

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.J.

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

Makers of Main Boilers Bollingwood SB Co.

Works No. 212-213.

Makers of Donkey Boiler



Works No.

MACHINERY.



Lloyd's Register
Foundation

003620-003624-0148

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

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



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**

Diams. 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.**

Diam. 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** Diam. 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** Diam. over Thread **2 $\frac{1}{2}$ "** Threads per inch **4 $\frac{1}{2}$ "** Material **I.S.**

" Holding Down Bolts, each Engine **75** Diam. **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



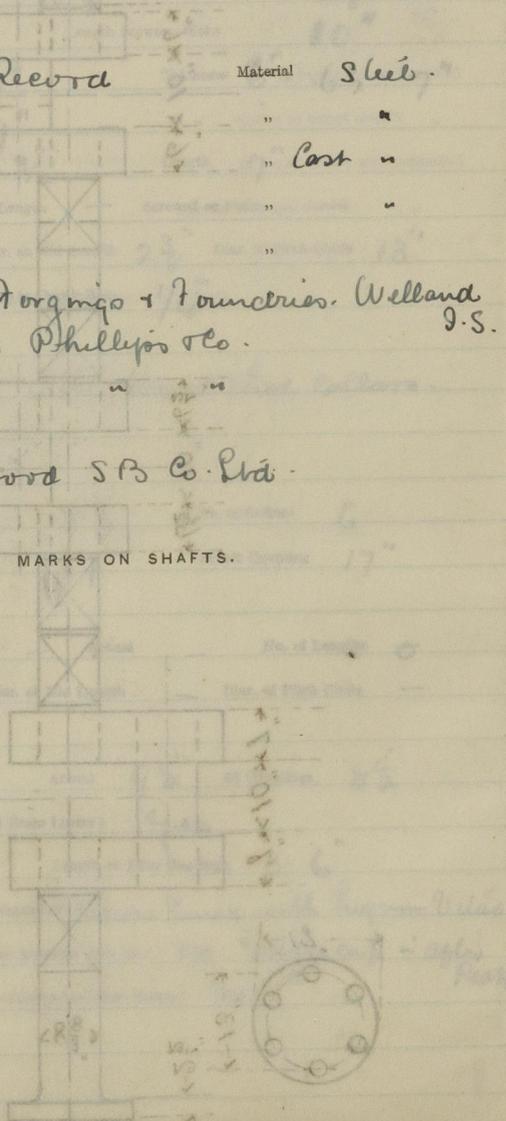
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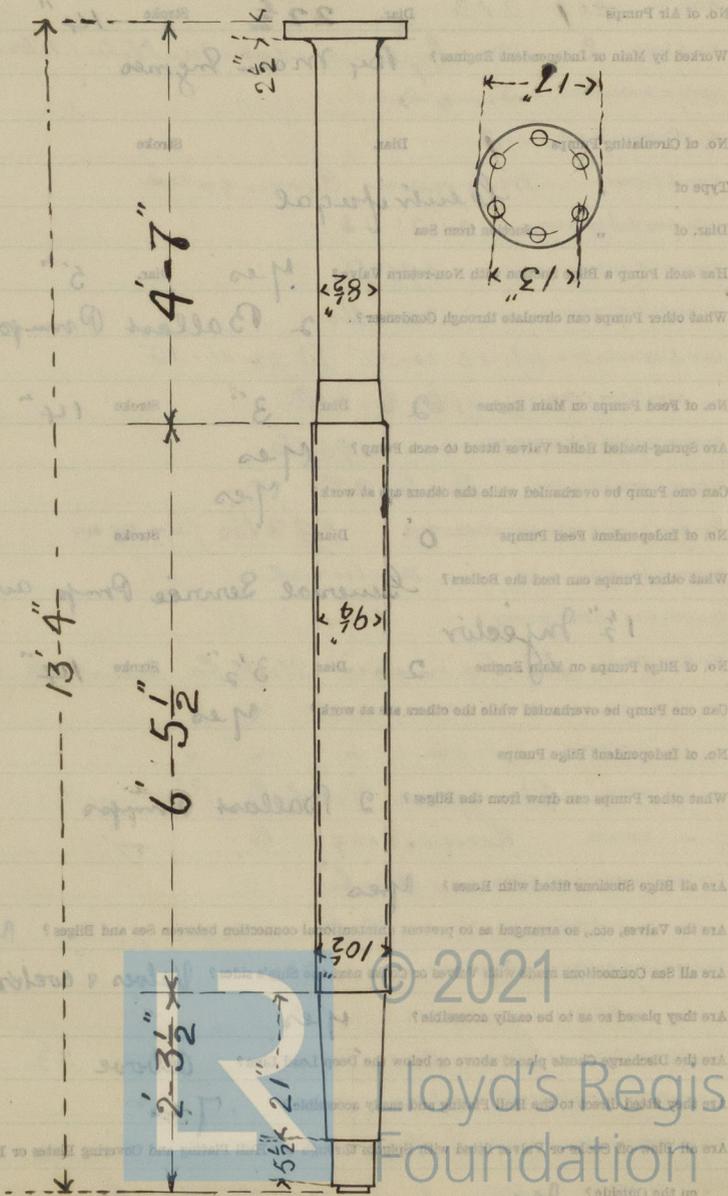
No. of Blades each Propeller *4* Fitted or Solid? *Fitted*
 Material of Blades *C.I.* Boss *C.I.*
 Diam. of Propellers *10'-0"* Pitch *10'-0"* Surface (each) *39* S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth

