

No. 2222

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. 2236 No. in Register Book 3619

S.S. *John O. McKellar.*

Makers of Engines *Swan Hunter & W.R. Ltd*  
*Nephtune.*

Works No. *1324.*

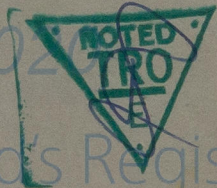
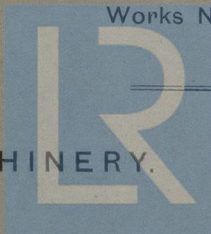
Makers of Main Boilers *Swan Hunter & W.R. Ltd*

Works No. *1324.*  
*Nephtune.*

Makers of Donkey Boiler *NONE.*

Works No. \_\_\_\_\_

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. .... No. in Register Book .....

Received at Head Office *24<sup>th</sup> February 1930*

Surveyor's Report on the *Single Triple* ~~Double Quadruple~~ Screw Steamship.

"*John O. Mc Kellar*."

Official No. *149495* Port of Registry *Newcastle*.

Registered Owners *Sarnia Steamships Ltd.*

Engines Built by *Swan Hunter & Co. Ltd. Newcastle* Wks Walker  
at *Walker-on-Tyne*.

Main Boilers Built by *Swan Hunter & Co. Ltd. Newcastle* Wks.  
at *Walker-on-Tyne*.

Donkey .. .. *None*  
at *None*.

Date of Completion *3<sup>rd</sup> April 1929*.

First Visit *13<sup>th</sup> Sept 1928* Last Visit *3<sup>rd</sup> April 1929* Total Visits *56*.



## RECIPROCATING ENGINES.

Works No. *1324.* No. of Sets *One.* Description *Triplo-expansion surface condensing.*

No. of Cylinders each Engine *Three.* No. of Cranks *Three.*  
 Diars of Cylinders *15" 25" & 40"* Stroke *33"*  
 Cubic feet in each L.P. Cylinder *24.*

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

" " each Receiver?

Type of H.P. Valves, *Piston valve.*

1st I.P. " *Tric valve.*

2nd I.P.,

L.P. "

" Valve Gear

" Condenser

*Double ported slide valve.*

*Stephenson Link.*

*Circular two flow*

Cooling Surface *400* sq. ft.

Diameter of Piston Rods (plain part) *3 3/8"*

Screw part (bottom of thread) *2.66"*

Material

*Forged steel.*

Diar. of Connecting Rods (smallest part) *4 1/4"*

Material

*Forged steel*

" Crosshead Gudgeons *4 1/2"*

Length of Bearing *6 1/2"*

Material

*"*

No. of Crosshead Bolts (each) *2*

Diar. over Thrd. *2 1/4"*

Thrds. per inch *6*

Material

*Steel*

" Crank Pin " *2*

" *2 1/4"*

"

*6*

Material

*Steel*

" Main Bearings *6*

Lengths *8"*

" Bolts in each *2*

Diar. over Thread *2"*

Threads per inch *6*

Material

*Steel.*

" Holding Down Bolts, each Engine *61.*

Diar. *1 1/4"*

No. of Metal Chocks *61.*

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

*John Spencer & Sons, Newburn, Eng.*

Piston " "

Crossheads, " "

Connecting Rods, Finished by

*Swan Hunter & Co. Ltd.*

Piston " "

Crossheads, " "

Date of Harbour Trial

*19.2.29.*

" Trial Trip

*3.4.29.*

Trials run at

*off River, Eng.*

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

*Yes.*

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

*944*

Revs. per min.

*94.8.*

Pressure in 1st I.P. Receiver, *74* lbs., 2nd I.P.,

*74* lbs., L.P.,

*13* lbs., Vacuum,

*26 1/2* ins.

