

No. 2010

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1836 No. in Register Book 3146

S.S. "JOHN B RICHARDS"

Makers of Engines B. Rowan & Co Ltd

Works No. 814

Makers of Main Boilers B. Rowan & Co Ltd

Works No. 814

Makers of Donkey Boiler —

Works No. —

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. *1836* No. in Register Book *3146*

Received at Head Office *29th April 1925*

Surveyor's Report on the New Engines, Boilers, and Auxiliary Machinery of the ^{Single Triple} ~~Twin Quadruple~~ Screw Steamer

"*JOHN B. RICHARDS*"

Official No.

Port of Registry *Glasgow.*

Registered Owners

Eastern Steamship Co Ltd

Engines Built by

D. Rowan & Co Ltd

at

Glasgow

Main Boilers Built by

D. Rowan & Co Ltd

at

Glasgow.

Donkey

at

Date of Completion

April 1926.

First Visit

30/9/24

Last Visit

9/4/25

Total Visits *36.*



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RECIPROCATING ENGINES.

Works No. *874* No. of Sets *One* Description *Triple exp.*

No. of Cylinders each Engine *3* No. of Cranks *3*
 Diars. of Cylinders *17", 28½" and 47"* Stroke *33"*
 Cubic feet in each L.P. Cylinder *33-1*

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr? *On H.P.; 1 P. & L.P. bottom only.*

" " " each Receiver? *1 P. & L.P.*

Type of H.P. Valves, *Piston valve with inside steam*

" 1st I.P. " *Andrews & Cameron balanced*

" 2nd I.P. " *—*

" L.P. " *Double-ported "D" slide valve*

" Valve Gear *Stephensons*

" Condenser *Surface* Cooling Surface *1000* sq. ft.

Diameter of Piston Rods (plain part) *4½"* Screwed part (bottom of thread) *3½" app.*

Material " *H. Steel*

Diar. of Connecting Rods (smallest part) *4¼"* Material *H. Steel*

" Crosshead Gudgeons *5"* Length of Bearing *4½"* Material *"*

No. of Crosshead Bolts (each) *2* Diar. over Thrd. *2½"* Thrds. per inch *4* Material *Steel*

" Crank Pin " " *2* " *2½"* " " " "

" Main Bearings *6* Lengths *9"*

" Bolts in each *2* Diar. over Thread *2"* Threads per inch *4½"* Material *Steel*

" Holding Down Bolts, each Engine *46* Diar. *1"* No. of Metal Chocks *46*

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? *400*

If not, how are they fitted? *—*

Connecting Rods, Forged by *G. Rowan & Co Ltd*

Piston " " " " " "

Crossheads, " " " " " "

Connecting Rods, Finished by *G. Rowan & Co Ltd*

Piston " " " " " "

Crossheads, " " " " " "

Date of Harbour Trial *6/4/25*

" Trial Trip *9/4/25*

Trials run at *Shermalie*

Were the Engines tested to full power under Sea-going conditions? *400 light ship*

If so, what was the I.H.P.? *Revs. per min. 128.*

Pressure in 1st I.P. Receiver, *33* lbs., 2nd I.P., *—* lbs., L.P., *9* lbs., Vacuum, *26.5* ins.

Speed on Trial *9.25*

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

Builders' estimated I.H.P. *1000* *Revs. per min. 87.*

Estimated Speed



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TURBINE ENGINES.

