

No. **1656**

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. **1540** No. in Register Book **2751**

Anglo No 1
S.S. **KINGSWOOD** Ex **SHIRLEY** Ex **ZARATE**

Makers of Engines *Cammell Laird & Co. Ltd.*

Works No. **892**

Makers of Main Boilers *Cammell Laird & Co. Ltd.*

Works No. **892**

Makers of Donkey Boiler ✓

Works No. ✓

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 1540 No. in Register Book 2751

Received at Head Office 15th December 1921

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single Triple~~ ^{Single Triple} Screw ~~EX~~ "SHIRLEY" ~~EX~~ "ZARATE".
"KINGSWOOD."

Official No. 146174 Port of Registry London
Buenos Aires

Registered Owners The Union Cold Storage Co., Ltd.
13-16, West Smithfield, London E.C.1

Engines Built by Cammell Laird & Co., Ltd.
at Birkenhead.

Main Boilers Built by Cammell Laird & Co., Ltd.
at Birkenhead.

Donkey ✓
at ✓
Date of Completion 19th October 1921.

First Visit 7/5/20. Last Visit 19/10/21 Total Visits 58.

RECIPROCATING ENGINES.

Works No. *892* No. of Sets *Two* Description *Triple expansion*

surface condensing.

No. of Cylinders each Engine *Three* No. of Cranks *Three*
 Diars. of Cylinders *13½" - 21" - 34"* Stroke *19"*

Cubic feet in each L.P. Cylinder *9.98*

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? *Yes*
 " " " each Receiver? *No*

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

" 1st I.P. " " "

" 2nd I.P. " " "

" L.P. " *Slide valve*

" Valve Gear *Stephenson's link motion*

" Condenser *Surface* Cooling Surface *1330* sq. ft.

Diameter of Piston Rods (plain part) *3½"* Screwed part (bottom of thread) *2.53"*

Material " *Steel*

Diar. of Connecting Rods (smallest part) *3¾"* Material *Steel*

" Crosshead *PIN* Length of Bearing *4"* Material *Steel*
Gudgeons *Brass*

No. of Crosshead Bolts (each) *2* Diar. over Thrd. *2* Thrds. per inch *6* Material *Steel*

" Crank Pin " *2* " *2* " *6* " "

" Main Bearings *Five* Lengths *3 Forward 8¼ 2 aft 12¾*

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

" Holding Down Bolts, each Engine *30* Diar. *1½"* No. of Metal Chocks *30*

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

Built seat

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

No

If not, how are they fitted?

Fitted bolts through engine seating

Connecting Rods, Forged by

Cammell Laird & Co., Ltd. Birkenhead

Piston " " " " "

Crossheads, " " " " "

Connecting Rods, Finished by

Birkenhead.

Piston " " " " "

Crossheads, " " " " "

Date of Harbour Trial

29th July 1921.

" Trial Trip

18th October 1921.

Trials run at *The Mouth of the River Mersey Liverpool.*

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

Yes

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

1137

Revs. per min. *193.05*

Pressure in 1st I.P. Receiver, *57* lbs., 2nd I.P., — lbs., L.P., *11.5* lbs., Vacuum, *23.7* ins.

Speed on Trial *10.739 Knots*

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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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 ENGINE

No. of I.E. Turbines
 No. of I.E.
 No. of I.E.
 No. of I.E.

Is the Propeller Shaft driven direct by the Turbine or through Gear?

Is Single or Double Reduction Gear employed?

Revolutions per min. of I.E. Turbine at full power

" " " "

" " " "

1st Reduction Ratio

2nd " " "

Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

Test Log

Thrust on shaft

Speed on trial

Turbine Shaft fitted to

Which fitted to engine?

Reduction Gear Ratio fitted to

Which fitted to gear?

DESCRIPTION OF INSTALLATION

TURBO-ELECTRIC PROPELLING MACHINERY

No. of Turbo-Generating sets

Capacity of each

Type of Turbine employed

Description of Turbine

No. of Motors driving Propeller Shafts

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

Is Single or Double Reduction Gear employed?

Description of Motors

No. of Motors driving Propeller Shafts

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

Is Single or Double Reduction Gear employed?

Description of Motors

Revolutions per min. of Generator at full power

" " " "

" " " "

Total Shaft Horse Power

Date of Harbour Trial



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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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SHAFTING.

