

No. 1778

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. 1638 No. in Register Book 2897

S.S. "Wki"

Makers of Engines David Rowan & Co. Ltd

Works No. 440

Makers of Main Boilers (Same.)

Works No. 440



Makers of Donkey Boiler

Works No.

MACHINERY



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010502-010508-0020

No.

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. 1638 No. in Register Book 2897

Received at Head Office June 1923

Surveyor's Report on the New Engines, Boilers, and Auxiliary  
Machinery of the  Single Triple  Twin Quadruple Screw  Steamer  
" Liki "

Official No.

Port of Registry Sydney.

Registered Owners

North Coast Steam Navigation  
Co. Ltd., Sydney.

Engines Built by

David Rowan & Co., Ltd.

at

Elliot St. Glasgow.

Main Boilers Built by

(Same)

at

Donkey " "

at

Date of Completion

11/4/23

First Visit 18-10-22.

Last Visit 11/4/23

Total Visits 40



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## RECIPROCATING ENGINES.

Works No. 440 No. of Sets 2 Description Triple expansion,  
Surface condensing, twin screw.

No. of Cylinders each Engine 3 No. of Cranks 3 @ 120°  
Diams. of Cylinders 10½", 16" and 26" Stroke 16"  
Cubic feet in each L.P. Cylinder 4.92  
Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr? { Top and Bottom H.P.  
Bottom M.P. and L.P.  
" " " each Receiver? Top M.P. and L.P.

Type of H.P. Valves, Piston

" Job 1st M.P.

D-slide

" 2nd L.P.

" L.P. "

" Valve Gear Stephenson's link.

" Condenser Surface.

Cooling Surface 300 sq. ft. each

Diameter of Piston Rods (plain part) 2¾"

Screwed part (bottom of thread) 1.84"

Material I.S.

Diam. of Connecting Rods (smallest part) 2¾"

Material I.S.

" Crosshead Gudgeons 3½"

Length of Bearing 4½"

Material Steel.

No. of Crosshead Bolts (each) 2

Diam. over Thread 1⅞"

Threads per inch 5

Material Steel.

" Crank Pin 2

Diam. over Thread 1⅞"

Threads per inch 5

Material Steel.

" Main Bearings 6

Lengths 6"

" Bolts in each 2

Diam. over Thread 1½"

Threads per inch 6

Material Steel.

" Holding Down Bolts, each Engine 38

Diam. ⅞"

No. of Metal Chocks 38

Are the Engines bolted to the Tank Top or to a Built Seat? Tank top

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside? Yes

If not, how are they fitted?

Connecting Rods, Forged by D. Rowan &amp; Co. Ltd

Piston " " }

Crossheads, " " }

Connecting Rods, Finished by " " }

Piston " " }

Crossheads, " " }

Date of Harbour Trial 4/4/23

" Trial Trip 11/4/23

Trials run at Firth of Clyde.

Were the Engines tested to full power under Sea-going conditions? Yes

If so, what was the L.H.P. 491 (total)

Revs. per min. 141

Pressure in 1st H.P. Receiver, 180 lbs., 2nd H.P., 52½ lbs., L.P., 8¾ lbs., Vacuum, 25¼ ins.

Speed on Trial 9½ knots.

If the Conditions on Trial were such that full power records were not obtained give the following estimated data:—

Builders' estimated L.H.P. 500 (total)

Revs. per min. 162

Estimated Speed

H.P. cylinders tested

@ 270 lbs/□ hyd.

&amp; stamped 4218

JW  
H

Port. 23/1/23

Starb'd. 25/1/23

Condensers ditto

@ 15 lbs/□ hyd.

Starb'd. 14/1/23

JW  
H

Port. 12/1/23

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TURBINE ENGINES.

Works No. Type of Turbines

No. of H.P. Turbines No. of I.P. No. of L.P. No. of Stern

Are the Propeller Shafts driven direct by the Turbines or through Gearing?

Is Single or Double Reduction Gear employed?

Diar. of 1st Reduction Pinion } Width Pitch of Teeth  
 " 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion } Width Pitch of Teeth  
 " 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of H.P. Turbines at Full Power S.H.P.

" " I.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd " "

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revols. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafts

Are the Propeller Shafts driven direct by the Motors or through Gearing?

Is Single or Double Reduction Gear employed?

