

No. 2102

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. *1879* No. in Register Book *3193*

PENETANG

S.S. *WALTER B. REYNOLDS.*

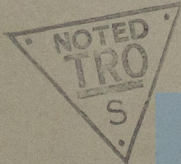
Makers of Engines *Hewes & Phillips, Newark N.Y.*

Works No. *90. E.F.C. 363.*

Makers of Main Boilers *Bollingwood S.B. Co.*

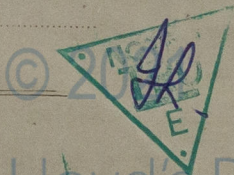
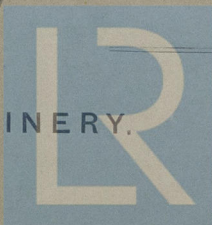
Works No. *212-213.*

Makers of Donkey Boiler



Works No.

MACHINERY.



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003620-003624-0148

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
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Report No. 1879 No. in Register Book 3193

Received at Head Office

11th July 1925

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single Triple~~ Single Triple Screw Steamer

"Walter B. Reynolds"

Official No.

Port of Registry Montreal. Que.

Registered Owners Geo Hall Coal & Shipping Corp.

190 St James St. Montreal. Que.

Engines Built by Hewes & Phillips No 363

at Newark N.J. U.S.A.

Main Boilers Built by Collingwood S B Co

at Collingwood Ont.

Donkey

at

Date of Completion

18.6.25

First Visit

20.2.25

Last Visit

18.6.25

Total Visits 10

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RECIPROCATING ENGINES.

Works No. **363** 90 FFC No. of Sets **1** Description **Triple Expansion**

3 Cylinders Surface Condensing 3 Crank.

No. of Cylinders each Engine **Three** No. of Cranks **Three**
 Diars. of Cylinders **15 $\frac{1}{2}$ " - 26" - 44"** Stroke **26"**

Cubic feet in each L.P. Cylinder **22.9**

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? **Yes**

" " " each Receiver? **Yes**

Type of H.P. Valves, **Piston Inside Steam**

" 1st I.P. " **Piston**

" 2nd I.P. " **—**

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

" Valve Gear **Stephenson Link Motion**

" Condenser **Surface.** Cooling Surface **1036** sq. ft.

Diameter of Piston Rods (plain part) **3 $\frac{3}{4}$ "** Screwed part (bottom of thread) **2 $\frac{1}{16}$ "**

Material " **I.S.**

Diar. of Connecting Rods (smallest part) **3 $\frac{3}{4}$ "** Material **I.S.**

" Crosshead Gudgeons **4 $\frac{1}{2}$ "** Length of Bearing **5 $\frac{5}{8}$ "** Material **I.S.**

No. of Crosshead Bolts (each) **4** Diar. over Thrd. **2"** Thrds. per inch **4 $\frac{1}{2}$ "** Material **I.S.**

" Crank Pin " " **2** " **2 $\frac{1}{2}$ "** " **4 $\frac{1}{2}$ "** " **I.S.**

" Main Bearings **6** Lengths **9 $\frac{1}{2}$ "**

" Bolts in each **2** Diar. over Thread **2 $\frac{1}{2}$ "** Threads per inch **4 $\frac{1}{2}$ "** Material **I.S.**

" Holding Down Bolts, each Engine **75** Diar. **1 $\frac{1}{8}$ "** No. of Metal Chocks **75**

Are the Engines bolted to the Tank Top or to a Built Seat? **To tank top.**

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

If not, how are they fitted? **double nuts & washers.**

Connecting Rods, Forged by

Records lost

Piston " "

Crossheads,

Connecting Rods, Finished by

Hewes & Phillips Ltd

Piston " "

Crossheads,

Date of Harbour Trial **16.6.25**

" Trial Trip **18.6.25**

Trials run at

Collingwood, Ontario.

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

If so, what was the I.H.P.? **830**

Revs. per min. **110**

Pressure in 1st I.P. Receiver, **7** lbs., 2nd I.P., lbs., L.P., lbs., Vacuum, ins.

Speed on Trial

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

data:—

Builders' estimated I.H.P.

Revs. per min.