Speed on Trial

*8.1*

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. *4*

Estimated Speed ☒



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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
1	Vertical	1	1	1	1
2	Vertical	1	1	1	1
3	Vertical	1	1	1	1
4	Vertical	1	1	1	1
5	Vertical	1	1	1	1
6	Vertical	1	1	1	1
7	Vertical	1	1	1	1
8	Vertical	1	1	1	1
9	Vertical	1	1	1	1
10	Vertical	1	1	1	1
11	Vertical	1	1	1	1
12	Vertical	1	1	1	1
13	Vertical	1	1	1	1
14	Vertical	1	1	1	1
15	Vertical	1	1	1	1
16	Vertical	1	1	1	1
17	Vertical	1	1	1	1
18	Vertical	1	1	1	1
19	Vertical	1	1	1	1
20	Vertical	1	1	1	1
21	Vertical	1	1	1	1
22	Vertical	1	1	1	1
23	Vertical	1	1	1	1
24	Vertical	1	1	1	1
25	Vertical	1	1	1	1
26	Vertical	1	1	1	1
27	Vertical	1	1	1	1
28	Vertical	1	1	1	1
29	Vertical	1	1	1	1
30	Vertical	1	1	1	1
31	Vertical	1	1	1	1
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73	Vertical	1	1	1	1
74	Vertical	1	1	1	1
75	Vertical	1	1	1	1
76	Vertical	1	1	1	1
77	Vertical	1	1	1	1
78	Vertical	1	1	1	1
79	Vertical	1	1	1	1
80	Vertical	1	1	1	1
81	Vertical	1			

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

Is Single or Double Reduction Gear employed?

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

Estimated Pressure per lineal inch

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

Estimated Pressure per lineal inch

Revol. per min. of H.P. Turbines at Full Power

" " 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.
10	10.5	110	100
12	12.5	130	150
14	14.5	150	220
16	16.5	170	320
18	18.5	190	450
20	20.5	210	600
22	22.5	230	800
24	24.5	250	1100
26	26.5	270	1500
28	28.5	290	2000
30	30.5	310	2600
32	32.5	330	3300
34	34.5	350	4100
36	36.5	370	5000
38	38.5	390	6000
40	40.5	410	7200
42	42.5	430	8500
44	44.5	450	10000
46	46.5	470	11500
48	48.5	490	13500
50	50.5	510	15500
52	52.5	530	18000
54	54.5	550	21000
56	56.5	570	24500
58	58.5	590	28500
60	60.5	610	33000
62	62.5	630	38000
64	64.5	650	43500
66	66.5	670	50000
68	68.5	690	57000
70	70.5	710	65000
72	72.5	730	74000
74	74.5	750	84000
76	76.5	770	95000
78	78.5	790	108000
80	80.5	810	122000
82	82.5	830	138000
84	84.5	850	155000
86	86.5	870	175000
88	88.5	890	195000
90	90.5	910	220000
92	92.5	930	250000
94	94.5	950	280000
96	96.5	970	315000
98	98.5	990	355000
100	100.5	1010	400000

Turbine Spindles forged by

11. ~~W~~heels forged or cast by

### Reduction Gear Shafts forged by

Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

1. Aux<sup>l</sup> stop valve tested 22-10-28 *W*  
2. Main stop valves " 22-10-28 *W*  
1. Aux<sup>l</sup> steam branch piece 30-10-28 *W*  
1. Cylinder stop valve. 30-10-28 *W*

H.P. Cylinder Kestéd :-

BE 240 1200- N° 3401. J.L. 12.11.28

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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

" 1st " Wheel

Estimated Pressure per lineal inch

Diam. of 2nd Reduction Pinion

" 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

*8.26"*

Actual

*8 3/8"*

In Way of Webs

*8 7/8"*

" of Crank Pins

*8*

Length between Webs

*8 1/4"*

Greatest Width of Crank Webs

*16 1/4"*

Thickness

*5 1/4"*

Least

" "

*11 3/4"*

"

*5 1/4"*

Diar. of Keys in Crank Webs

*1 3/4"*

Length

*3 3/4"*

" Dowels in Crank Pins

*✓*

Length

Screwed or Plain

*plain.*

No. of Bolts each Coupling

*6*

Diar. at Mid Length

*2"*

Diar. of Pitch Circle

*12 7/8"*

Greatest Distance from Edge of Main Bearing to Crank Web

*3 1/16"*

Type of Thrust Blocks

*Multi. Collar Horse Shoe.*

No.