Description of Motors

Diar. of 1st Reduction Pinion } Width Pitch of Teeth  
 " 1st " Wheel

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion } Width Pitch of Teeth  
 " 2nd " Wheel

Estimated Pressure per lineal inch

Revs. per min. of Generators at Full Power

" " Motors " "

" " " " "

" " " " "

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial Knots. Propeller Revols. per min. S.H.P.

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by



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SHAFTING.

Are the Crank Shafts Built or Solid?

Built

No. of Lengths in each

One

Angle of Cranks

120°

Diar. by Rule

4.99" Actual

5"

In Way of Webs 5 1/4"

No. of Crank Pins

5"

Length between Webs

6"

Greatest Width of Crank Webs

9 3/4"

Thickness

3 1/4"

Least

"

"

"

"

Size of Keys in Crank Webs

1" x 5/8"

Length

3 1/4"

No. of Dowels in Crank Pins

3/4" Length

1 3/4"

Screwed or Plain Plain

No. of Bolts in Coupling

4

Diar. at Mid Length

1 1/2"

Diar. of Pitch Circle

8 1/4"

Greatest Distance from Edge of Main Bearing to Crank Web

1/4"

Type of Thrust Blocks

flange-shoe

No. of Rings

3

Diar. of Thrust Shafts at bottom of Collars

5 1/4"

No. of Collars

3

" " Forward Coupling

5"

At Aft Coupling

5"

Diar. of Intermediate Shafting by Rule

(none)

Actual

No. of Lengths

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule

5.45" Actual

5 5/8"

At Couplings

5"

Are Propeller Shafts fitted with Continuous Brass Liners?

NON-Continuous.

Diar. over Liners

6 1/2" fore; 6 5/8" aft.

Length of After Bearings 10" fore; 1'-10" aft.

Of what Material are the After Bearings composed?

Lignum Vitae strips.

Are Means provided for lubricating the After Bearings with Oil?

No.

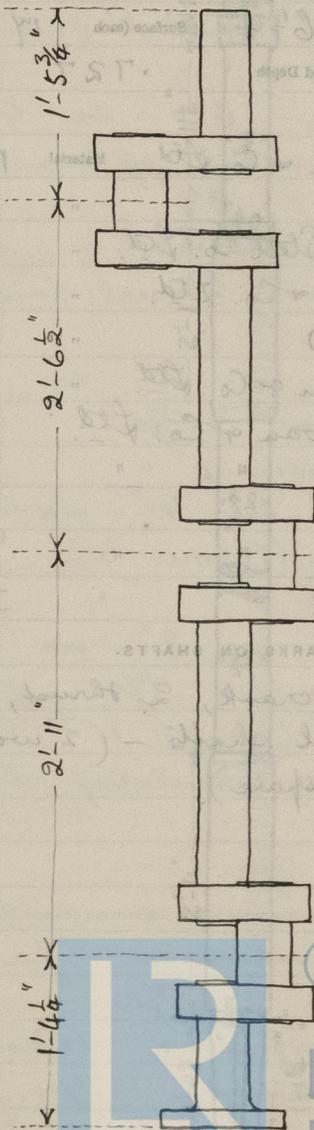
" " to prevent Sea Water entering the Stern Tubes?

No.

If so, what Type is adopted?

✓

SKETCH OF CRANK SHAFT.



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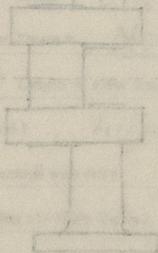
No. of Blades each Propeller **4** Fitted or Solid? **Solid**  
 Material of Blades **Cashiron** Boss **ditto**.  
 Diam. of Propellers **6'-6"** Pitch **6'-9"** Surface (each) **14** S. ft.  
 Coefficient of Displacement of Vessel at  $\frac{3}{4}$  Moulded Depth **.727**

Crank Shafts Forged by **D. Rowan & Co. Ltd** Material **Bloom**  
 " Pins " " " " "  
 " Webs " **Leamshire Steel Co. Ltd.** " **I.S.**  
 Thrust Shafts " **D. Rowan & Co. Ltd.** " **Bloom.**  
 Interm., " **(none)** " "  
 Propeller " **D. Rowan & Co. Ltd.** " "  
 Crank " Finished by **D. Rowan & Co. Ltd.**  
 Thrust " " " " "  
 Interm., " **(none)** " "  
 Propeller " " " " "