Estimated Speed



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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

Diam. of 1st Reduction Pinion

Width

Pitch of Teeth

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. 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

Motors

Reduction Gear

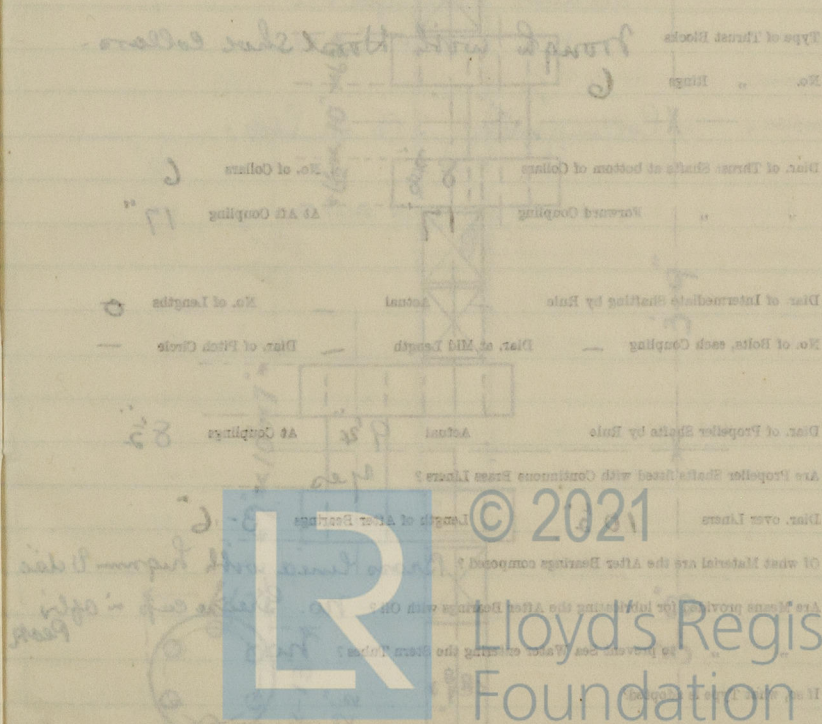
Turbine Spindles forged by

Wheels forged or cast by

Reduction Gear Shafts forged by

Wheels forged or cast by

DESCRIPTION OF INSTALLATION.



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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

Actual

8 3/8"

In Way of Webs

8 3/8"

" of Crank Pins

8 3/8"

Length between Webs

10"

Greatest Width of Crank Webs

17"

Thickness

6" 6 1/2" - 7"

Least " "

17"

"

Diar. of Keys in Crank Webs

2" x 3 1/4"

Length

7"

" Dowels in Crank Pins

0

Length

Screwed on Plain

No. of Bolts each Coupling

6

Diar. at Mid Length

23 3/8"

Diar. of Pitch Circle

13"

Greatest Distance from Edge of Main Bearing to Crank Web

1/4"

Type of Thrust Blocks

Mough with Horseshoe collars.

No. " Rings

6

Diar. of Thrust Shafts at bottom of Collars

8 3/8"

No. of Collars

6

" " Forward Coupling

17"

At Aft Coupling

17"

Diar. of Intermediate Shafting by Rule

Actual

No. of Lengths

0

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule

Actual

9 1/4"

At Couplings

8 1/2"

Are Propeller Shafts fitted with Continuous Brass Liners?

Yes

Diar. over Liners

10 1/2"

Length of After Bearings

3-6"

Of what Material are the After Bearings composed?

Brass lined with lignum vitae

Are Means provided for lubricating the After Bearings with Oil?

