

as per rule 8.397

Dia. of Crank pin 8½"

Size of Crank webs 5½"

Dia. of thrust shaft under

collars 8¾"

Dia. of screw 9' 6"

Pitch of Screw 10' 6"

No. of Blades 4

State whether moveable

Total surface 31' 4"

No. of Feed pumps 2

Diameter of ditto 7½, 5½"

Stroke 15"

Can one be overhauled while the other is at work

Yes. Wires

No. of Bilge pumps 1

Diameter of ditto 4"

Stroke 6"

Can one be overhauled while the other is at work

Also 6½, 7, 15 Wires.

No. of Donkey Engines 3

Sizes of Pumps 6" x 6", 5" x 3½" x 6", 7" x 5½" x 6"

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

In Engine Room 4 at 2"

In Holds, &amp;c.

3 at 2½"

No. of Bilge Injections 1 sizes 5"

Connected to condenser, or to circulating pump

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

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

Below

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

9

of Stern Tube

Screw shaft and Propeller

Dublin Rpt.

Is the Screw Shaft Tunnel watertight

Yes

Is it fitted with a watertight door

Yes

worked from Top grating

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

3

Manufacturers of Steel

David Colville & Son & Stewart & Lloyd 2<sup>nd</sup>

Total Heating Surface of Boilers 2700

Is Forced Draft fitted

Yes

No. and Description of Boilers

One Single Ended

Working Pressure 185 lbs

Tested by hydraulic pressure to

370 lbs

Date of test 9/7/13

No. of Certificate 12185

Can each boiler be worked separately

Yes

Area of fire grate in each boiler

78

No. and Description of Safety Valves to

each boiler

Cockburn Double

Area of each valve 12.56

Pressure to which they are adjusted 184 lbs

Are they fitted with easing gear

Yes

Smallest distance between boilers or uptakes and bunkers or woodwork

Abt 15"

Mean dia. of boilers 15.6"

Length 11.6"

Material of shell plates

Steel

Thickness 1¾"

Range of tensile strength 30,434 lbs

Are the shell plates welded or flanged

No

Descrip. of riveting: cir. seams D. R. L.

long. seams D. B. S.

Diameter of rivet holes in long. seams 17/16"

Pitch of rivets 9.625"

Lap of plates or width of butt straps 21¼"

Per centages of strength of longitudinal joint

rivets 91.4

plate 85

Working pressure of shell by rules 228 lbs

Size of manhole in shell 16 x 12"

Size of compensating ring

Flanged

No. and Description of Furnaces in each boiler

4 Dighton

Material Steel

Outside diameter 3' 7½"

Length of plain part

top

bottom

Thickness of plates

crown 17/32"

Description of longitudinal joint

weld

No. of strengthening rings

Working pressure of furnace by the rules

190

Combustion chamber plates: Material

Steel

Thickness: Sides 23/32"

Back 21/32"

Top 23/32"

Bottom 23/32"

Pitch of stays to ditto: Sides 8½ x 10

Back 9¾ x 8¼

Top 8½ x 10½

If stays are fitted with nuts or riveted heads

nuts

Working pressure by rules 192 lbs

Material of stays

Steel

Diameter at smallest part 1.76"

Area supported by each stay 84"

Working pressure by rules 185"

End plates in steam space:

Material

Steel

Thickness 11/32"

Pitch of stays 20½ x 16½"

How are stays secured

2 nuts

Working pressure by rules 245"

Diameter at smallest part 7.06"

Area supported by each stay 340"

Working pressure by rules 216"

Material of Front plates at bottom

Steel

Thickness 7/8"

Greatest pitch of stays 13 3/8"

Working pressure of plate by rules 183"

Diameter of tubes 2½"

Pitch of tubes 3 3/4 x 3 3/8"

Material of tube plates

Steel

Thickness: Front 7/8"

Back 11/16"

Mean pitch of stays 9 7/8"

Pitch across wide water spaces 13 3/8"

Working pressures by rules 187"

Girders to Chamber tops: Material

Steel

Depth and

thickness of girder at centre 10 1/4 x 3/4 x 2

Length as per rule 32.6"

Distance apart 10 1/2"

Number and pitch of stays in each 3 at 8 1/2"

Working pressure by rules 185"

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

Working pressure of end plates

Area of safety valves to superheater

Working pressure by rules

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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 Glasgow Iron & Steel Co.