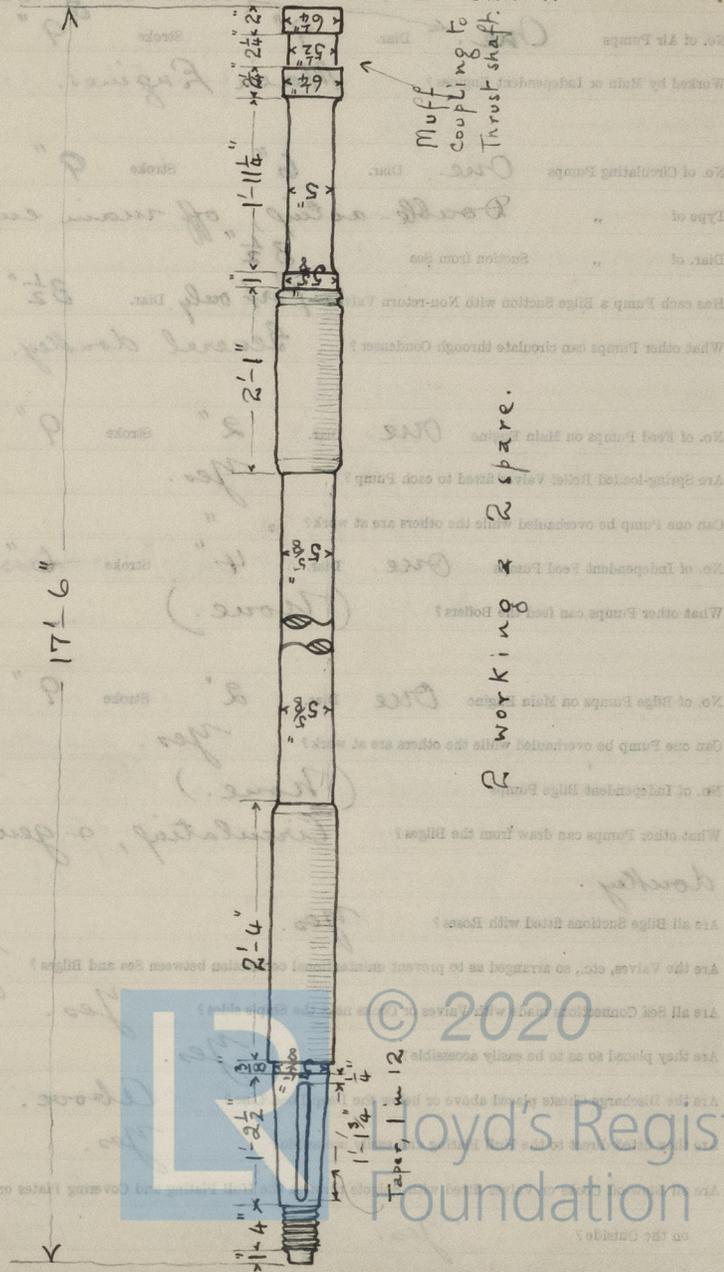
STAMP MARKS ON SHAFTS.

B.C.  
 No. 6086  
 JWH.   
 5/2/23

2 crank, 2 thrust, & 4  
 tail shafts - (2 working &  
 2 spare.)



SKETCH OF PROPELLER SHAFT.



Muff  
 coupling to  
 Thrust shaft.

2 spare.  
 2 working

17'-6"

1'-11 1/2"

2'-1"

2'-4"

1'-2 1/2"

1'-1 3/4"

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Thickness of End Plates in Steam Space Approved ~~1 1/8~~ 1 5/32" *Pillow*

" " " " " in Boilers "

Pitch of Steam Space Stays 19" x 18"

Diar. " " " " Approved ~~2 3/4~~ 2 3/4" Threads per Inch 6

" " " " " in Boilers " " "

Material of " " " S.M. Steel.

How are Stays Secured? Nuts inside & outside.

Diar. and Thickness of Loose Washers on End Plates ✓

" " Riveted " " " ✓

Width " " Doubling Strips " ✓

Thickness of Middle Back End Plates Approved ~~7/8~~ 3/4"

" " " " " in Boilers "

Thickness of Doublings in Wide Spaces between Fireboxes ✓

Pitch of Stays at 13 1/8" x 8 1/2"

Diar. of Stays Approved ~~1 3/4~~ 1 3/4" Threads per Inch 10

" " " " " in Boilers " "

Material " S.M. Steel.