Are the Crank Shafts Built or Solid? *Built*

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

Diar. by Rule *6.27* ~~6.366~~ Actual *6.5* In Way of Webs *7.25*

" of Crank Pins *6 1/2"* Length between Webs *7 1/2"*

Greatest Width of Crank Webs *13 1/4"* Thickness *4 3/8"*

Least " " *11 3/4"* " *4 7/8"*

Diar. of Keys in Crank Webs ✓ Length ✓

" Dowels in Crank Pins *1"* Length *3"* Screwed or Plain *plain.*

No. of Bolts each Coupling *4* Diar. at Mid Length *1 13/16"* Diar. of Pitch Circle *10 1/4"*

Greatest Distance from Edge of Main Bearing to Crank Web *1 15/16"*

Type of Thrust Blocks

No. " Rings

Mitchell.
One ahead and one astern

Diar. of Thrust Shafts at bottom of Collars

6 1/2"

No. of Collars

One

" " Forward Coupling

6 1/2"

At Aft Coupling

6 1/2"

Diar. of Intermediate Shafting by Rule

✓

Actual

✓

No. of Lengths

✓

No. of Bolts, each Coupling

✓

Diar. at Mid Length

✓

Diar. of Pitch Circle

✓

Diar. of Propeller Shafts by Rule

6.9"

Actual

6 25/32"

At Couplings

6 5/8"

Are Propeller Shafts fitted with Continuous Brass Liners?

Yes

Diar. over Liner

8"

Length of After Bearings

3'-0 1/4"

Of what Material are the After Bearings composed?

Lignum. vitae

Are Means provided for lubricating the After Bearings with Oil?

No

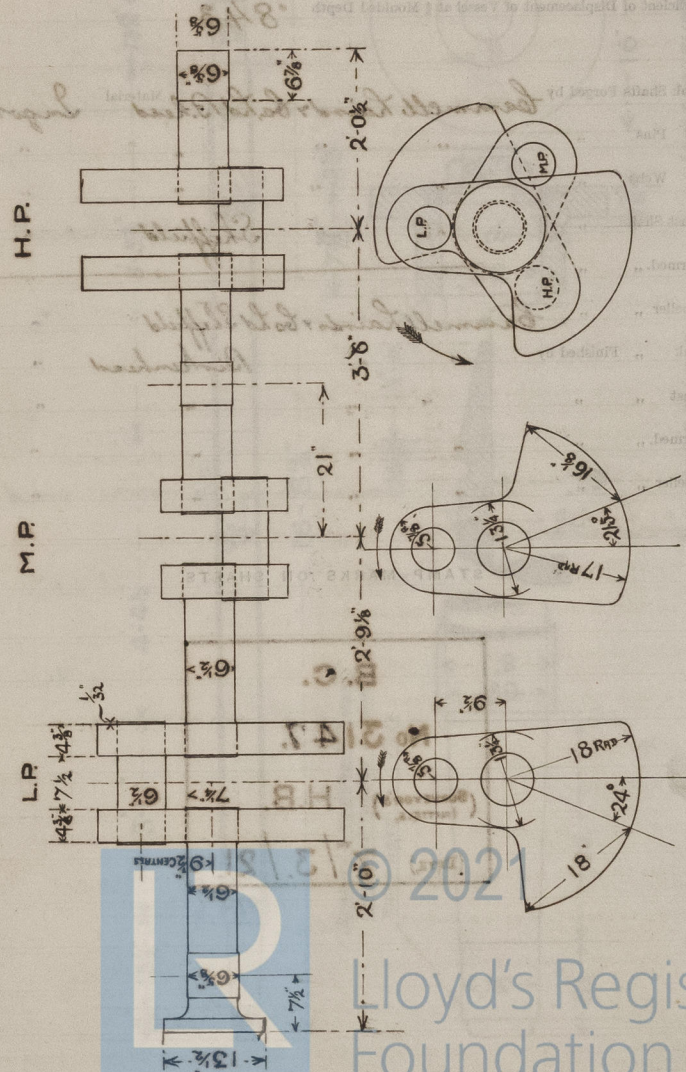
" " to prevent Sea Water entering the Stern Tubes?

No

If so, what Type is adopted?