Works No. *177* Type of Turbines *Francis*

No. of H.P. Turbines *2* No. of I.P. *2* No. of L.P. *2* No. of Astern *2*

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

Is Single or Double Reduction Gear employed? *Single*

Diam. of 1st Reduction Pinion *12 1/2* } Width *12 1/2* Pitch of Teeth *1 1/2*

" 1st " Wheel *12 1/2*

Estimated Pressure per lineal inch *100*

Diam. of 2nd Reduction Pinion *12 1/2* } Width *12 1/2* Pitch of Teeth *1 1/2*

" 2nd " Wheel *12 1/2*

Estimated Pressure per lineal inch *100*

Revs. per min. of H.P. Turbines at Full Power *1200* S.H.P. *1200*

" " I.P. " " *1200*

" " L.P. " " *1200*

" " 1st Reduction Shaft *1200*

" " 2nd " *1200*

" " Propeller Shaft *1200*

Total Shaft Horse Power *1200*

Date of Harbour Trial *1914*

" Trial Trip *1914*

Trials run at *1914*

Speed on Trial *12* Knots. Propeller Revs. per min. *1200* S.H.P. *1200*

Turbine Spindles forged by *Rankine*

" Wheels forged or cast by *Rankine*

Reduction Gear Shafts forged by *Rankine*

" Wheels forged or cast by *Rankine*

DESCRIPTION OF INSTALLATION.

No. of Turbo-Generator Sets *2* Capacity of each *1200*

Type of Turbines employed *Francis*

Description of Generators *Francis*

No. of Motors driving Propeller Shafts *2*

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

Is Single or Double Reduction Gear employed? *Single*

Description of Motors *Francis*

Diam. of 1st Reduction Pinion *12 1/2* } Width *12 1/2* Pitch of Teeth *1 1/2*

" 1st " Wheel *12 1/2*

Estimated Pressure per lineal inch *100*

Diam. of 2nd Reduction Pinion *12 1/2* } Width *12 1/2* Pitch of Teeth *1 1/2*

" 2nd " Wheel *12 1/2*

Estimated Pressure per lineal inch *100*

Revs. per min. of Generators at Full Power *1200*

" " Motors *1200*

" " 1st Reduction Shaft *1200*

" " 2nd " *1200*

Total Shaft Horse Power *1200*

Date of Harbour Trial *1914*

" Trial Trip *1914*

Trials run at *1914*

Speed on Trial *12* Knots. Propeller Revs. per min. *1200* S.H.P. *1200*

Turbine Spindles forged by *Rankine*

" Wheels forged or cast by *Rankine*

Reduction Gear Shafts forged by *Rankine*

" Wheels forged or cast by *Rankine*



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TURBO-ELECTRIC PROPELLING MACHINERY.

No. of Turbo-Generating Sets Capacity of each

Type of Turbines employed

Description of Generators

No. of Motors driving Propeller Shafting

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 "

" " 1st Reduction Shaft

" " 2nd "

" " Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

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

Makers of Turbines

Generators Bull
 Motors 1200
 Reduction Gear In Way of Water

Turbine Spindles forged by

Wheels forged or cast by

Reduction Gear Shafts forged by

Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

Distance from base of

Type of Turbine

No. of Turbine

Diar. of Turbine Shafts at bottom of Coffers

Forward Coupling

Aft Coupling

No. of Coupling

Diar. at Mid Length

Diar. of Pinion Gears

No. of Coupling

Diar. of Propeller Shafts by Rule

Actual

10 18"

10 3 1/2"

At Coupling



SHAFTING.

Are the Crank Shafts Built or Solid? *Built*

No. of Lengths in each *One* Angle of Cranks *120°*

Diar. by Rule *8.956"* Actual *9"* In Way of Webs *9 1/4"*

" of Crank Pins *9"* Length between Webs *9"*

Greatest Width of Crank Webs *1 1/4"* Thickness *5 7/8"*

Least " " *13/8"* " " *5 7/8"*

Diar. of Keys in Crank Webs *1 1/2" dowels* Length *3 1/2"*

" Dowels in Crank Pins *1"* Length *2 1/2"* Screwed or Plain *Plain*

No. of Bolts each Coupling *6* Diar. at Mid Length *2 1/8"* Diar. of Pitch Circle *14 3/4"*

