

No. 1559

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1543 No. in Register Book 2755

S.S. ELLENA

Makers of Engines A. HALL & COY LTD

Works No. 273

Makers of Main Boilers A. HALL & COY LTD

Works No. 263

Makers of Donkey Boiler NONE

Works No. —

MACHINERY.



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004466-004476-0224

No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1543 No. in Register Book 2753

Received at Head Office.....

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

ELLENA.

Official No. 141961 Port of Registry Fleetwood

Registered Owners Clifton Steam Landers Ltd
Fleetwood

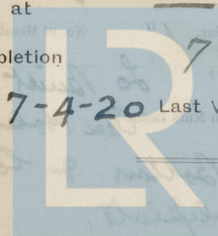
Engines Built by A HALL & COY LTD
at ABERDEEN.

Main Boilers Built by A HALL & COY LTD.
at ABERDEEN.

Donkey " " HOYE
at

Date of Completion

First Visit 7-4-20 Last Visit 7-12-21 Total Visits 66



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RECIPROCATING ENGINES.

Works No. *273* No. of Sets *1* Description *Triple Expansion*
Surface Condensing

No. of Cylinders each Engine *3* No. of Cranks *3*
 Diars. of Cylinders *13", 22, 36,* Stroke *27"*
 Cubic feet in each L.P. Cylinder *15.89*
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cyl.? *Yes*
 " " " each Receiver? *Top.*
 Type of H.P. Valves, *Piston Valve*
 " 1st I.P., *Andrews & Cameron* *Balanced Valve*
 " 2nd I.P., *Ordinary D Type.*
 " L.P., *Douglas Bar type*
 " Valve Gear *Douglas Bar type*
 " Condenser *Round Mild Steel* Cooling Surface *600* sq. ft.
 Diameter of Piston Rods (plain part) *3 3/4"* Screwed part (bottom of thread) *2 3/4" DIA.*
 Material *Mild Steel*
 Diar. of Connecting Rods (smallest part) *3 3/4"* Material *Scrap.*
 " Crosshead Gudgeons *4"* Length of Bearing *3 3/4" x 2* Material *Steel*
 No. of Crosshead Bolts (each) *4* Diar. over Thrd. *1 1/2"* Thrds. per inch *6* Material *Mild Steel*
 " Crank Pin " *2* " *2 3/8"* " *6* " *Mild Steel*
 " Main Bearings *6* Lengths *7 1/2"*
 " Bolts in each *2* Diar. over Thread *1 3/4"* Threads per inch *5* Material *M.S.*
 " Holding Down Bolts, each Engine *56"* Diar. *1"* No. of Metal Chocks

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

To Built Seat

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

Clear Holes in Seating

If not, how are they fitted?

*Nuts on Bottom & Lock Nut-
on top side of Soleplate.*

Connecting Rods, Forged by

Piston " "

Crossheads, " "

Connecting Rods, Finished by

Piston " "

Crossheads, " "

Date of Harbour Trial

" Trial Trip

Trials run at

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

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

Pressure in 1st I.P. Receiver, *170* lbs., 2nd I.P., *55* lbs., L.P., *8.5* lbs., Vacuum, *24.5* 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. *580*

Estimated Speed

11 Knots
*Trial - Heavy swell. Misty. Propeller inclined to rise
hence the 114 Revolutions.*



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Connecting Rods forged by
 Date of Harbour Trial
 Trial Trip
 Trials run at
 Speed on Trial
 Turbine Spindles forged by
 Wheels forged or cast by
 Reduction Gear Shafts forged by
 Wheels forged or cast by

TURBINE ENGINES.

Works No.	Type of Turbines	No. of H.P. Turbines	No. of I.P.	No. of L.P.	No. of Astern
-----------	------------------	----------------------	-------------	-------------	---------------

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

Is Single or Double Reduction Gear employed?

Revs. 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

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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TURBINE ENGINES

Works No. _____
 No. of H.P. Turbine _____
 No. of L.P. _____
 No. of A.S.M. _____

Are the Turbine Shafts driven direct by the Turbine or through Gearing?

In Single or Double Reduction Gear employed?

Revolve per min. of H.P. Turbine as Full Power

" " " " " "

" " " " " "

" " " " " "

" " " " " "

" " " " " "

Total Shaft Horse Power

Date of Harbort Trial

" " " " " "

" " " " " "

" " " " " "

Turbine Spindle turned by

" " " " " "

" " " " " "

" " " " " "

DESCRIPTION OF INSTALLATION

TURBO-ELECTRIC PROPELLING MACHINERY

No. of Turbine Generating Sets _____

Capacity of each _____

Type of Turbine employed _____

Description of Generator _____

Are the Turbine Shafts driven direct by the Turbine or through Gearing?