" Rings

*14*

Diar. of Thrust Shafts at bottom of Collars

*8 3/8"*

No. of Collars

*4*

" " Forward Coupling

*8 3/8"*

At Aft Coupling

*8 3/8"*

Diar. of Intermediate Shafting by Rule

*7.858.*

Actual

No. of Lengths

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

*No intermediate shafting fitted.*

Diar. of Propeller Shafts by Rule

*8.878"*

Actual

*9 1/16 9 7/8"*

At Couplings

*9 7/8"*

Are Propeller Shafts fitted with Continuous Brass Liners?

*Yes.*

Diar. over Liners

*10 3/16" 15 10 7/16"*

Length of After Bearings

*3'-0"*

Of what Material are the After Bearings composed?

*Resinum Vitae.*

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.

*See S/S King doc**Swankunter No 1236 built 1927.*

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No. of Blades each Propeller *Four.* Fitted or Solid? *Fitted.*  
 Material of Blades *Cast Iron.* Boss *Cast Iron.*  
 Diam. of Propellers *12'-3"* Pitch *10'-9"* Surface (each *48* S. ft.)  
 Coefficient of Displacement of Vessel at 1 Moulded Depth

Crank Shafts Forged by *John Spencer & Sons* Material *Steel.*  
 " Pins " *Sheet Coy of Scotland* "  
 " Webs " *John Spencer & Sons* "  
 Thrust Shafts " *none* "  
 Intermed. " "  
 Propeller " *John Spencer & Sons* " *Steel.*  
 Crank " Finished by *Swan Hunter & W.B. Ltd.*  
 Thrust " "  
 Intermed. " "  
 Propeller " *Swan Hunter & W.B. Ltd.*

## STAMP MARKS ON SHAFTS.

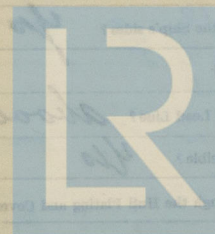
Crank shaft. *BC 392*  
*GHB 19.9.78*  
*J.L. 4.12.28*

Thrust shaft. *BC 389*  
*GHB 14.9.78*  
*J.L. 4.12.78.*

Propeller shaft. *BC 389*  
*GHB 15.12.28 ?*  
*J.L. 4.12.78*

## SKETCH OF PROPELLER SHAFT.

*See s/s 'Kingdoc'*  
*Swan Hunter 1236. built 1927.*



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## PUMPS, ETC.

No. of Air Pumps *One.* Diar. *14"* Stroke *17"*

Worked by Main or Independent Engines? *Main.*

No. of Circulating Pumps *One.* Diar. *12"* Stroke *18"*

Type of *" Dawson & Donnic Simplex.*

Diar. of *" Suction from Sea*

Has each Pump a Bilge Suction with Non-return Valve? *Yes.*

Diar.

What other Pumps can circulate through Condenser? *Ballast pump.*

No. of Feed Pumps on Main Engine *2* Diar. *2 1/4"* Stroke *17"*

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

Diar.

Stroke

What other Pumps can feed the Boilers? *General service & Injector.*

No. of Bilge Pumps on Main Engine *2* Diar. *2 1/2"* Stroke *17"*

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? *Circulating & ballast pump.*

Are all Bilge Suctions fitted with Roses? *Yes or mudboxes.*

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? *Yes.*

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

*1874*  
 No. of Boilers *Two*  
 Single or Double-ended *Single-ended*  
 No. of Furnaces in each *Two*  
 Type of Furnaces *Horizontal*  
 Date when Plan approved *31-8-28*  
 Approved Working Pressure *180 lbs.*  
 Hydraulic Test Pressure *220 lbs.*  
 Date of Hydraulic Test *17-12-28*  
 " when Safety Valve set *19-2-29*  
 Pressure at which Valve set *182 lbs.*  
 Date of Accumulation Test *No accumulation test taken*  
 Maximum Pressure under Accumulation Test *Horizontal Pressure C.P.*  
 System of Drafting *Yes*  
 Can Boilers be worked separately? *Yes*  
 Nature of Plates *Horizontal one 1/2" thickness*  
 Stay Bars *Steel 2 1/2" x 2 1/2" x 2 1/2"*  
 Rivets *Rich 100% test cap*  
 Furnaces *Horizontal 100% test cap*  
 Division Internal Dia. of Boilers *10'-1 1/2"*  
 Length *10'-1 1/2"*  
 Square Feet of Heating Surface *1008 sq. ft.*  
 No. of Boilers in each Line *Two*  
 Are the Safety Valves fitted with Spring Test *Yes*  
 No. of Water Cocks *Two*  
 Test Cocks *Two*



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## BOILERS.