Greatest Distance from Edge of Main Bearing to Crank Web *about 1/2"*

Type of Thrust Blocks *Stone-shoe*

No. " Rings *4*

Diar. of Thrust Shafts at bottom of Collars *9 1/4"* No. of Collars *4*

" " Forward Coupling *9"* At Aft Coupling *8 5/8"*

Diar. of Intermediate Shafting by Rule *8.508"* Actual — No. of Lengths —

No. of Bolts, each Coupling — Diar. at Mid Length — Diar. of Pitch Circle —

Diar. of Propeller Shafts by Rule *10.18"* Actual *10.375"* At Couplings *9"*

Are Propeller Shafts fitted with Continuous Brass Liners? *No.*

Diar. over Liners *1 1/2" aft 1 1/8" fore* Length of After Bearings *3'-6"*

Of what Material are the After Bearings composed? *Sigumite Nitral*

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? *Sea-water lubrication*

SKETCH OF CRANK SHAFT.

Same as No 813.
5/S NORMAN B. HICHERSON.



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No. of Blades each Propeller *4* Fitted or Solid? *Fitted*
 Material of Blades *Steel* Boss *Cast Iron*
 Diam. of Propellers *12'-6"* Pitch *12'-0"* Surface (each) *47* S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth *'84.*

Crank Shafts Forged by *Vickers Ltd. Sheffield* Material *I. S.*
 " Pins " *" 13 "* " " " "
 " Webs " *" 1 1/2 "* " " " "
 Thrust Shafts " *" 1 1/2 "* " " " "
 Intermed. " *(none)* " " " "
 Propeller " " " " " "
 Crank " Finished by *D. Rowan & Co. Ltd.*
 Thrust " " " " " "
 Intermed. " " " " " "
 Propeller " " " " " "

STAMP MARKS ON SHAFTS.

B. C.
 No 3260
 G. H. L.
 19.2.25.

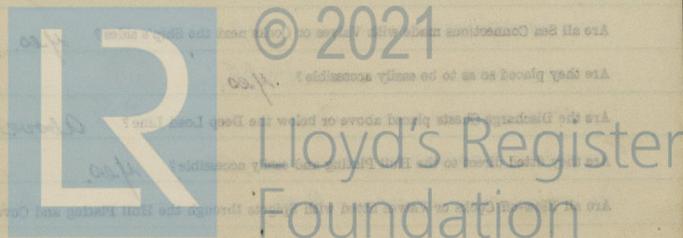
1 CRANK SHAFT

1 THRUST "

1 PROPELLER "

SKETCH OF PROPELLER SHAFT.

Same as No 813
 S/S NORMAN B. HACHEFARSON.



BOILERS.

Works No. 814

No. of Boilers 2 Type Cyl. multi.
Single or Double-ended Single.

No. of Furnaces in each Two

Type of Furnaces Bighton

Date when Plan approved 13/9/24.

Approved Working Pressure 180 lbs/□"

Hydraulic Test Pressure 320 "

Date of Hydraulic Test 2/3/25

" when Safety Valves set 6/4/25

Pressure at which Valves were set 185 lbs/□"

Date of Accumulation Test 6/4/25

Maximum Pressure under Accumulation Test 4 lbs

System of Draught closed aspirator (Howden's forced draught)

Can Boilers be worked separately? Yes.

Makers of Plates Friedrich Krupp, Essen. ✓

" Stay Bars Lanarkshire Steel Co. Ltd. ✓

" Rivets N.W. Rivet, Bolt & Nut Co. Ltd.

" Furnaces John Marshall & Co. ✓

Greatest Internal Diam. of Boilers 11'-10"

" " Length " 10'-10¹/₈"

Square Feet of Heating Surface each Boiler 1425

" " Grate " " 36.65

No. of Safety Valves each Boiler 2 Rule Diam. 2³/₈" Actual 2¹/₂"

Are the Safety Valves fitted with Easing Gear? Yes.

No. of Pressure Gauges, each Boiler one No. of Water Gauges one

" Test Cocks 3 " Salinometer Cocks one

MARKS ON BOILERS.