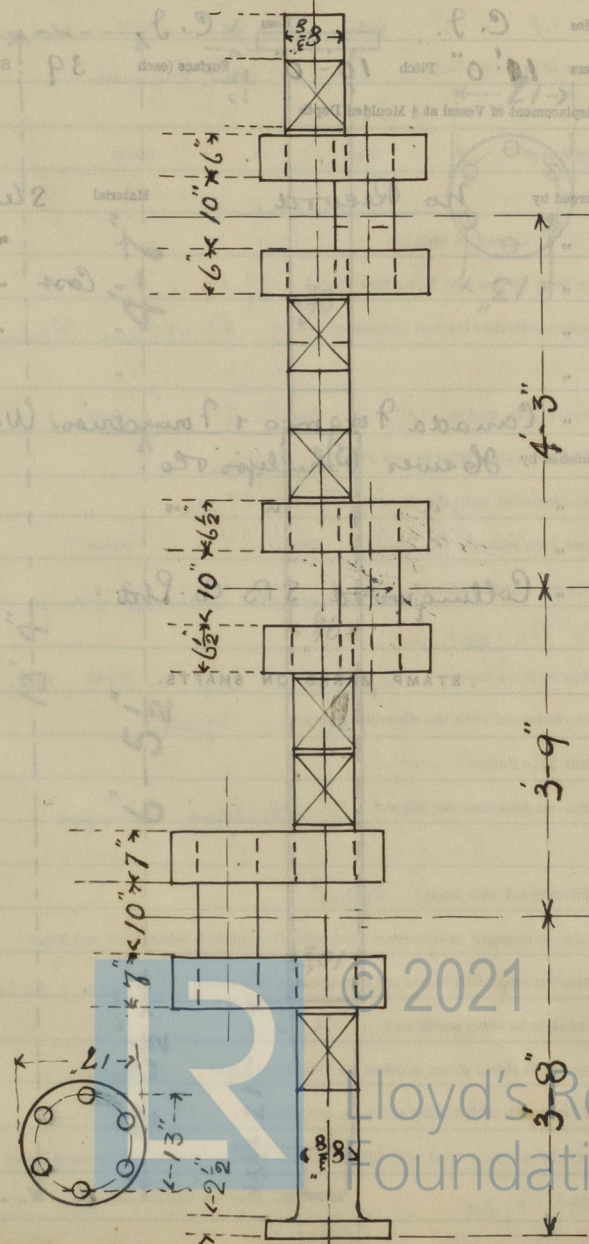
No. Grease cup in after Peak

" " to prevent Sea Water entering the Stern Tubes?

No

If so, what Type is adopted?

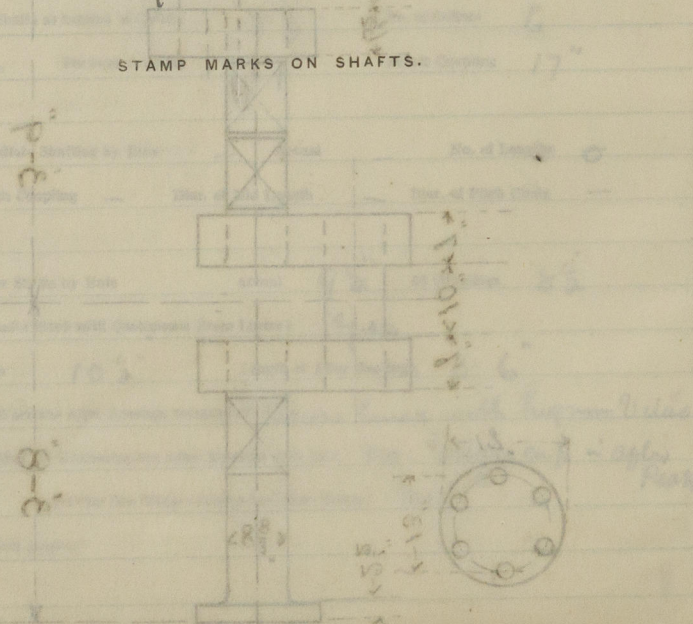
SKETCH OF CRANK SHAFT.



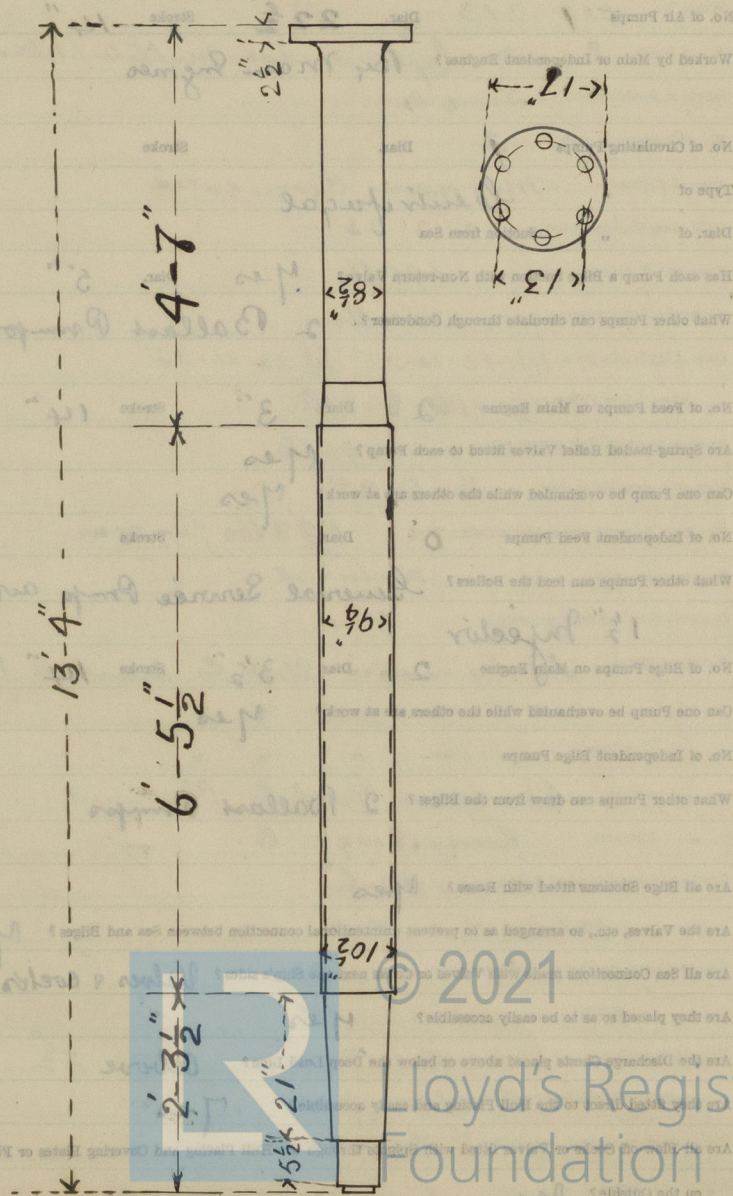
No. of Blades each Propeller *4* Fitted or Solid? *Fitted*
 Material of Blades *C. I.* Boss *C. I.*
 Diam. of Propellers *10' 0"* Pitch *10' 0"* Surface (each) *39* S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