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

Works No. 212-213

No. of Boilers 2

Kind or Double-ended

No. of Furnaces in each 3

Type of Furnaces

Date when last approved

Approved Working Pressure

Hydraulic Test Pressure

Date of Hydraulic Test

When Safety Valves set

Pressure at which Valves were set

Date of Accumulation Test

Maximum Pressure under Accumulation Test

System of Bracing

Can Boilers be worked separately?

Number of Plates

Boiler No. 1

Boiler No. 2

Boiler No. 3

Boiler No. 4

Boiler No. 5

Boiler No. 6

Boiler No. 7

Boiler No. 8

Boiler No. 9

Boiler No. 10

Boiler No. 11

Boiler No. 12

Boiler No. 13

Boiler No. 14

Boiler No. 15

Boiler No. 16

Boiler No. 17

Boiler No. 18

Boiler No. 19

Boiler No. 20

Boiler No. 21

Boiler No. 22

Boiler No. 23

Boiler No. 24

Boiler No. 25

Boiler No. 26

Boiler No. 27

Boiler No. 28

Boiler No. 29

Boiler No. 30

Boiler No. 31

Boiler No. 32

Boiler No. 33

Boiler No. 34

Boiler No. 35

Boiler No. 36

Boiler No. 37

Boiler No. 38

Boiler No. 39

Boiler No. 40

Boiler No. 41

Boiler No. 42

Boiler No. 43

Boiler No. 44

Boiler No. 45

Boiler No. 46

Boiler No. 47

Boiler No. 48

Boiler No. 49

Boiler No. 50

Boiler No. 51

Boiler No. 52

Boiler No. 53

Boiler No. 54

Boiler No. 55

Boiler No. 56

Boiler No. 57

Boiler No. 58

Boiler No. 59

Boiler No. 60

Boiler No. 61

Boiler No. 62

Boiler No. 63

Boiler No. 64

Boiler No. 65

Boiler No. 66

Boiler No. 67

Boiler No. 68

Boiler No. 69

Boiler No. 70

Boiler No. 71

Boiler No. 72

Boiler No. 73

Boiler No. 74

Boiler No. 75

Boiler No. 76

Boiler No. 77

Boiler No. 78

Boiler No. 79

Boiler No. 80

Boiler No. 81

Boiler No. 82

Boiler No. 83

Boiler No. 84

Boiler No. 85

Boiler No. 86

Boiler No. 87

Boiler No. 88

Boiler No. 89

Boiler No. 90

Boiler No. 91

Boiler No. 92

Boiler No. 93

Boiler No. 94

Boiler No. 95

Boiler No. 96

Boiler No. 97

Boiler No. 98

Boiler No. 99

Boiler No. 100



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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*

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

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 *2*

Are these Seams Hand or Machine riveted? *Hand*

Diar. 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*

Diar. 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

15"
76

On Rollers

" " " " " in Boilers

15"
76

By Report

Pitch of Steam Space Stays

14 1/2" x 13 3/4"

Diar. " " " " Approved

2 1/4" Threads per Inch

" " " " in Boilers

2 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

5/8"

" " " " in Boilers

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

5/8"

" " " " in Boilers

5/8"

Pitch of Stays at Wide Spaces between Fireboxes

—

Thickness of Doublings in

—

Thickness of Front End Plates at Bottom Approved

3/4"

" " " " in Boilers

3/4"

No. of Longitudinal Stays in Spaces between Furnaces

6

Threads per Inch

Dist. of Stays Approved

in Boilers

Material

Thickness of Front Tube Plates Approved

in Boilers

Pitch of Stay Tubes at Space 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 Diam. of Tubes

Material

Thickness of Furnace Plates Approved

in Boilers

Smallest outside diam. of Furnaces

Length between Tube Plates

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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.C. Sides $6\frac{7}{8}$ " x $5\frac{7}{8}$ "

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.C. Backs $6\frac{3}{8}$ " x $6\frac{1}{16}$ "

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.C.?

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

Material of Girders Steel.