In Single or Double Reduction Gear employed?

Revolve per min. of H.P. Turbine as Full Power

" " " " " "

No. of Motors driving Propeller Shafts

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

In Single or Double Reduction Gear employed?

Description of Motors

Revolve per min. of Generator as Full Power

" " " " " "

" " " " " "

" " " " " "

" " " " " "

" " " " " "

" " " " " "

" " " " " "



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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

Revs. per min. of Generators at Full Power

" " Motors "

" " Propellers "

Total Shaft Horse Power "

Date of Harbour Trial

" Trial Trip

Trials run at

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



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MAKERS OF TURBINE

(Continued)

" " "

" " "

Turbine shafts fitted by

Whose design is used by

Reinforcing steel shafts made by

Wheels forged or cast by

SHAFTING

Are the Crank Shafts built or sold?

No. of lengths in each

Dist. by line

" " of Crank Pins

Length of Crank Webs

Length

Dist. of Keys in Crank Webs

Dist. in Crank Pins

No. of Holes each Coupling

Greatest Distance from Holes of Main Bearing to Crank Web

Type of Turbine Blocks

No. " " "

Dist. of Turbine Shafts at bottom of Collar

Forward Couplings

Dist. of Intermediate Shafts by line

No. of Holes each Coupling

Dist. of Propeller Shafts by line

Are Propeller shafts fitted with Reducing Gear Boxes?

Dist. over Lines

Of what material are the After Bearings composed?

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No. of Blades each Propeller	4	Fitted or Solid?	Solid
Material of Blades	C. I.	Boss	C. I.
Diam. of Propellers	8'-9"	Pitch	11'-6"
		Surface (each)	32
Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth	.555		

Cranks Shafts Forged by	The Life Forge Coy Ltd	Material
" Pins "	do	" Ignorant Steel
" Webs "	do	" Ignorant Steel
Thrust Shafts "	do	" Hammered Scrap
Intermed. ,, "	do	" M.S.
Propeller ,, "	do	" M.S.
Crank ,, Finished by	do	" Hammered Scrap.
Thrust ,, "	A. Hull & Co Ltd	
Intermed. ,, "	do	
Propeller ,, "	do	

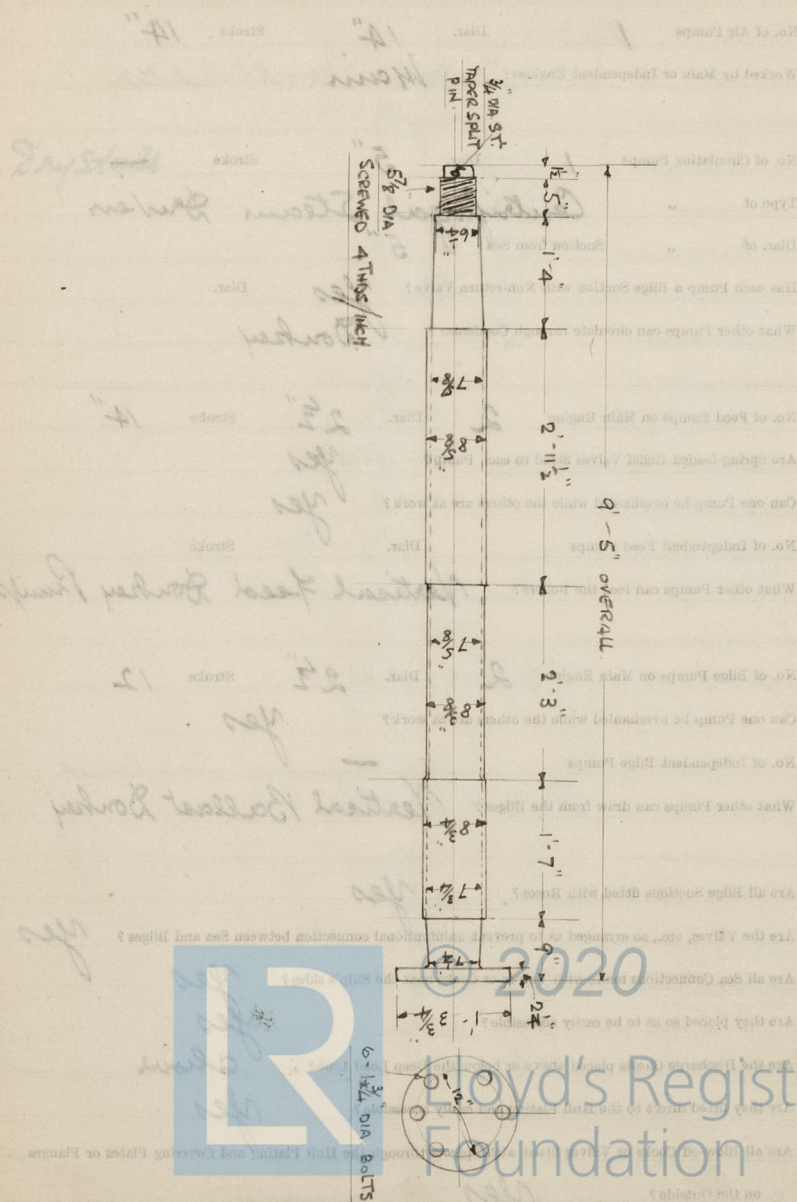
STAMP MARKS ON SHAFTS.