—

SKETCH OF CRANK SHAFT.



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BOILERS.

Works No. *892 No 1 & 2*

No. of Boilers *Two* Type *Scotch return tube*

Single or Double-ended *Single ended*

No. of Furnaces in each *Two*

Type of Furnaces *Horison withdrawable suspension*

Date when Plan approved *6th May 1920*

Approved Working Pressure *180 lbs/°*

Hydraulic Test Pressure *360 lbs/°*

Date of Hydraulic Test *22nd December 1920*

„ when Safety Valves set *29th July 1921*

Pressure at which Valves were set *180 lbs*

Date of Accumulation Test *19th October 1921*

Maximum Pressure under Accumulation Test *200 lbs/°*

System of Draught *Howdens Forced, closed ashpit.*

Can Boilers be worked separately? *Yes*

Makers of Plates *Messrs B. Colville & Sons, Motherwell (Kraffer plates) J. Spence & Son*

„ Stay Bars *(Iron) N. Hingley & Sons, Dudley (Steel) Earl of Dudley's Works*

„ Rivets *The Rivet, Bolt & Nut Co., Glasgow.*

„ Furnaces *J. Brown & Co., Ltd. Sheffield.*

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

„ „ Length „ *10'-9 $\frac{3}{8}$ "*

Square Feet of Heating Surface each Boiler *1530 $\frac{1}{2}$*

„ „ Grate „ „ *42.88*

No. of Safety Valves each Boiler *1 Double* Diam. *2 $\frac{3}{4}$ "* dia. each valve

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

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

„ Test Cocks „ *Two.* „ Salinometer Cocks *One.*



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

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

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

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

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

" Plates in each Strake *Two*

Thickness of Shell Plates Approved *1 1/32"*

" " in Boilers *1 1/32"*

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 *13/16"*

" inside " *29/32"*

Are Longitudinal Seams Hand or Machine Riveted? *Machine riveted*

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

No. of Rivets in a Pitch *Five*

Diar. of Rivet Holes *1 1/16"* Pitch *7.3906 inches*

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 *Two*

Are these Seams Hand or Machine riveted? *Hand*

Diar. of Rivet Holes *1 1/16"* Pitch *2.8242*

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

Are these Seams Hand or Machine Riveted? *Machine*

Diar. of Rivet Holes *1 1/16"* Pitch *2.8242*

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

Dimensions of Compensating Rings *2'-8 3/4" x 2'-4 3/4" x 1 3/32"*



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Thickness of End Plates in Steam Space Approved

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

" " " " " in Boilers

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

Pitch of Steam Space Stays

17"

Diar. " " " " Approved $2\frac{7}{8}$ " Threads per Inch 6"" " " " " in Boilers $2\frac{7}{8}$ " " 6"

Material of " " " Steel

How are Stays Secured? Nuts & washers on inside & outside

Diar. and Thickness of Loose Washers on End Plates $8\frac{3}{4}$ " x $\frac{3}{4}$ "

" " 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 " " " " 9"

Diar. of Stays Approved $1\frac{5}{8}$ " Threads per Inch 9" " in Boilers $1\frac{5}{8}$ " " 9

Material " Steel.

Are Stays fitted with Nuts outside? yes

Thickness of Back End Plates at Bottom Approved

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

" " " " " in Boilers

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

Pitch of Stays at Wide Spaces between Fireboxes

9"

Thickness of Doublings in " " ✓

Thickness of Front End Plates at Bottom Approved

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

" " " " " in Boilers

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

No. of Longitudinal Stays in Spaces between Furnaces

One between furnace & shell.

2" dia. One between furnaces $2\frac{7}{8}$ " dia.

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Diarr. of Stays Approved	2	Eyebolt	1 3/4	Threads per Inch	9
" " in Boilers	2	"	1 3/4		9
Material "	(Eyebolt) Steel, (Stay) Iron				

Thickness of Front Tube Plates Approved	$1\frac{1}{16}$ "
" " " " in Boilers	$1\frac{1}{16}$ "
Pitch of Stay Tubes at Spaces between Stacks of Tubes	$10\frac{7}{8}" \times 7\frac{1}{2}"$
Thickness of Doublings in " " "	✓
" Stay Tubes at " " "	$\frac{5}{16}"$
Are Stay Tubes fitted with Nuts at Front End ?	No