Crank Shafts Forged by *no Record* Material *Steel*
 „ Pins „ „ „ „
 „ Webs „ „ „ *Cast* „
 Thrust Shafts „ „ „ „
 Intermed. „ „ „ „
 Propeller „ „ *Canada Forging & Foundries, Welland*
 Crank „ Finished by *Hewes Phillips & Co.* *9.S.*
 Thrust „ „ „ „
 Intermed. „ „ „ „
 Propeller „ „ *Collingwood S B Co. Ltd.*

STAMP MARKS ON SHAFTS.



SKETCH OF PROPELLER SHAFT.



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PUMPS, ETC.

No. of Air Pumps 1 Diar. 22½" Stroke 14"

Worked by Main or Independent Engines? By Main Engines

No. of Circulating Pumps 1 Diar. Stroke

Type of " Centrifugal

Diar. of " Suction from Sea

Has each Pump a Bilge Suction with Non-return Valve? Yes Diar. 5"

What other Pumps can circulate through Condenser? 2 Ballast Pumps

No. of Feed Pumps on Main Engine 2 Diar. 3" Stroke 14"

Are Spring-loaded Relief Valves fitted to each Pump? Yes

Can one Pump be overhauled while the others are at work? Yes

No. of Independent Feed Pumps 0 Diar. Stroke

What other Pumps can feed the Boilers? General Service Pump and

1½" Injector

No. of Bilge Pumps on Main Engine 2 Diar. 3½" Stroke 14"

Can one Pump be overhauled while the others are at work? Yes

No. of Independent Bilge Pumps

What other Pumps can draw from the Bilges? 2 Ballast Pumps

Are all Bilge Suctions fitted with Roses? Yes

Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? Yes

Are all Sea Connections made with Valves or Cocks next the Ship's sides? Valves & cocks

Are they placed so as to be easily accessible? Yes

Are the Discharge Chests placed above or below the Deep Load Line? Above

Are they fitted direct to the Hull Plating and easily accessible? Yes

Are all Blow-off Cocks or Valves fitted with Spigots through the Hull Plating and Covering Plates or Flanges

on the Outside? Yes

BOILERS

No. of Boilers 2

Type of Boilers 2

Single or Double-ended 2

No. of Furnaces in each 3

Type of Furnaces 3

Date when last approved 2.2.22

Approved Working Pressure 192 lb

Hydraulic Test Pressure 300 lbs

Date of Hydraulic Test (1) 10.10.22 (2) 22.11.22

When Safety Valves set 10.10.22

Pressure at which Valves were set 192 lb

Date of Accumulation Test 10.10.22

Maximum Pressure under Accumulation Test 192 lb for 2 min

System of Bracing 2

Can Boilers be worked separately? Yes

Height of Water 10

" " " " " "

" " " " " "

" " " " " "

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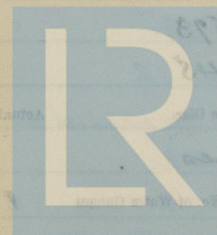
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BOILERS.