Works No. *1374.*

No. of Boilers *Two* Type *Cylindrical multitubular.*

Single or Double-ended *Single-ended.*

No. of Furnaces in each *Two*

Type of Furnaces *Seighlon*

Date when Plan approved *31-8-28.*

Approved Working Pressure *180 lbs.*

Hydraulic Test Pressure *320 ..*

Date of Hydraulic Test *17.12.28.*

" when Safety Valve set *19.2.29.*

Pressure at which Valves were set *185 lbs.*

Date of Accumulation Test *no accumulation test taken.*

Maximum Pressure under Accumulation Test *✓*

System of Draught *Howdens Forced C.A.*

Can Boilers be worked separately? *Yes.*

Makers of Plates *Wm Beardmore & Co. Glasgow*

" Stay Bars *Steel Coy of Scotland.*

" Rivets *Rivet Bolt & Nut Coy.*

" Furnaces *Broomside Boiler Works.*

Greatest Internal Diam. of Boilers *10'-1<sup>3</sup>/<sub>8</sub>.*

" " Length " *10'-9<sup>15</sup>/<sub>16</sub>.*

Square Feet of Heating Surface each Boiler *1068.6*

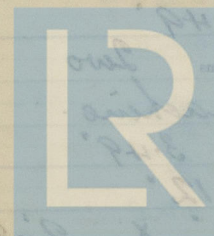
" " Grate " " *32.6.*

No. of Safety Valves each Boiler *2.* Rule Diam. Actual *2" (high Lift)*

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

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

" Test Cocks *Three.* " " Salinometer Cocks *One.*



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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?

*Cocks.*

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

*Back end plates.*

No. of Strakes of Shell Plating in each Boiler

*One.*

Plates in each Strake

*One.*

Thickness of Shell Plates Approved

*13/16*

" " in Boilers

*13/16 full.*

Are the Rivets Iron or Steel?

*Steel*

Are the Longitudinal Seams Butt or Lap Joints?

*Butt joints*

Are the Butt Straps Single or Double?

*Double.*

Are the Double Butt Straps of equal width?

*Yes.*

Thickness of outside Butt Straps

*5/8*

" inside "

*3/4*

Are Longitudinal Seams Hand or Machine Riveted?

*Machine*

Are they Single, Double, or Treble Riveted?

*Double.*

No. of Rivets in a Pitch

*Five.*

Diar. of Rivet Holes

*7/8*

Pitch

*6 1/8*

No. of Rows of Rivets in Centre Circumferential Seams

*no centre seam.*

Are these Seams Hand or Machine Riveted?

*Hand*

Diar. of Rivet Holes

Pitch

*Two*

No. of Rows of Rivets in Front End Circumferential Seams

*Two*

Are these Seams Hand or Machine riveted?

*Hand*

Diar. of Rivet Holes

*1"*

Pitch

*3.49*

No. of Rows of Rivets in Back End Circumferential Seams

*Two*

Are these Seams Hand or Machine Riveted?

*Machine.*

Diar. of Rivet Holes

*1"*

Pitch

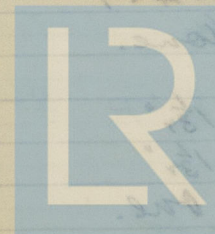
*3.49*

Size of Manholes in Shell

*16" x 12"*

Dimensions of Compensating Rings

*3'-2 1/2" x 2'-8 1/2"*



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Thickness of End Plates in Steam Space Approved

 $\frac{1}{32}$  $\frac{1}{32}$  full.

" " " " " in Boilers

Pitch of Steam Space Stays

18" x 14"

Diar. " " " " Approved

 $2\frac{3}{4}$ 

Threads per Inch

6

" " " " " in Boilers

 $2\frac{3}{4}$ 

"

6

Material of " " "

Steel.

How are Stays Secured?