Thickness of Back Tube Plates Approved	$\frac{3}{4}$ "
" " " in Boilers	$\frac{3}{4}$ "
Pitch of Stay Tubes in Back Tube Plates	$10\frac{7}{8}" \times 7\frac{1}{2}"$
" Plain "	$3\frac{5}{8}" \times 3\frac{3}{4}"$
Thickness of Stay Tubes	$\frac{5}{16}"$
" Plain "	No 8 W.G.
External Diam. of Tubes	$2\frac{1}{2}"$
Material	Iron

Thickness of Furnace Plates Approved	19/32
" " " in Boilers	19/32
Smallest outside Diam. of Furnaces	3'-10 ¹⁵ / ₁₆ "
Length between Tube Plates	7'-7 ³ / ₈ "

Width of Combustion Chambers (Front to Back)	2'-7" Mean
Thickness of " " Tops Approved	5/8"
" " " " in Boilers	5/8"
Pitch of Screwed Stays in C.C. Tops	9"x8"

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Diar. of Screwed Stays Approved $1\frac{5}{8}"$ Threads per Inch 9
 " " " in Boilers $1\frac{5}{8}"$ 9
 Material " " Steel

Thickness of Combustion Chamber Sides Approved $\frac{5}{8}"$
 " " " in Boilers $\frac{5}{8}"$

Pitch of Screwed Stays in C.O. Sides 9" Horizontally, 8" Vertically,
 Diar. " " Approved $1\frac{5}{8}"$ Threads per Inch 9"
 " " " in Boilers $1\frac{5}{8}"$
 Material " " Steel.

Thickness of Combustion Chamber Backs Approved $\frac{5}{8}"$
 " " " in Boilers $\frac{5}{8}"$

Pitch of Screwed Stays in C.O. Backs 9" Horizontally, 8" Vertically.
 Diar. " " Approved $1\frac{5}{8}"$, Margin $1\frac{3}{4}"$ Threads per Inch 9
 " " " in Boilers $1\frac{5}{8}"$, Margin $1\frac{3}{4}"$
 Material " " Steel.

Are all Screwed Stays fitted with Nuts inside C.O.? Yes
 Thickness of Combustion Chamber Bottoms $\frac{7}{8}"$

No. of Girders over each Wing Chamber Five.

" " " Centre "

Depth and Thickness of Girders Girders built of two steel plates each $7\frac{1}{4}" \times 1\frac{13}{16}"$
 Material of Girders Steel.
 No. of Stays in each Two.

No. of Tubes, each Boiler Plain 184, Stay 68, Total 252.
 Size of Lower Manholes $16" \times 12"$

VERTICAL DONKEY BOILERS

No. of Boilers
 Description of Boilers
 Height of Boiler Crown above Fire Grate
 Are Boilers Crowned Flat or Dished?
 Internal Radius of Dished Ends
 Description of Stays in Boiler Crown
 Diar. of Rivet Holes
 Height of Rivet Crown above Fire Grate
 Are Rivet Crown Holes or Dished?
 External Radius of Dished Crown
 No. of Lower Stays
 Material
 Internal Diar. of Rivet in Top
 Thickness
 No. of Water Tubes
 Material of Water Tubes
 Size of Manhole in Shell
 Description of Compensation
 Heating Surface, each Boiler
 Gross Surface

SUPERHEATERS

Description of Superheaters

Where situated

Which Boilers are connected to Superheaters

Can Superheaters be shut off while Boilers are working

No. of Tubes, 72 on one boiler

Are they fitted with Hand Gears

Date of Installation

Date when Safety Valves are



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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	How
Material	Boiler
Internal, Welded or Seamless	Boiler
Internal Diam.	"
Thickness	1/2" 3/4"
How are Flanges secured?	Boiler
Date of Hydraulic Test	1/2/21
Test Pressure	360 lb.

No. of Pipes	How
Material	Boiler
Internal, Welded or Seamless	Boiler
Internal Diam.	"
Thickness	1/2" 3/4"
How are Flanges secured?	Boiler
Date of Hydraulic Test	1/2/21
Test Pressure	360 lb.



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MAIN STEAM PIPES.