B. C.
No 4901.
TEST PRESS. 320 lbs.
WORK. " 180 "
G. M. L.
2/3/25.

2/3/25
 G. M. L.
 4901
 B. C.



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *Pillars*

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? *direct*

Are these Pipes connected to Boilers by Cocks or Valves? *—*

Are Blow-off Cocks or Valves fitted on Boiler Shells? *Valves*

No. of Strakes of Shell Plating in each Boiler

Plates in each Strake

Thickness of Shell Plates Approved

in Boilers

Are the Rivets Iron or Steel?

Are the Longitudinal Seams Butt or Lap Joints?

Are the Butt Straps Single or Double?

Are the Double Butt Straps of equal width?

Thickness of outside Butt Straps

inside

Are Longitudinal Seams Hand or Machine Riveted?

Are they Single, Double, or Treble Riveted?

No. of Rivets in a Pitch

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diar. of Rivet Holes Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diar. of Rivet Holes Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

B. C. B.
No. 4801
TEST NO. 250
MAX. 180
S. H. J.
S. 3/52

Scantlings as N° 813.
5/8" NORMAN B. MACPHERSON



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Thickness of End Plates in Steam Space Approved

" " " " " in Boilers

Pitch of Steam Space Stays

Diar. " " " " Approved Threads per Inch

" " " " " in Boilers

Material of " " " "

How are Stays Secured?

Diar. and Thickness of Loose Washers on End Plates

" " " " Riveted " " "

Width " " Doubling Strips "

Thickness of Middle Back End Plates Approved

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at " " " "

Diar. of Stays Approved Threads per Inch

" " " " in Boilers

Material " " " "

Are Stays fitted with Nuts outside?

Thickness of Back End Plates at Bottom Approved

" " " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

Thickness of Doublings in " "

Thickness of Front End Plates at Bottom Approved

" " " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces

Diagonal of Stays Approved

" " " " " in Boilers

Material

Thickness of Front Tube Plates Approved

" " " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doubling in " " " "

Stay Tubes at " " " "

Are Stay Tubes fitted with Nuts at Front End?

Thickness of Back Tube Plates Approved

" " " " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" " " " " Plain

Thickness of Stay Tubes

" " " " " Plain

Structural Diagonal of Tubes

Material

Thickness of Furnace Plates Approved

" " " " " in Boilers

Structural Diagonal of Furnaces

Length between Tube Plates

Width of Combustion Chambers (Front to Back)

Thickness of " " " "

Pitch of Stay Tubes in C.C. Tube

Scantlings as No 813.

* Normal 813

NO. 813
1/2 INCH B. WASHERS
2 INCHES O.D. NO. 813



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Diar. of Stays Approved Threads per Inch

" " in Boilers

Material "

Thickness of Front Tube Plates Approved

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in " " "

" Stay Tubes at " " "

Are Stay Tubes fitted with Nuts at Front End ?

Thickness of Back Tube Plates Approved

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" Plain "

Thickness of Stay Tubes

" Plain "

External Diar. of Tubes

Material "

Thickness of Furnace Plates Approved

" " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Width of Combustion Chambers (Front to Back)

Thickness of " " Tops Approved

" " " in Boilers

Pitch of Screwed Stays in O.C. Tops

Scantlings as No 813.
S/S "NORMAN B. MACPHERSON."

Threads per Inch

Diar. of Screwed Stays Approved

" " " in Boilers

Material "

Thickness of Combustion Chamber Side Approved

" " " in Boilers

Pitch of screwd stays in O.C. tops

Threads per Inch

Diar. " Approved " " "

" " " in Boilers

Thickness of Combustion Chamber Backs Approved

" " " in Boilers

Pitch of screwd stays in O.C. Backs

Threads per Inch

Diar. " Approved " " "

" " " in Boilers

Are all screwd stays fitted with Nuts inside O.C.?