Are Stays fitted with Nuts outside? Yes.

Thickness of Back End Plates at Bottom Approved 3/4"

" " " " " in Boilers "

Pitch of Stays at Wide Spaces between Fireboxes ✓ (see sketch) →

Thickness of Doublings in " " ✓

Thickness of Front End Plates at Bottom Approved 2 1/2" / 3 1/2" / 4 1/8"

" " " " " in Boilers "

No. of Longitudinal Stays in Spaces between Furnaces 3 (see sketch) →

Diagonal of Stays Approved 2 1/4" x 2" Threads per Inch

" " " " " in Boilers "

Material " S.M. Steel

Thickness of Front End Plates Approved 2 1/2" / 3 1/2" / 4 1/8"

" " " " " in Boilers "

Pitch of Stay Tubes at Spaces between Stacks of Tubes 13 1/8" x 8 1/2"

" " " " " in Boilers "

Thickness of Doublings in " " "

Are Stay Tubes fitted with Nuts at Front End? Yes

Thickness of Back Tube Plates Approved 5/8" / 3/4"

" " " " " in Boilers "

Pitch of Stay Tubes in Back Tube Plates 11 1/4" x 8 1/2" / 4 1/8" x 4 1/8"

" " " " " in Boilers "

Thickness of Stay Tubes 4" in nests, 2 1/2" in regular

" " " " " in Boilers "

Material of Tubes Inverted Iron

Material Inverted Iron

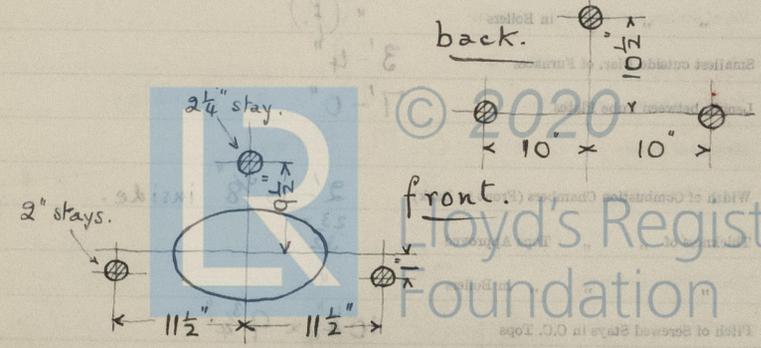
Thickness of Furnace Plates Approved 1/2"

" " " " " in Boilers "

Stays fitted outside of Furnaces 10 1/2"

Width of Combustion Chambers (Front) 10"

Pitch of Stay Tubes in C.C. Tops 10"



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Diar. of Stays Approved  $2\frac{1}{4}" \times 2"$  Threads per Inch 6  
 " " in Boilers "  
 Material " S. M. Steel.  
 Thickness of Front Tube Plates Approved  $\frac{27}{32}"$   
 " " " " in Boilers  $\frac{7}{8}"$   
 Pitch of Stay Tubes at Spaces between Stacks of Tubes  $13\frac{1}{8}" \times 8\frac{3}{4}"$   
 Thickness of Doublings in " " "  
 " Stay Tubes at " " "  $5\frac{1}{16}"$   
 Are Stay Tubes fitted with Nuts at Front End? Yes.  
 Thickness of Back Tube Plates Approved  $\frac{23}{32}"$   
 " " " in Boilers "  
 Pitch of Stay Tubes in Back Tube Plates  $11\frac{1}{4}" \times 8\frac{3}{4}"$   
 " Plain "  $4\frac{1}{2}" \times 4\frac{3}{8}"$   
 Thickness of Stay Tubes  $\frac{1}{4}"$  in nests,  $5\frac{1}{16}"$  marginal,  $\frac{3}{8}"$   
 " Plain " 9 w.g.  
 External Diar. of Tubes  $3\frac{1}{4}"$   
 Material " Lapwelded Iron.  
 Thickness of Furnace Plates Approved  $\frac{1}{2}"$   
 " " " in Boilers " (f.)  
 Smallest outside Diar. of Furnaces  $3'-4"$   
 Length between Tube Plates  $7'-0"$   
 Width of Combustion Chambers (Front to Back)  $2'-6\frac{5}{8}"$  inside.  
 Thickness of " " Tops Approved  $\frac{23}{32}"$   
 " " " in Boilers "  
 Pitch of Screwed Stays in O.O. Tops  $10\frac{1}{4}" \times 9\frac{3}{4}"$