B.C. TEST
No 3234
T.L.
11-2-21

Bank Shaft -
/ Thrust "
/ Lumber. "
/ Soil "

(Tow
LR.

SKETCH OF PROPELLER SHAFT.



PUMPS, ETC.

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

Worked by Main or Independent Engines?

Main

No. of Circulating Pumps 1 Diar. 5" Stroke —

Type of " Centrifugal Steam driven

Diar. of " Suction from Sea 5"

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

What other Pumps can circulate through Condenser?

Donkey

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

What other Pumps can feed the Boilers?

Vertical Feed Donkey Pumps

No. of Bilge Pumps on Main Engine 2 Diar. 2 1/2" Stroke 12

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?

Vertical Ballast Donkey

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?

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

Drystall



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BOILERS.

Works No. **263**

No. of Boilers **1** Type **Scotch Multitubular**

Single or Double-ended **Single**

No. of Furnaces in each **3**

Type of Furnaces **Plain**

Date when Plan approved **28-4-19.**

Approved Working Pressure **180 lbs.**

Hydraulic Test Pressure **300**

Date of Hydraulic Test **16-2-21.**

„ when Safety Valves set **8-11-21**

Pressure at which Valves were set **180 lbs.**

Date of Accumulation Test **8-11-21**

Maximum Pressure under Accumulation Test **187 lbs.**

System of Draught **Natural**

Can Boiler be worked separately? **Yes**

Makers of Plates **D. Colville**

„ Stay Bars **Messrs The Steel Company of Scotland**

„ Rivets **R.B. & Nut Coy.**

„ Furnaces **A. F. Craig**

Greatest Internal Diam. of Boilers **13'-6"**

„ „ Length „ **10'-6"**

Square Feet of Heating Surface each Boiler **1697.**

„ „ Grate „ „ **50.6**

No. of Safety Valves each Boiler **1 Double** **2 3/4**

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

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

„ „ Test Cocks **2**

No. of Water Gauges **1**

„ „ Salinometer Cocks **1**

1307 Test Mark.

3231

TP 360 lbs.

WP 180 LBS.

16/2/21.



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

*Mounted on Pillars
Pipes*

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

Are these Pipes connected to Boilers by Cocks or Valves?

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

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

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Centre Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Front End Circumferential Seams

Are these Seams Hand or Machine riveted?

Diam. of Rivet Holes

Pitch

No. of Rows of Rivets in Back End Circumferential Seams

Are these Seams Hand or Machine Riveted?

Diam. of Rivet Holes

Pitch

Size of Manholes in Shell

Dimensions of Compensating Rings

2

1 3/32"

1 3/32"

Steel

Butt

Double

Yes

1 7/16"

1 7/16"

Machine

Double

2

1 3/16"

8 5/8"

—

—

2

Hand

1 5/16"

3 1/2"

2

Machine

1 3/16"

3 1/2"

16' x 12"

7 1/2" Broad Flange 1 1/8" thick



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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

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 Heads of Tubes

Thickness of Doublings in

Stay Tubes at

Are Stay Tubes fitted with Nuts at Front Head?