Thickness of Combustion Chamber Bottoms

% of rivets over each Weld Chamber

Center " " "



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Diar. of Screwed Stays Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Sides Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

Thickness of Combustion Chamber Backs Approved

" " " " in Boilers

Pitch of Screwed Stays in C.C. Backs

Diar. " " Approved Threads per Inch

" " " in Boilers

Material " "

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

" " " Centre "

Depth and Thickness of Girders

Material of Girders

No. of Stays in each

No. of Tubes, each Boiler

Size of Lower Manholes

Scantlings as No 813.

VERTICAL DONKEY BOILERS

No. of Boilers
Type
Greatest Int. Diam.
Height of Boiler Crown above Fire Grate
Are Boiler Crowns Flat or Dished?
Internal Radius of Dished Ends
Description of Gears in Boiler Crown
Diam. of River Holes
Height of Firebox Crown above Fire Grate
Are Firebox Crowns Flat or Dished?
External Radius of Dished Crowns
No. of Crown Stays
Diam.
Material
Thickness of Plates
Bottom
No. of Water Tubes
Diam. of Water Tubes
Material of Water Tubes
Size of Manhole in Shell
Description of Combustion Link
Heating Surface, each Boiler
Gross Surface

SUPERHEATERS

Description of Superheaters
Where situated?
Which boilers are connected to the superheaters?
Can superheaters be used on either boiler and working?
No. of Safety Valves on each Superheater
Diam.
Date of Hydrostatic Test
Date when first used



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VERTICAL DONKEY BOILERS.

No. of Boilers in 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

Joined, Welded or Seamed

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Joined, Welded or Seamed

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Lengths

Material

Joined, Welded or Seamed

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure



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MAIN STEAM PIPES.

No. of Lengths	2		
Material	Steel		
Brazed, Welded or Seamless	Seamless		
Internal Diam.	4"		
Thickness	1/4"		
How are Flanges secured?	Screwed with vanishing thread		
Date of Hydraulic Test	2/4/25		
Test Pressure	540 lbs/sq"		
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diam.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

SUPERHEATERS

LIST OF EVAPORATORS.

No.	1		
Description	Boiler		
Material	Steel		
Working Pressure	100 lbs/sq"		
Date of Test	2/4/25		
Test Pressure	150 lbs/sq"		
No.	2		
Description	Boiler		
Material	Steel		
Working Pressure	100 lbs/sq"		
Date of Test	2/4/25		
Test Pressure	150 lbs/sq"		
No.	3		
Description	Boiler		
Material	Steel		
Working Pressure	100 lbs/sq"		
Date of Test	2/4/25		
Test Pressure	150 lbs/sq"		
No.	4		
Description	Boiler		
Material	Steel		
Working Pressure	100 lbs/sq"		
Date of Test	2/4/25		
Test Pressure	150 lbs/sq"		

FEED WATER FILTERS



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EVAPORATORS.

No.	Type	Tons per Day
	<i>None fitted</i>	
Makers		
Working Pressure	Test Pressure	Date of Test
Date of Test of Safety Valves under Steam		

FEED WATER HEATERS.

No.	Type			
1	Surface Heating			
Makers	Henry Watson, Newcastle-upon-Tyne.			
Working Pressure	Shell 15 lbs	Test Pressure	Shell 150	Date of Test
	tubes 185		tubes 432	25/2/25
				27/2/25

FEED WATER FILTERS.

No.	Type	Size
1	Suction filter	
Makers	Henry Watson, Newcastle-upon-Tyne.	
Working Pressure	Test Pressure	Date of Test

LIST OF DONKEY PUMPS.

Ballast Pump :- Rowans
Suctions :- Sea, tanks, bilges.
Discharges :- Condenser, tanks, deck, overboard.

Aux. Circulating Pump :- Rowans.
Suctions :- Sea, bilge
Discharges :- Overboard, condenser, culinary tank

Aux. Feed Pump :- Weir's
Suctions :- Tanks, hotwell or condenser, boilers
Discharges :- Heater or aux. feed range, ash ejector
 deck or overboard.