Diar. of Screwed Stays Approved  $2\frac{1}{4}" \times 2"$  Threads per Inch 6  
 " " in Boilers "  
 Material " S. M. Steel.  
 Thickness of Combustion Chamber Sides Approved  $\frac{27}{32}"$   
 " " " in Boilers  $\frac{7}{8}"$   
 Pitch of Screwed Stays in O.O. Tops  $10\frac{1}{4}" \times 9\frac{3}{4}"$   
 Diar. of Stays Approved  $2\frac{1}{4}" \times 2"$  Threads per Inch 6  
 " " in Boilers "  
 Material " S. M. Steel.  
 Thickness of Combustion Chamber Ends Approved  $\frac{23}{32}"$   
 " " " in Boilers "  
 Pitch of Screwed Stays in O.O. Ends  $11\frac{1}{4}" \times 8\frac{3}{4}"$   
 Diar. of Stays Approved  $2\frac{1}{4}" \times 2"$  Threads per Inch 6  
 " " in Boilers "  
 Material " S. M. Steel.  
 Are all Screwed Stays fitted with Nuts inside O.O.?  
 Thickness of Combustion Chamber Bottoms  
 No. of Rivets over each Wing Chamber  
 Centre  
 Length of Rivets  
 No. of Stays in each  
 Size of Lower Flange  
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top corner.

Diar. of Screwed Stays Approved  $1\frac{3}{4}$ " Threads per Inch 10  
 " " " in Boilers "  
 Material " " S. M. Steel.

Thickness of Combustion Chamber Sides Approved  $\frac{23}{32}$ "  
 " " " in Boilers "

Pitch of Screwed Stays in C.C. Sides  $10\frac{1}{4}" \times 9\frac{3}{4}"$   
 Diar. " " Approved  $1\frac{3}{4}"$  Threads per Inch 10  
 " " " in Boilers "  
 Material " " S. M. Steel.

Thickness of Combustion Chamber Backs Approved  $\frac{21}{32}"$   
 " " " in Boilers "  
 Pitch of Screwed Stays in C.C. Backs  $9\frac{1}{4}" \times 8\frac{1}{2}"$   
 Diar. " " Approved  $1\frac{5}{8}"$  Threads per Inch 10  
 " " " in Boilers "  
 Material " " S. M. Steel.

Are all Screwed Stays fitted with Nuts inside C.C.?

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber 3  
 " " " Centre " 2  
 Depth and Thickness of Girders  $4\frac{3}{4}" \times \frac{1}{8}"$  (double)  
 Material of Girders S. M. Steel.  
 No. of Stays in each 2

No. of Tubes, each Boiler 253.

Size of Lower Manholes (2) front  $15" \times 11"$

## VERTICAL DONKEY BOILERS

No. of Boilers  
 Type  
 Height  
 Diameter of Tubes  
 Height of Boiler Crown above Fire Grate  
 Are Boiler Crown Flat or Dished?  
 Internal Radius of Dished Boilers  
 Thickness of Plates  
 Description of Seams in Boiler Crown  
 Pitch  
 Diameter of Rivet Heads  
 Height of Firebox Crown above Fire Grate  
 Are Firebox Crown Flat or Dished?  
 Internal Radius of Dished Crowns  
 No. of Crown Stays  
 Diameter  
 Material  
 Thickness of Plates  
 External Diameter of Firebox at Top  
 Bottom  
 Thickness  
 No. of Water Tubes  
 External Diameter of Water Tubes  
 Material of Water Tubes  
 Size of Manhole in Shell  
 Dimensions of Compensation Ring  
 Height of Outlets, each Boiler  
 Gate Valves

## SUPERHEATERS

Description of Superheaters  
 Were elevated?  
 Which boilers are connected to superheaters?  
 Can superheaters be shut off when boilers are working?  
 No. of Safety Valves on each superheater  
 Size of Safety Valves  
 Date of Installation  
 Date when Safety Valves set

Stewart & Lloyds Ltd  
 Chas. Mackie, Ltd. (doors.)