Works No. *212 - 213*

No. of Boilers *2* Type *Cylindrical Multitubular*

Single or Double-ended *Single*

No. of Furnaces in each *3*

Type of Furnaces *Morrison Corrugated*

Date when Plan approved *2. 2. 25*

Approved Working Pressure *195 lbs*

Hydraulic Test Pressure *350 lbs.*

Date of Hydraulic Test *(1) 13.4.25 (1) 22.4.25*

" when Safety Valves set *16.6.25*

Pressure at which Valves were set *195 lbs*

Date of Accumulation Test *16.6.25*

Maximum Pressure under Accumulation Test *198 lbs per sq in*

System of Draught *Natural*

Can Boilers be worked separately? *Yes*

Makers of Plates *The Carnegie Steel Co. Pittsburgh Pa.*

" " " " " " " " " " " "

" Stay Bars " " " " " " " " " " " "

" Rivets *Champion Rivet Co. Cleveland.*

" Furnaces *Leeds Forge Co.*

Greatest Internal Diam. of Boilers *12' 6"*

" " Length " *10' 10"*

Square Feet of Heating Surface each Boiler *1573*

" " Grate " " *45*

No. of Safety Valves each Boiler *2* Rule Diam. Actual *2 1/2"*

Are the Safety Valves fitted with Easing Gear? *Yes*

No. of Pressure Gauges, each Boiler *1* No. of Water Gauges *1*

" Test Cocks " *3* " Salinometer Cocks *1*



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

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

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

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

No. of Strakes of Shell Plating in each Boiler *One*

Plates in each Strake *Two*

Thickness of Shell Plates Approved *1 1/8"*

" " in Boilers *1 1/8"*

Are the Rivets Iron or Steel? *Steel*

Are the Longitudinal Seams Butt or Lap Joints? *Butt*

Are the Butt Straps Single or Double? *Double*

Are the Double Butt Straps of equal width? *Yes*

Thickness of outside Butt Straps *.875"*

" inside " *1"*

Are Longitudinal Seams Hand or Machine Riveted? *Machine*

Are they Single, Double, or Treble Riveted? *Treble*

No. of Rivets in a Pitch *5*

Diam. of Rivet Holes *1 3/16"* Pitch *7 1/16"*

No. of Rows of Rivets in Centre Circumferential Seams *1*

Are these Seams Hand or Machine Riveted? *Machine*

Diam. of Rivet Holes *1 3/16"* Pitch *7 1/16"*

No. of Rows of Rivets in Front End Circumferential Seams *2*

Are these Seams Hand or Machine riveted? *Hand*

Diam. of Rivet Holes *1 3/16"* Pitch *3 3/4"*

No. of Rows of Rivets in Back End Circumferential Seams *2*

Are these Seams Hand or Machine Riveted? *Machine*

Diam. of Rivet Holes *1 3/16"* Pitch *3 3/4"*

Size of Manholes in Shell *16" x 12"*

Dimensions of Compensating Rings *34" x 31"*



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Thickness of End Plates in Steam Space Approved

 $\frac{15}{16}$ "

" " " " " in Boilers

 $\frac{15}{16}$ "

Pitch of Steam Space Stays

 $14\frac{1}{2}" \times 13\frac{3}{4}"$

Diar. " " " " " Approved

 $2\frac{1}{4}"$

Threads per Inch

" " " " " in Boilers

 $2\frac{1}{4}"$

Material of " " " "

Steel.

How are Stays Secured?

Double nuts.

Diar. and Thickness of Loose Washers on End Plates

—

" " " " " Riveted " " " "

—

Width " " " " " Doubling Strips

—

Thickness of Middle Back End Plates Approved

 $\frac{5}{8}"$

" " " " " in Boilers

 $\frac{5}{8}"$

Thickness of Doublings in Wide Spaces between Fireboxes

—

Pitch of Stays at

—

Diar. of Stays Approved

Threads per Inch

—

" " " " " in Boilers

—

Material "

Steel.

Are Stays fitted with Nuts outside?

—

Thickness of Back End Plates at Bottom Approved

 $\frac{5}{8}"$

" " " " " in Boilers

 $\frac{5}{8}"$

Pitch of Stays at Wide Spaces between Fireboxes

—

Thickness of Doublings in

—

Thickness of Front End Plates at Bottom Approved

 $\frac{3}{4}"$

" " " " " in Boilers

 $\frac{3}{4}"$

No. of Longitudinal Stays in Spaces between Furnaces

6

Threads per Inch

Diar. 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 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

" " " " " in Boilers

Thickness of Stay Tubes

" " " " " in Boilers

External Diar. of Tubes

Material

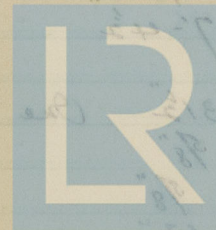
Thickness of Furnace Plates Approved

" " " " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Width of Compound Channels (Front to Back)



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Diar. of Stays Approved $2\frac{1}{4}"$ Threads per Inch

" " in Boilers $2\frac{1}{4}"$

Material " Steel.