No. of Stays in each 3

No. of Tubes, each Boiler 200

Size of Lower Manholes 15 " x 11 "

VERTICAL DONKEY BOILERS

No. of Boilers
Type
Height of Boilers Crown above Fire Grate
Area Boiler Crown Flat or Dished
Internal Radius of Dished Ends
Thickness of Plates
Description of Beams in Boiler Crown
Diar. of Rivet Holes
Pitch
Height of Firebox Crown above Fire Grate
Area Firebox Crown Flat or Dished
External Radius of Dished Crown
No. of Crown Stays
Diar.
External Diar. of Firebox at Top
Thickness
No. of Water Tubes
Material of Water Tubes
Diar. of Manholes in Shell
Dimensions of Combustion Box
Height of Water, each Boiler

SUPERHEATERS

Description of Superheaters
Where situated
Which tubes are connected to the boiler
Can Superheaters be fitted on this boiler and if so
No. of Stays, Tubes on each superheater
Diar.
Date of Examination
Date when first used



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VERTICAL DONKEY BOILERS.

No. of Boilers Type *13*

Greatest Int. Diar. *Steel* Height

Height of Boiler Crown above Fire Grate

Are Boiler Crowns Flat or Dished? *3/4"*

Internal Radius of Dished Ends Thickness of Plates

Description of Seams in Boiler Crowns *63" x 53"*

Diar. of Rivet Holes Pitch Width of Overlap

Height of Firebox Crowns above Fire Grate

Are Firebox Crowns Flat or Dished? *Steel*

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 *16"*

Size of Manhole in Shell *16"*

Dimensions of Compensating Ring *Steel*

Heating Surface, each Boiler Grate Surface

SUPERHEATERS.

Description of Superheaters

Where situated? *14*

Which Boilers are connected to Superheaters? *13*

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 *15-2-11* Pressure on Valves

MAIN STEAM PIPES

No. of Joints

Material

Joined, Welded or Bolted

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Joints

Material

Joined, Welded or Bolted

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

2

Steel

Welded

4"

1 1/2"

Butter

1500



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MAIN STEAM PIPES.

No. of Lengths	2		
Material	Steel		
Brazed, Welded or Seamless	Welded		
Internal Diar.	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 Diar.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			
No. of Lengths			
Material			
Brazed, Welded or Seamless			
Internal Diar.			
Thickness			
How are Flanges secured?			
Date of Hydraulic Test			
Test Pressure			

SUPERHEATERS

LIST OF EVAPORATORS

2	Boiler	Waples	Vertical	By	Waples
2	Indonesian	Size	8' x 8' x 12'		
1	General	Waples	Vertical	By	Waples
2	By	Waples	Vertical	By	Waples
1	Feed	Waples	Vertical	By	Waples
2	By	Waples	Vertical	By	Waples
1	Feed	Waples	Vertical	By	Waples
1	By	Waples	Vertical	By	Waples
1	By	Waples	Vertical	By	Waples

FEED WATER FILTERS

1	By	Waples	Vertical	By	Waples
1	By	Waples	Vertical	By	Waples



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EVAPORATORS.

No. *2* Type *Steel* Tons per Day
 Makers
 Working Pressure *100* Test Pressure Date of Test
 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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REFRIGERATORS.

No. of Machines *2* Capacity of each *200 lbs. each*
 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 *Sulfur dioxide*,, Insulation *4 in.*

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces? *Yes*

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

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

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

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.
<i>Navigation</i>	<i>50W</i>	<i>4</i>	<i>1/10</i>	
<i>Upper Deck</i>	<i>75W</i>	<i>4</i>	<i>1/10</i>	
<i>Boiler Room</i>	<i>50W</i>	<i>4</i>	<i>1/10</i>	
<i>Upper Engine Room</i>	<i>100W</i>	<i>6</i>	<i>1/14</i>	
<i>Lower</i>	<i>50W</i>	<i>6</i>	<i>1/14</i>	
<i>Upper Cabin</i>	<i>50W</i>	<i>10</i>	<i>1/8</i>	
<i>Lower Cabin</i>	<i>50W</i>	<i>7</i>	<i>1/8</i>	
<i>Deck</i>	<i>75W</i>	<i>4</i>	<i>1/10</i>	

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



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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?

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? *Yes*

Is the Workmanship throughout thoroughly satisfactory? *Yes*

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

as ascertained by ^{us} _{me} from personal examination

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.C.	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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Secretary.

GENERAL CONSTRUCTION

Approved by the Committee for the Class of M.E.S. on the 15th of August 1945

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

Main Boiler built in accordance with the requirements of the British Corporation

Expenses	
Total	£ 1,000

It is submitted that this Report be approved

[Signature]

Approved by the Committee for the Class of M.E.S. on the 15th of August 1945

[Signature]



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