No. 1 Description Cochran Patent - see Glasgow Rpt. 2: 32815  
 Made at Annan By whom made Cochran & Co. Annan When made 1913 Where fixed St. R. hold  
 Working pressure 100 tested by hydraulic pressure to 200 Date of test 6.6.13 No. of Certificate 12145 Fire grate area 11 3/4" Description of Safety  
 Valves Spring loaded No. of Safety Valves 2 Area of each 3.14 Pressure to which they are adjusted 100 lb Date of adjustment 26/8/13  
 If fitted with casing gear 4.6 If steam from main boilers can enter the donkey boiler No Dia. of donkey boiler 4-9 Height 10-3  
 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  
 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:—Two top end bolts, 2 bottom end bolts, 2 main bearing bolts, set of coupling bolts - all with nuts, feed & bridge pump valves, assorted iron, etc. Also propeller shaft, propeller, crosshead bush, crank pin bush, valve spindle, eccentric strap & sheave, etc.

The foregoing is a correct description,

for David Rowan & Co. Manufacturer.

Dates of Survey while building During progress of work in shops -- 1913. Apr 3. 5. 4. 28. May 7. June 3. 14. 11. 23. 24. 26. 30. July 2. 14. 29. 30.  
 During erection on board vessel --- Aug 1. 7. 12. 15. 18. 21. 22. 26. 29. Sept 2. 5.  
 Total No. of visits 26.

Is the approved plan of main boiler forwarded herewith Yes.

Dates of Examination of principal parts—Cylinders 24/6/13 Slides 2/6/13 Covers 2/6/13 Pistons 2/6/13 Rods 2/6/13  
 Connecting rods 2/6/13 Crank shaft 11/6/13 Thrust shaft 11/6/13 Tunnel shafts 23/6/13 Screw shaft 24/6/13 Propeller 24/6/13  
 Stern tube 24/6/13 Steam pipes tested 7/8/13 Engine and boiler seatings 1/8/13 Engines holding down bolts 22/8/13  
 Completion of pumping arrangements 26/8/13 Boilers fixed 7/8/13 Engines tried under steam 29/8/13  
 Main boiler safety valves adjusted 26/8/13 Thickness of adjusting washers S. 3/8 P. 3/8 base.  
 Material of Crank shaft steel Identification Mark on Do. H.G.S. Material of Thrust shaft steel Identification Mark on Do. H.G.S.  
 Material of Tunnel shafts steel Identification Marks on Do. J. H. H. Material of Screw shafts steel Identification Marks on Do. H.G.S.  
 Material of Steam Pipes Copper Test pressure 370 lbs.

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

The engines & boilers of this vessel have been constructed under Special Survey & are of good materials & workmanship. They have been securely fitted on board & satisfactorily tried under steam.

This vessel is in my opinion eligible to have notation L.M.C. 9, 13.

It is submitted that this vessel is eligible for THE RECORD. + L.M.C. 9.13.

F.D.

10/9/13

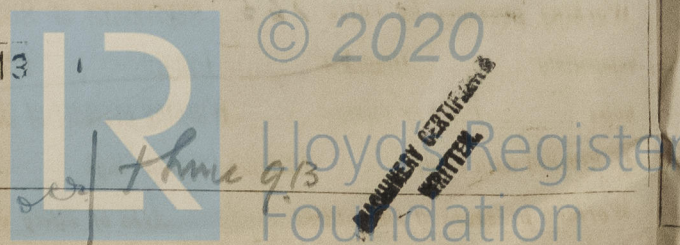
The amount of Entry Fee .. £ 2 : - :  
 Special .. £ 24 : 3 :  
 Donkey Boiler Fee .. £ : :  
 Travelling Expenses (if any) £ : :  
 When applied for, 2-9-13  
 When received, 4/9/13

H. Gardner-Smith.  
 Engineer Surveyor to Lloyd's Register of British & Foreign Shipping.

Committee's Minute GLASGOW 9-SEP-1913

FRI. SEP 12 1913

Assigned + L.M.C. 9, 13 } subject to classification of hull



GLASGOW

Certificate (if required) to be sent to

(The Surveyor is requested not to write on or below the space for Committee's Minute.)

24/8  
6/9/13