Thickness of Back Tube Plates Approved

" " " " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

" " " " "

Thickness of Stay Tubes

" " " " "

External Diar. of Tubes

Material

Thickness of Furnace Plates Approved

" " " " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates



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Diarr. of Stays Approved	2	Threads per Inch	6
" " in Bollers	2"		6
Material "	Steel		

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 C.O. Tops

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Diar. of Screwed Stays Approved

 $1\frac{3}{8}$ Threads per Inch 10

" " " in Boilers

 $1\frac{3}{8}$ " 10

Material " "

Steel

Thickness of Combustion Chamber Sides Approved

 $\frac{4}{16}$ "

" " " " in Boilers

 $\frac{11}{16}$ "

Pitch of Screwed Stays in O.O. Sides

 $10\frac{1}{2} \times 9\frac{1}{2}$

Diar. " " Approved

 $1\frac{3}{4}$ Threads per Inch 10

" " " in Boilers

 $1\frac{3}{4}$ " 10

Material " "

Steel

Thickness of Combustion Chamber Backs Approved

 $\frac{23}{32}$ "

" " " in Boilers

 $\frac{23}{32}$ "

Pitch of Screwed Stays in O.O. Backs

 $10\frac{3}{8} \times 9\frac{1}{2}$ (Wing) $11\frac{1}{2} \times 8\frac{1}{2}$ (Centre)

Diar. " " Approved

 $1\frac{3}{4}$ Threads per Inch 10

" " " in Boilers

 $1\frac{3}{4}$ " 10

Material " "

Steel

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

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

Thickness of Combustion Chamber Bottoms

 $\frac{11}{16}$ "

No. of Girders over each Wing Chamber

3

" " " Centre "

2

Depth and Thickness of Girders

 $8\frac{3}{4} \times \frac{13}{16} \times 2$

Material of Girders

Steel

No. of Stays in each

2 - $1\frac{3}{8}$ Dia 10 Threads

No. of Tubes, each Boiler

228

Size of Lower Manholes

 $15\frac{1}{2} \times 11$

VERTICAL DONKEY BOILERS

No. of Boilers
 Greatest Inside Diam.
 Height of Boiler Crown above Fire Grate
 Area of Boiler Crown (Flat or Dish)
 Internal Radius of Dish (If Dish)
 Description of Stays in Boiler Crown
 Dist. of Stays (Inches)
 Height of Firebox Crown above Fire Grate
 Area of Firebox Crown (Flat or Dish)
 External Radius of Dish (If Dish)
 No. of Crown Stays
 External Dist. of Stays at Top
 Thickness of Plates
 Height, Diam.
 No. of Water Tubes
 Material of Water Tubes
 Size of Manhole in Shell
 Dimensions of Compression Ring
 Heating Surface, each Boiler
 Gross 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
 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



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MAIN STEAM PIPES.

No. of Lengths 1
 Material S.D. Copper
 Braze, Welded or Seamless Seamless
 Internal Diam. 3 3/4"
 Thickness 6 B.W.G.
 How are Flanges secured? Braze.
 Date of Hydraulic Test 28/9/21.
 Test Pressure 360 lbs.

No. of Lengths
 Material
 Braze, Welded or Seamless
 Internal Diam.
 Thickness
 How are Flanges secured?
 Date of Hydraulic Test
 Test Pressure

No. of Lengths
 Material
 Braze, Welded or Seamless
 Internal Diam.
 Thickness
 How are Flanges secured?
 Date of Hydraulic Test
 Test Pressure

EVAPORATORS.

FEED WATER HEATERS.

FEED WATER FILTERS.



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EVAPORATORS.

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

FEED WATER HEATERS.

No.	Type	Makers	Working Pressure	Test Pressure	Date of Test

FEED WATER FILTERS.

No.	Type	Makers	Working Pressure	Test Pressure	Date of Test	Size

LIST OF DONKEY PUMPS.

2 off. 6" x 4" x 6" Vertical Duplex Pumps
 1 Centrifugal Pump. built by Charles Holmes Hull.



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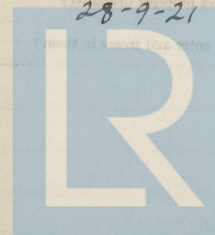
SPARE GEAR.

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs	-
" Coupling Bolts	6	" Main Bearing Bolts	2	" Valve Chest "	-
" Junk Ring Bolts	6	" Feed Pump Valves	1 Set	" Bilge Pump Valves	1 Set
" H.P. Piston Rings	-	" I.P. Piston Rings	-	" L.P. Piston Rings	-
" " Springs	-	" " Springs	-	" " Springs	-
" Safety Valve "	1	" Fire Bars	1/2" Set	" Feed Check Valves	1 Spare
" Piston Rods	-	" Connecting Rods	-	" Valve Spindles	-
" Air Pump Rods	-	" Air Pump Buckets	-	" Air Pump Valves	1 Set
" Cir. "	-	" Cir. "	-	" Cir. "	-
" Crank Shafts	-	" Crank Pin Bushes	-	" Crosshead Bushes	-
" Propeller Shafts	-	" Propellers	1	" Propeller Blades	-
" Boiler Tubes	7	" Condenser Tubes	6	" Condenser Ferrules	12