Thickness of Front Tube Plates Approved $2\frac{1}{4}"$

" " " in Boilers $3\frac{1}{4}"$

Pitch of Stay Tubes at Spaces between Stacks of Tubes $8\frac{1}{2} \times 8"$

Thickness of Doublings in " " "

" Stay Tubes at " " "

Are Stay Tubes fitted with Nuts at Front End? No

Thickness of Back Tube Plates Approved $2\frac{1}{4}"$

" " " in Boilers $2\frac{1}{4}"$

Pitch of Stay Tubes in Back Tube Plates $9 \times 8\frac{1}{4}"$

" Plain " $4\frac{1}{2} \times 4\frac{3}{8}"$

Thickness of Stay Tubes $9/32$

" Plain " $.15$

External Diar. of Tubes $3\frac{1}{4}"$

Material " Steel.

Thickness of Furnace Plates Approved $.51$

" " " in Boilers $.51$

Smallest outside Diar. of Furnaces $37"$

Length between Tube Plates $7'-4\frac{1}{2}"$

Width of Combustion Chambers (Front to Back) $31\frac{1}{2}"$ One

Thickness of " " Tops Approved $7/8"$

" " " in Boilers $7/8"$

Pitch of Screwed Stays in C.C. Tops $7\frac{1}{4} \times 6\frac{7}{8}"$

Diar. of Screwed Stays Approved 10 Threads per Inch

" " " in Boilers $1\frac{1}{2}"$

Material " Steel.

Thickness of Combustion Chamber Plates Approved $2\frac{1}{4}"$

" " " in Boilers $2\frac{1}{4}"$

Pitch of screw stays in C.C. plates $8\frac{1}{2} \times 8"$

Thickness of Doublings in " " " $1\frac{1}{2}"$

" Stay Tubes at " " " $1\frac{1}{2}"$

Are Stay Tubes fitted with Nuts at Front End? No

Thickness of Combustion Chamber Plates Approved $2\frac{1}{4}"$

" " " in Boilers $2\frac{1}{4}"$

Pitch of screw stays in C.C. plates $8\frac{1}{2} \times 8"$

Thickness of Doublings in " " " $1\frac{1}{2}"$

" Stay Tubes at " " " $1\frac{1}{2}"$

Are Stay Tubes fitted with Nuts at Front End? No

Thickness of Combustion Chamber Plates Approved $2\frac{1}{4}"$

" " " in Boilers $2\frac{1}{4}"$

Pitch of screw stays in C.C. plates $8\frac{1}{2} \times 8"$

Thickness of Doublings in " " " $1\frac{1}{2}"$

" Stay Tubes at " " " $1\frac{1}{2}"$

Are Stay Tubes fitted with Nuts at Front End? No

Thickness of Combustion Chamber Plates Approved $2\frac{1}{4}"$

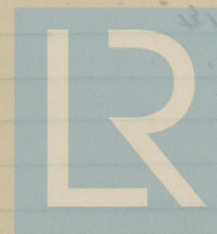
" " " in Boilers $2\frac{1}{4}"$

Pitch of screw stays in C.C. plates $8\frac{1}{2} \times 8"$

Thickness of Doublings in " " " $1\frac{1}{2}"$

" Stay Tubes at " " " $1\frac{1}{2}"$

Are Stay Tubes fitted with Nuts at Front End? No



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Diar. of Screwed Stays Approved

 $1\frac{3}{8}"$

Threads per Inch, 10

" " " in Boilers

 $1\frac{3}{8}"$

Material " "

Steel.

Thickness of Combustion Chamber Sides Approved

 $\frac{5}{8}"$

" " " " in Boilers

 $\frac{5}{8}"$

Pitch of Screwed Stays in C.O. Sides

 $6\frac{7}{8}" \times 5\frac{7}{8}"$

Diar. " " Approved

 $1\frac{1}{4}"$

Threads per Inch 10

" " " in Boilers

 $1\frac{1}{4}"$

Material " "

Steel.