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VERTICAL DONKEY BOILERS.

No. of Boilers Type  
 Greatest Int. Diar. Height  
 Height of Boiler Crown above Fire Grate  
 Are Boiler Crowns Flat or Dished?  
 Internal Radius of Dished Ends Thickness of Plates  
 Description of Seams in Boiler Crowns  
 Diar. of Rivet Holes Pitch Width of Overlap  
 Height of Firebox Crowns above Fire Grate  
 Are Firebox Crowns Flat or Dished?  
 External Radius of Dished Crowns Thickness of Plates  
 No. of Crown Stays Diar. Material  
 External Diar. of Firebox at Top Bottom Thickness of Plates  
 No. of Water Tubes Ext. Diar. Thickness  
 Material of Water Tubes  
 Size of Manhole in Shell  
 Dimensions of Compensating Ring  
 Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

Description of Superheaters  
 Where situated?  
 Which Boilers are connected to Superheaters?  
 Can Superheaters be shut off while Boilers are working?  
 No. of Safety Valves on each Superheater Diar.  
 Are " " fitted with Easing Gear?  
 Date of Hydraulic Test Test Pressure  
 Date when Safety Valves set Pressure on Valves

MAIN STEAM PIPES

No. of Lengths  
 Material  
 Joints, Welded or Bolted  
 Internal Diar.  
 Thickness  
 How are Flanges secured?  
 Date of Hydraulic Test  
 Test Pressure  
 No. of Lengths  
 Material  
 Joints, Welded or Bolted  
 Internal Diar.  
 Thickness  
 How are Flanges secured?  
 Date of Hydraulic Test  
 Test Pressure

2  
 Steel  
 Welded  
 3"  
 1"  
 1/4"  
 200 x 250  
 11/11/28  
 270 lb/sq  
 (23)  
 (M)



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## EVAPORATORS.

3352

No. 1 Type Vert. merchant service Tons per Day 4  
 Makers Davie & Home, Ltd. Johnstone.  
 Working Pressure 25 lb/sq Test Pressure 50 lb/sq Date of Test 12/12/22.  
 Date of Test of Safety Valves under Steam 11/4/23.

## FEED WATER HEATERS.

No. One Type Direct contact  
 Makers A. & J. Weir, Ltd.  
 Working Pressure Test Pressure Date of Test

## FEED WATER FILTERS.

No. One Type Pressure Size 1 1/2" inlet.  
 Makers ~~R. Rowan & Co. Ltd.~~ Henry Watson & Son Ltd.  
 Working Pressure 180 lb/sq Test Pressure Date of Test

## STEERING ENGINE.

No. 1 Type, 2 cyl. horizontal steam. 2859 by  
 J. Hastie & Co. Ltd. Greenock. (on bridge)

## LIST OF DONKEY PUMPS.

General Service, 6 1/2" x 4" x 6", (Henry  
 Watson & Sons, Ltd.) draws from bilge main,  
 indep. bilge, peaks, & sea. Discharges to  
 deck, peaks, Condensers, & o'board.

Sanitary, 4 1/2" and 3" x 4", (Watson)  
 draws from sea; disch's. Sanitary tank  
 (thro' refrig. condenser.)

Indep. feed, 4" and 6" x 4", (Weir's) 71382  
 draws from heater, peaks, boiler, float  
 tank, & f. water tank. Disch's to boilers  
 (aux. feed check.)



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REFRIGERATORS. 594 Type D. S.

No. of Machines

1

Capacity of each

Makers

L. Sterue &amp; Co. Ltd. Glasgow.

Description

Single cylinder vertical 5" x 6" compressor,  
(E. 4739) direct-coupled to single cyl. vertical  
steam engine by same maker.

No. of Steam Cylinders, each Machine

1

No. of Compressors

1

No. of Cranks

1 each.

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines

or Independently

Compressor marked

B. C. TEST  
350 lbs/□"  
11-1-23 JW  
H

System of Refrigeration

Ammonia, direct expansion.

Insulation

Granulated cork.

Are ~~Drain~~ and other Regulating Valves placed so as to be accessible without entering the Insulated

Spaces?

Yes.

Are all Pipes, Air Trunks, &amp;c., well secured and protected from risk of damage?

(None.)

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?

(None.)

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?