Nuts inside &amp; outside &amp; washers

Diar. and Thickness of Loose Washers on End Plates

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

" " Riveted " "

Width " " Doubling Strips "

Thickness of Middle Back End Plates Approved

 $\frac{1}{32}$  $\frac{1}{32}$  full.

" " " " " in Boilers

Thickness of Doublings in Wide Spaces between Fireboxes

 $13\frac{1}{4}$ " x 9" none.

Pitch of Stays at

 $13\frac{1}{4}$ " x 9"

Diar. of Stays Approved

 $1\frac{7}{8}$  &  $1\frac{3}{4}$ 

Threads per Inch

9.

" " in Boilers

-do-

-do-

Material "

Steel.

Are Stays fitted with Nuts outside?

yes.

Thickness of Back End Plates at Bottom Approved

 $\frac{1}{32}$  $\frac{1}{32}$  full.

" " " " " in Boilers

Pitch of Stays at Wide Spaces between Fireboxes

 $13\frac{1}{4}$ " x 9"

Thickness of Doublings in

none.

Thickness of Front End Plates at Bottom Approved

 $\frac{1}{32}$  $\frac{1}{32}$ 

" " " " " in Boilers

No. of Longitudinal Stays in Spaces between Furnaces

One.



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Diar. of Screwed Stays Approved

 $\frac{3}{4}$   
 $\frac{1}{4}$   
 $\frac{3}{4}$   
 $\frac{1}{4}$ 

Threads per Inch

9

" " " in Boilers

Material " "

Steel.

Thickness of Combustion Chamber Sides Approved

 $\frac{1}{16}$   
 $\frac{1}{16}$ 

" " " " in Boilers

Pitch of Screwed Stays in C.O. Sides

10'-9"

Diar. " " Approved

 $\frac{1}{4}$ 

Threads per Inch

9.

" " " in Boilers

 $\frac{1}{4}$ 

Material " "

Steel.

Thickness of Combustion Chamber Backs Approved

 $\frac{1}{16}$   
 $\frac{1}{16}$ 

" " " " in Boilers

Full.

Pitch of Screwed Stays in C.O. Backs

 $9\frac{3}{4} \times 9$ 

Diar. " " Approved

 $\frac{3}{8} \times \frac{1}{4}$ 

Threads per Inch

9.

" " " in Boilers

 $\frac{3}{8} \times \frac{1}{4}$ 

Material " "

Steel.

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

Yes.

Thickness of Combustion Chamber Bottoms

 $\frac{1}{16}$ 

No. of Girders over each Wing Chamber

Four.

" " " Centre "

no centre (2 chambers).

Depth and Thickness of Girders

 $8\frac{3}{8} \times \frac{5}{8}$  (2 plates)

Material of Girders

Steel.

No. of Stays in each

Two.

No. of Tubes, each Boiler

172

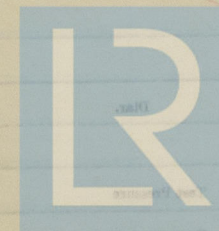
Size of Lower Manholes

 $15 \times 11$ 

## VERTICAL DONKEY BOILERS

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

## SUPERHEATERS



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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

Diarr. 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 Diarr. Material

External Diarr. of Firebox at Top Bottom Thickness of Plates

No. of Water Tubes Ext. Diarr. 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 Diarr.

Are " " fitted with Easing Gear?

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

Pressure on Valves

## MAIN STEAM PIPES



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MAIN STEAM PIPES.

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

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

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## EVAPORATORS.

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

## FEED WATER HEATERS.

No.	Type	Exhaust steam - Surface -
Makers	Hocking	
Working Pressure	180 lbs	Test Pressure Coils 450 Body 50
		Date of Test 16. 12. 78.

## FEED WATER FILTERS.

No.	Type	Pressure.	Size
Makers	Hy Watson & Sons	N/A	2 1/2 in.
Working Pressure	180 lbs	Test Pressure 450 lbs	Date of Test 4. 17. 78.