Thickness of Combustion Chamber Backs Approved

 $\frac{5}{8}"$

" " " " in Boilers

 $\frac{5}{8}"$

Pitch of Screwed Stays in C.O. Backs

 $6\frac{3}{8}" \times 6\frac{1}{6}"$

Diar. " " Approved

 $1\frac{1}{4}"$

Threads per Inch 10

" " " in Boilers

 $1\frac{1}{4}"$

Material " "

Steel.

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

Marginal Stays only.

Thickness of Combustion Chamber Bottoms

 $\frac{5}{8}"$

No. of Girders over each Wing Chamber

—

" " " Centre "

14

Depth and Thickness of Girders

 $8\frac{1}{4}" \times 1\frac{1}{4}"$

Material of Girders

Steel.

No. of Stays in each

3

No. of Tubes, each Boiler

200

Size of Lower Manholes

 $15" \times 11"$

VERTICAL DONKEY BOILERS.

No. of Boilers

Type

Description of Boilers

Height of Boilers Crown above Fire Grate

Are Boilers Crowned Flat or Dished?

Thickness of Plates

Internal Radius of Dished Ends

Description of Joists in Boiler Crown

Diam. of Rivet Holes

Width of Girders

Height of Firebox Crown above Fire Grate

Are Firebox Crown Flat or Dished?

Thickness of Plates

External Radius of Dished Crown

No. of Crown Stays

Material

External Diam. of Firebox at Top

Bottom

Thickness

Box Diam.

No. of Water Tubes

Material of Water Tubes

Size of Manholes in Shell

Dimensions of Combustion Box

Gross Surface

Heating Surface, each Boiler

SUPERHEATERS

Description of Superheaters

If not stated?

Which tubes are connected to the superheater?

Can Superheaters be shut off while boiler is running?

No. of Safety Valves on each superheater

Date of Hydrostatic Test

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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 Basing Gear?

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

MAIN STEAM PIPES

No. of Pipes
 Material
 Branch, Welded or Seamless
 Internal Diar.
 Thickness
 How are Flanges secured?
 Date of Hydraulic Test
 Test Pressure

No. of Pipes
 Material
 Branch, Welded or Seamless
 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	Welded			
Internal Diam.	4"			
Thickness	.341			
How are Flanges secured?	Riveted			
Date of Hydraulic Test	11.6.25			
Test Pressure	600			
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 MAJOR PUMPS.

1. Boiler Feed Pump	By Worthington	Size 3" x 2" x 3"	1
2. Inducing Pump	By Worthington	Size 3" x 2" x 3"	1
3. General Service Pump	By Worthington	Size 3" x 2" x 3"	1
4. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
5. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
6. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
7. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
8. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
9. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1
10. Feed Water Pump	By Worthington	Size 3" x 2" x 3"	1

FEED WATER FILTERS

1. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
2. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
3. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
4. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
5. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
6. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
7. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
8. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
9. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1
10. Feed Water Filter	By Worthington	Size 3" x 2" x 3"	1



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MA EVAPORATORS.

No. *2* Type *Steel* Tons per Day
 Makers
 Working Pressure *100* Test Pressure
 Date of Test of Safety Valves under Steam

FEED WATER HEATERS.

No. *1* Type *600*
 Makers *Davis Engineering Corp. Brooklyn N.Y.*
 Working Pressure Test Pressure Date of Test

FEED WATER FILTERS.

✓ No. *1* Type *Open with Fiber strainers* Size
 Makers *Collingwood S.B. Co.*
 Working Pressure *Open* Test Pressure Date of Test

LIST OF DONKEY PUMPS.

- 2 Ballast Duplex Vertical By *Dean Bros*
 3 Indianapolis Size *8" x 8" x 12"*
 1 General Service Pump Duplex Horizontal
 5 By *Buffalo Pump Co.* Size *10" x 6" x 12"*
 1 Fresh water Pump Duplex Horizontal
 5 By *Worthington* Size *3" x 2" x 3"*
 1 Ice machine Pump Duplex Horizontal
 By *Worthington* Size *3" x 2" x 3"*
 1 Vacuum Pump Simplex Horizontal
 By *Darling Bros. Montreal*, Size *5" x 7" x 10"*



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No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
" Coupling Bolts	" Main Bearing Bolts	" Valve Chest
" Junk Ring Bolts	" Feed Pump Valves	" Bilge Pump Valves
" H.P. Piston Rings	" I.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve	" Fire Bars	" Feed Check Valves
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves
" Clr. "	" Clr. "	" Clr. "
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades
" Boiler Tubes	" Condenser Tubes	" Condenser Ferrules

OTHER ARTICLES OF SPARE GEAR:—

REFRIGERATORS.