OTHER ARTICLES OF SPARE GEAR:—

DATES OF VISITS

7-4-20	1-4-21	5-10-21
17-5-20	6-4-21	10-10-21
4-6-20	11-4-21	13-10-21
11-9-20	15-4-21	17-10-21
16-9-20	20-4-21	25-10-21
4-10-20	29-4-21	27-10-21
18-10-20	3-5-21	31-10-21
29-10-20	9-5-21	1-11-21
17-11-20	13-5-21	7-11-21
3-12-20	27-5-21	8-11-21
6-12-20	23-6-21	11-11-21
14-1-21	26-7-21	18-11-21
21-1-21	2-8-21	16-11-21
4-2-21	15-8-21	18-11-21
11-2-21	22-8-21	24-11-21
21-2-21	29-8-21	29-11-21
24-2-21	5-9-21	1-12-21
7-3-21	6-9-21	2-12-21
14-3-21	15-9-21	5-12-21
18-3-21	20-9-21	7-12-21
25-3-21	23-9-21	
28-3-21	28-9-21	



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REFRIGERATORS.

No. of Machines 12-11-2 Capacity of each 12-11-2

Makers 12-11-2

Description 12-11-2

No. of Steam Cylinders, each Machine 12-11-2 No. of Compressors 12-11-2 No. of Cranks 12-11-2

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines or Independently 12-11-2

System of Refrigeration 12-11-2

Insulation 12-11-2

Are Brine and other Regulating Valves placed so as to be accessible without entering the Insulated Spaces? 12-11-2

Are all Pipes, Air Trunks, &c., well secured and protected from risk of damage? 12-11-2

Are all Bilge, Sounding, and Air Pipes in Insulated Spaces properly insulated? 12-11-2

Are Thermometer Tubes so arranged that Water cannot enter and freeze in them? 12-11-2

Date of Test under Working Conditions 12-11-2

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.
Hold No. 1				
Hold No. 2				
Hold No. 3				
Hold No. 4				
Hold No. 5				
Hold No. 6				
Hold No. 7				
Hold No. 8				
Hold No. 9				
Hold No. 10				
Hold No. 11				
Hold No. 12				
Hold No. 13				
Hold No. 14				
Hold No. 15				
Hold No. 16				
Hold No. 17				
Hold No. 18				
Hold No. 19				
Hold No. 20				
Hold No. 21				
Hold No. 22				
Hold No. 23				
Hold No. 24				
Hold No. 25				
Hold No. 26				
Hold No. 27				
Hold No. 28				
Hold No. 29				
Hold No. 30				
Hold No. 31				
Hold No. 32				
Hold No. 33				
Hold No. 34				
Hold No. 35				
Hold No. 36				
Hold No. 37				
Hold No. 38				
Hold No. 39				
Hold No. 40				
Hold No. 41				
Hold No. 42				
Hold No. 43				
Hold No. 44				
Hold No. 45				
Hold No. 46				
Hold No. 47				
Hold No. 48				
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Hold No. 99				
Hold No. 100				

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.

There are no auxiliary switchboards, all circuits being switched & fused on Main Board, and all Cabin and other accommodation lights having local switches.

Location of Switches	Number of Switches	Location of Fuses	Number of Fuses	Location of Cables	Number of Cables	Location of Wires	Number of Wires	Location of Lamps	Number of Lamps

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. 18 S.W.G., Largest, No. 7/8 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

Lead covered & armoured. Lead covered. Lead covered & armoured through holes at deck level in bulkheads, through heavy beams wrot iron deck fitted with pitch.

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?

Is the Installation supplied with a Voltmeter?

" " " an Ampere Meter?

Date of Trial of complete Installation

5-12-21, Duration of Trial 6 hours.



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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.

ELLENA

as ascertained by ^{me} from personal examination

*In order
LB*

Thos Lawrie.
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,

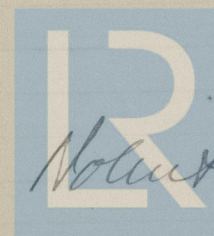
W. S. King
Chief Surveyor.

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

11th January 1932

Fees advised

Fees paid



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Secretary.

GENERAL CONSTRUCTION

Tons

The following are the names of the vessels, and the number of tons of each, which have been constructed at the various shipyards in the United States, since the 1st of January, 1880, to the 1st of January, 1881.

H.S. 340 1st of January, 1880

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