Yes.

Date of Test under Working Conditions

9<sup>th</sup> and 10<sup>th</sup> April, 1923.

Test commenced 2-30 p.m. Machine stopped  
8-30 a.m. and rise of temperature taken at  
10-30 a.m. Steam pressure 75 lbs/□" and  
revs. 180 per minute, throughout.

## RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after 2 hours.
Butter chamber, of 2400 cub. ft.	50° F.	8° F.	18 hours.	3° F.

Additional spare gear; - 1 crank shaft for  
"Uluarra"; also 100 lbs spare liquid & 1  
thermometer (for "Uki") and 1 ecc. strap for  
"Uluarra".

Articles of Spare Gear for Refrigerating Plant carried on board: - 1 crank shaft for enf.,  
1 for compressor, 1 cover for compressor, 1 piston & rod  
for enf., 1 piston for comp., 1 piston valve & spindle,  
1 pr. main bearing bushes & studs, 1 set piston rod & 1  
set conn. rod bolts & bushes, 1 ecc. strap & rod, 1 set  
comp. suction & del'y valves complete, 1 each size  
ammonia valve, 1 each kind press. gauge, Assorted  
lengths piping, screwed, with couplings, &c., assorted  
bolts, nuts, packing, jointing, rings, spanners, &c.

Direct-coupled to single cyl. steam eng.  
by W. Sisson & Co. Ltd. Gloucester.

2203

## ELECTRIC LIGHTING.

Installation Fitted by *Telford, Brier & Mackay, Ltd.*  
No. and Description of Dynamos *one 4 KW.*  
Makers of Dynamos *(above)*  
Capacity *40* Amperes, at *100* Volts, *550/600* Revols. per Min.  
Current Alternating or Continuous *Continuous.*  
Single or Double Wire System *Double.*  
Position of Dynamos *Starboard side eng-room platform.*  
" Main Switch Board " " " " "  
No. of Circuits to which Switches are provided on Main Switch Board *5*

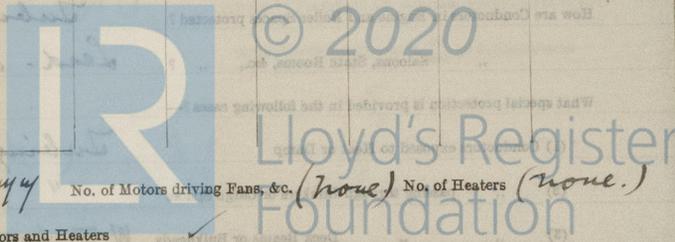
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## Particulars of these Circuits:—

Circuit.	Number of Lights.	Candle Power.	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
<i>Aft</i>	<i>14</i>	<i>16</i>	<i>4</i>	<i>7/0.044</i>	<i>400 amps. 100%</i>	<i>600 Meg.</i>	
<i>Midship</i>	<i>22</i>	<i>"</i>	<i>9</i>	<i>"</i>	<i>900 "</i>	<i>"</i>	<i>"</i>
<i>Navigation</i>	<i>8</i>	<i>various</i>	<i>4</i>	<i>"</i>	<i>400 "</i>	<i>"</i>	<i>"</i>
<i>For'd &amp; Holds.</i>	<i>21</i>	<i>16</i>	<i>11</i>	<i>"</i>	<i>1100 "</i>	<i>"</i>	<i>"</i>
<i>Eng. &amp; boilers.</i>	<i>12</i>	<i>"</i>	<i>6</i>	<i>"</i>	<i>600 "</i>	<i>"</i>	<i>"</i>

Total No. of Lights *44*No. of Motors driving Fans, &c. *(none)* No. of Heaters *(none.)*

Current required for Motors and Heaters



Positions of Auxiliary Switch Boards, with No. of Switches on each

(none.)