No. of Machines *2* Capacity of each *2 tons*
 Makers *6*
 Description *2*
 No. of Steam Cylinders, each Machine *2* No. of Compressors *2* No. of Cranks *2*
 Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines
 or Independently

*1 Small Ice machine for crew supply
 makers. Triumph Ice Machine Co.
 Cincinnati.*

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

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.
Navigation	50W	4	1/10	
Upper Deck	75W	3	1/14	
Boiler Room	80W	4	1/14	
Upper Engine Room	100W	6	1/14	
Lower " "	50W	6	1/14	
Upper Cabin	50W	10	1/8	
" "	50W	7	1/8	
Deck	75W	4	1/14	

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



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REGISTERED PATENT

No. of Machine _____

No. of Steam Cylinders, each Machine _____

Particulars of Engine in connection with Steam Cylinders, Piston and Valve Gear, by which the Machine is actuated _____

System of Distribution _____

Description _____

Are there any other Regulations which should be observed in connection with the Machine _____

Articles of Particular Note for Particularizing Patent carried on board _____

Are all Pipes, Air Pipes, &c., &c. secured and protected from fire _____

Are all Boiler, Scowling, and Air Pipes in insulated Space properly protected _____

Are there any other Articles or Apparatus which should be observed in connection with the Machine _____

Date of Test or the Working Condition _____

1 Small Dec machine for crew supply
matters 2 small Dec machine for
matters

ELECTRIC LIGHTING.

Installation Fitted by *Collingwood S B Co*

No. and Description of Dynamos *One Westinghouse Steam Driven*

Makers of Dynamos *Westinghouse Electric Co*

Capacity " *10 KW* Amperes, at *110* Volts, *100* Revols. per Min. *550*

Current Alternating or Continuous *Continuous*

Single or Double Wire System *Double*

Position of Dynamos *Engine Room Top. After End.*

" Main Switch Board " " " " "

No. of Circuits to which Switches are provided on Main Switch Board *Eight*

Particulars of these Circuits:—

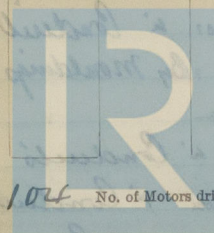
Circuit.	Number of Lights.	Candle Power.	Current Required Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
Navigation	6	50W	4	#10			
After Peak	2	75W	3	#14			
Boiler Room	8	50W	4	#14			
Upper Eng Room	8	100W	6	#14			
Lower " "	13	50W	6	#14			
After Cabin	32	50W	10	#8			
For " "	31	50W	9	#8			
Deck Lights	4	75W	4	#10			

Feeding Panel board with 4 Circuits #14 Conductor

Feeding Panel board with 6 Circuits #14 Conductor

Total No. of Lights *104* No. of Motors driving Fans, &c. *0* No. of Heaters *0*

Current required for Motors and Heaters



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

Engine Room entrance 6 Switches
Forward Cabin Hall on Main deck. 6 Switches
Tall table for navigation lights. a wheel house

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 Out-outs constructed of Non-inflammable Material?

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

Smallest Single Wire used, No. 14 S.W.G., Largest, No. 00 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

Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables

is unimpaired?

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?

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

Has the Insulation Resistance over the whole system been tested?

What does the Resistance amount to?

Ohms,

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation

Duration of Trial

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



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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?

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

Surveyor.

Main Engines built to the Requirements and under the Inspection of the American Bureau of Shipping

Main Boilers built in accordance with the requirements of the British Corporation.

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

trustworthy?

On Main British Boilers, is Cable of Main Chains

On Main British Boilers, is Cable of Main Chains

On Main British Boilers, is Cable of Main Chains

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

trustworthy?

Is the Workmanship throughout thoroughly satisfactory?

Are they intended to be so far as to always and under circumstances?

Is the Workmanship throughout thoroughly satisfactory?

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

as ascertained by ^{us} from personal examination

What special inspection is provided in the following cases?

(1) Construction exposed to Heat or Cold

(2) Construction exposed to Heat or Cold

(3) Construction exposed to Heat or Cold

H. W. Morris.
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.P.O.	Cub. ft.	:	:	:
	£	:	:	:
Testing, &c. ...		:	:	:
	£	:	:	:
Expenses ...		:	:	:
Total ...	£	:	:	:

It is submitted that this Report be approved.

J. D. Adams
Chief Surveyor.

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

15th July 1925.

Fees advised

Fees paid



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