## LIST OF DONKEY PUMPS.

1. Circulating pump. Simplex  $9\frac{1}{2} \times 12 \times 18$
1. Ballast Donkey. Vertical duplex  $9 \times 11 \times 10$
1. General Service. Vertical duplex.  $5 \times 3\frac{1}{2} \times 6$
1. Sanitary pump. Horizontal duplex.  $4\frac{1}{2} \times 2\frac{3}{4} \times 4$
1. Fresh Water. Horizontal duplex. " " "
1. Gresham's injector



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Capacity of each

Makers

### Description

No. of Steam Cylinders, each Machine

No. of Compressors

No. of Cranks

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

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

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## ELECTRIC LIGHTING.

Installation Fitted by *Swan Hunter & W.B. Ltd.*  
 No. and Description of Dynamos *1. 10. K.W. Compound wound.*  
 Makers of Dynamos *Sunderland Forge & Eng. Co. Sland.*  
 Capacity " *41* Amperes, at *110* Volts. *380* Revols. per Min.  
 Current Alternating or Continuous *Continuous.*  
 Single or Double Wire System *Double wire.*  
 Position of Dynamos *On Steering gear platform in Eng Room*  
 " Main Switch Board *On lower platform S.W. side.*  
 No. of Circuits to which Switches are provided on Main Switch Board *Four.*

Particulars of these Circuits:—

Circuit.	Number of Lights.	Watts		Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
		Candle Power.	Required Amps.				
<i>Navigation</i>	<i>4</i>	<i>60 W</i>				<i>100%</i>	
	<i>2</i>	<i>5.0</i>	<i>30 W</i>	<i>7/029</i>	<i>2500</i>		<i>1250</i>
<i>Ad. Accom.</i>	<i>16</i>	<i>30 W</i>					
	<i>14</i>	<i>12.0</i>	<i>16 c.p.</i>	<i>7/044</i>	<i>1200</i>		<i>900</i>
<i>Aft. Accom.</i>	<i>16</i>	<i>30 W</i>					
	<i>26</i>	<i>18.0</i>	<i>16 cp</i>	<i>7/044</i>	<i>1800</i>		<i>900</i>
<i>Engine &amp; Boil R.</i>	<i>13</i>	<i>30 W</i>					
	<i>8</i>	<i>7.0</i>	<i>16 cp</i>	<i>7/029</i>	<i>3500</i>		<i>1250.</i>

Total No. of Lights *94* No. of Motors driving Fans, &c. No. of Heaters

Current required for Motors and Heaters

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

*Engine room Distribution Box*  
*4 circuits 1. Boiler room 2 Port & Store try room*  
*3 starb engine room, 4 bottom platform 3/orq wire*  
*Navigation Box 5 circuits 3/orq*  
*Food accomodation 3 circuits 3/orq*  
*Aft 5 circuits 3/orq*  
*1 " 3/036 (clusters)*

Are Out-outs fitted as follows?—

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

On Aux. " " each Auxiliary Circuit *Yes*

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?

Smallest Single Wire used, No. — S.W.G., Largest, No. — S.W.G. —

How are Conductors in Engine and Boiler Spaces protected? *Lead covered & armoured*

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

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp *In tubing*

(2) " " passing through Bunkers or Cargo Spaces *Lead covered in wood casing.*

(3) " " Deck Beams or Bulkheads *W.T. Flanges, lead or rubber bushes.*

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

is not impaired? *none made*

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? *none*

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*

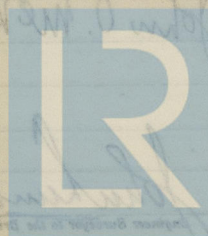
What does the Resistance amount to? *400000* Ohms.

Is the Installation supplied with a Voltmeter? *Yes*

" " " an Ampere Meter *Yes*

Date of Trial of complete Installation *19.7.19.* 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. *✓*

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 *me* from personal examination

*John O. McKellar*

*John Lundgren*  
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,

*John Barr* for Chief Surveyor.

Approved by the Committee for the Class of M.B.S.\* on the *23rd December 1929*.

Fees advised

Fees paid



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Secretary.



## GENERAL CONSTRUCTION

Fees—

and the same shall be paid to the architect and the architect shall retain the same for his services.

1. The architect shall be paid a fee of \$100.00 for his services in connection with the design and construction of the building.

DOCKERY BUILDING

H.S. 2d fl.

G.S. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

L.P.D. 2d fl.

It is submitted that this Report be approved.

John O. McCallister

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

From advised

From paid

John O. McCallister



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