A steam injector is also fitted to the aux.
 feed range for boilers.



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REFRIGERATORS.

No. of Machines *2* Capacity of each *2 1/2 tons each* } *12*
 Makers *W. G. & Co. Ltd. & J. G. & Co. Ltd.*
 Description *Two 2 1/2 ton capacity, 1 1/2 ton capacity, 1 1/2 ton capacity*
 No. of Steam Cylinders, each Machine *2* No. of Compressors *2* No. of Cranks *2 main & 2 aux*
 Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently
 System of Refrigeration
 „ Insulation
 Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces?
 Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage?
 Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated?
 Are Thermometer Tubes so arranged that Water cannot enter and freeze in them?
 Date of Test under Working Conditions

Not filled.

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after hours.
<i>Machine No. 1</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 2</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 3</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 4</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 5</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 6</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 7</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 8</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 9</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 10</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 11</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>
<i>Machine No. 12</i>	<i>70</i>	<i>70</i>	<i>100</i>	<i>100</i>

Articles of Spare Gear for Refrigerating Plant carried on board:—



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Positions of Auxiliary Switch Boards, with No. of Switches on each *None*

Installation fitted by
No. and Description of Dynamos
Capacity
Current Alternating or Continuous
Single or Double Wire System
Position of Dynamometer
Main Switch Board
No. of Circuits to which Switches are provided on Main Switch Board

Quantity	Number of Lights	Watts	Current in Amperes	Size of Conductors	Current in Amperes	Capacity of Battery	Construction of Battery	Construction of Battery	Construction of Battery
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Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits *Yes*

On Aux. " " each Auxiliary Circuit *—*

Wherever a Cable is reduced in size *Yes*

To each Lamp Circuit *Yes*

To both Flow and Return Wires of all Circuits when the Double-Wire System is adopted *Yes*

Are the Fuses of Standard Sizes? *Yes*

Are all Switches and Out-outs constructed of Non-inflammable Material? *Yes*

Are they placed so as to be always and easily accessible? *Yes*

Smallest Single Wire used, No. *3/029* S.W.G., Largest, No. *7/064* S.W.G.

How are Conductors in Engine and Boiler Spaces protected? *Tubing*

" Saloons, State Rooms, &c., " ? *"*

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp *Tubing*

(2) " " passing through Bunkers or Cargo Spaces *"*

(3) " " Deck Beams or Bulkheads *"*

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired? *No joints*

Are all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? *—*

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

Are the Dynamos, 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? *2 meg.* Ohms.

Is the Installation supplied with a Voltmeter? *Yes*

" " " an Ampere Meter? *Yes*

Date of Trial of complete Installation *9/11/25* Duration of Trial *6 hours.*

Have all the requirements of Section 42 been satisfactorily carried out? *Yes - see pag 38.*



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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, except as stated below.*

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

V.I.R. cable (braided) in conduits fitted in machinery spaces in lieu of lead-covered cable. (See book 2009, S.S. 247) Sanctioned by Chief Surveyor

Are 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. *"JOHN B. RICHARDS"* as ascertained by ^{us} ~~me~~ from personal examination

What special provisions is provided in the following cases?

(1) Construction exposed to Heat or Steam

(2)

(3)

Geo. W. Luke,
Engineer Surveyor to the British Corporation for the
Survey and Registry of Shipping.

Fees—

MAIN BOILERS.		£	s.	d.
H.S.	Sq. ft.	:	:	
G.S.	"	:	:	
DONKEY BOILERS.				
H.S.	Sq. ft.	:	:	
G.S.	"	:	:	
		£	:	:
ENGINES.				
L.F.C.	Cub. ft.	:	:	
		£	:	:
Testing, &c. ...		:	:	
		£	:	:
Expenses ...		:	:	
Total ...	£	:	:	

It is submitted that this Report be approved,

John King
Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the *10th February 1926*

Fees advised

Fees paid



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Secretary.

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