8-22-23

Particulars of these Questions	No. of Circuits to which Switches are provided on Main Switch Board	Main Switch Board	Position of Dynamometer	Single or Double Wire System	Current Indicating or Connections	Capacity	Make of Dynamometer	No. and Description of Dynamometers	Installation fitted by
Are Out-outs fitted as follows?—									
On Main Switch Board, to Cables of Main Circuits									
On Aux. " " each Auxiliary Circuit									
Wherever a Cable is reduced in size									
To each Lamp Circuit									
To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted									
Are the Fuses of Standard Sizes?									
Are all Switches and Cut-outs constructed of Non-inflammable Material?									
Are they placed so as to be always and easily accessible?									
Smallest Single Wire used, No. <u>1.064</u> S.W.G., Largest, No. <u>1.064</u> S.W.G.									
How are Conductors in Engine and Boiler Spaces protected?									
" Saloons, State Rooms, &c., " ?									
What special protection is provided in the following cases?—									
(1) Conductors exposed to Heat or Damp									
(2) " " passing through Bunkers or Cargo Spaces									
(3) " " Deck Beams or Bulkheads									

Tubing.

Lead-covered.

W.T. packed glands.

Are all Joints in Cables properly soldered and thoroughly insulated so that the efficiency of the Cables is unimpaired? (none.)

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? (none.)

Are all Hull Connections for Single-Wire Systems made with Screws of large Surface?

Are the Dynamometers, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? *yes.*

Have Tests been made to prove that this condition has been satisfactorily fulfilled? *yes.*

Has the Insulation Resistance over the whole system been tested? *yes.*

What does the Resistance amount to?  Ohms.

Is the Installation supplied with a Voltmeter? *yes.*

" " " an Ampere Meter? "

Date of Trial of complete Installation 11/4/23 Duration of Trial 6 hours.

Have all the requirements of Section 42 been satisfactorily carried out? *yes.*



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GENERAL CONSTRUCTION.

Have the Machinery and Boilers been constructed in accordance with the requirements of the Rules and the

Approved Plans? *Yes.*

If not, give details of the points of difference, and state when these were sanctioned by the Chief

Surveyor. *Yes.*

Have the Materials used in the Construction of Engines and Boilers, so far as could be seen, sound and

trustworthy? *Yes.*

Is the Workmanship throughout thoroughly satisfactory? *Yes.*

The above correctly describes the Machinery of the S.S. "UKI"

as ascertained by me from personal examination

*J. Wood Harrington.*  
 Engineer Surveyor to the British Corporation for the  
 Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

H.S. 1861 Sq. ft. 11 : 8 : "

G.S. 53.6 " : : "

DONKEY BOILERS.

H.S. ✓ Sq. ft. : : "

G.S. ✓ " : : "

£ : : "

ENGINES.

L.P.C. 9.84 Cub. ft. 14 : " : "

£ : : "

Testing, &c. ... .. : : "

£ : : "

Expenses ... .. : : "

Total ... £ : : "

*1000 171*  
 $9.84 \times 1.425 = 14.022$

It is submitted that this Report be approved,

*J. Wood Harrington*  
 Chief Surveyor.

Approved by the Committee for the Class of M.B.S.\* on the

*25<sup>th</sup> July 1923*

Fees advised

Fees paid



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 Secretary.

GENERAL CONSTRUCTION

Foot--

and has been approved by the Committee on the part of the Board of Directors.

Approved: *[Signature]* 1881

and has been approved by the Committee on the part of the Board of Directors.

Approved: *[Signature]* 1881

It is submitted that this Report be approved.

*[Signature]*

and has been approved by the Committee on the part of the Board of Directors.

*[Signature]*

Approved by the Committee for the Class of M.E.S. on the

UKI

Two advised

Two sent

*[Large Signature]*

18-1-22

19-1-22

20-1-22

21-1-22

22-1-22

23-1-22

24-1-22

25-1-22

26-1-22

27-1-22

28-1-22

29-1-22

30-1-22

31-1-22

1-2-22

2-2-22

3-2-22

4-2-22

5-2-22

6-2-22

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9-2-22

10-2-22

11-2-22

12-2-22

13-2-22

14-2-22



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Visits.

18-10-22.

6-11-22.

13-11-22

17-11-22

22-11-22

28-11-22. (W. Luke.)

29-11-22.

8-12-22 (W. Macfarlane, at Lloyd's Provins House.)

11-12-22.

19-12-22.

21-12-22 (Sterne &amp; Co.)

26-12-22.

18-1-23

" "

12-1-23

23-1-23

" "

17-1-23

18-1-23

22-1-23

23-1-23

25-1-23.

29-1-23.

30-1-23

5-2-23

15-2-23.

20-2-23.

22-2-23.

5-3-23

8-3-23 (and ship)

14-3-23.

15-3-23 (relief)

16-3-23.

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