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

Four
Copper
Seamless
4"
No 7 S.W.G.
Brazed
31/5/21
360 lbs

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

One
Copper
Seamless
3"
No 8 S.W.G.
Brazed.
31/5/21.
360 lbs.

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

FEED WATER HEATERS.

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

FEED WATER FILTERS.

No. of Lengths
Material
Brazed, Welded or Seamless
Internal Diam.
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. *One* Type *Exhaust Steam*
 Makers *The Liverpool Engineering & Condenser Co., Ltd.*
 Working Pressure *180 L^{bs} □* Test Pressure *Boiler tested 400 L^{bs} □* Date of Test *16/2/21.*
 No B.C. Inspection.

FEED WATER FILTERS.

No. *One* Type *Gravity filter* Size *14" dia inlet*
 Makers *Cammell Laird & Co., Ltd.*
 Working Pressure *Low pressure* Test Pressure *✓* Date of Test *✓*

LIST OF DONKEY PUMPS.

One Bilge pump, Hall's Simplex Lgt 7½" x 6" x 12"
One Ballast " " " 7½" x 9" x 12"
One Auxiliary Service " " 6½" x 5" x 10"



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OTHER ARTICLES OF SPARE GEAR:—

" L.P. "

Two sets of spare working parts of metallic
packing for Two H.P. piston rods & valve spindles
12 gauge glasses.

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REFRIGERATORS.

To Lloyd's

No. of Machines *One* Capacity of each *75000 cubic feet*
 Makers *The Haslam Foundry & Engineering Co., Ltd.*
 Description *One Horizontal Duplex Ammonia*
Compression. Compressors 8 by 12"

No. of Steam Cylinders, each Machine *Two* No. of Compressors *Two* No. of Cranks *Two*

Particulars of Pumps in connection with Refrigerating Plant and whether worked by Refrigerating Machines
 or Independently *Two Duplex brine pumps 6" x 6" x 6"*

One air, feed, and circulating pumps
all independently driven.

System of Refrigeration

Brine circulation.

Insulation

Granulated cork.

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

4th October 1921.

RESULTS OF TRIALS.

COMPARTMENT.	Temp. at beginning of Trial.	Temp. at end of Trial.	Time required to obtain this Result.	Rise of Temp. after 24 hours.
<i>Nº1 Second Deck</i>	<i>57°</i>	<i>14°</i>	<i>24 Hours</i>	<i>8°</i>
<i>Nº1 Lower Hold</i>	<i>59°</i>	<i>11.5°</i>	<i>"</i>	<i>10°</i>
<i>Nº2 Second Deck</i>	<i>58°</i>	<i>11°</i>	<i>"</i>	<i>11°</i>
<i>Nº2 Lower Hold</i>	<i>58°</i>	<i>10°</i>	<i>"</i>	<i>10°</i>

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

*To Lloyd's**requirements.**Additional spare gear*

One steam piston, rod, and rings for circulating pumps

*One pair of crank pin and crosshead
brasses for refrigerating engine.*

One compressor piston packing block.

ELECTRIC LIGHTING.

Installation Fitted by *The Sunderland Forge & Eng^y Co., Ltd.*No. and Description of Dynamos *One No 32/21, Multipolar compound wound type*Makers of Dynamos *The Sunderland Forge & Eng^y Co., Ltd.*Capacity *8 K.W.* Amperes, at *80* Volts, *100* Revols. per Min. *360*Current Alternating or Continuous *Direct Current.*Single or Double Wire System *Double*Position of Dynamos *In the main engine room at the back of starboard engine*Main Switch Board *Behind the Dynamos (Star^d Side)*No. of Circuits to which Switches are provided on Main Switch Board *Four*

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.
Eng ^y Accom.	10	16 C.P.	5.4	7/0.44	540	100	4000
	5	8 C.P.					
4 Fans							
Nav ^y Captain	6	32 C.P.	10	7/0.64	444	100	3500
& Officers Accom.	7	8 C.P.					
	20	16 C.P.					
	4 Fans		31.6	7/0.64	1360	100	"
Barge	6-6 Light Blusters	16 C.P.					
	2 Am lights 500 1/2 Watt						
Engine & Boiler Rooms	26	16 C.P.	5.8	7/0.36	230	100	3250
	1	32 C.P.					

Total No. of Lights *113* No. of Motors driving Fans, &c. *8* No. of Heaters *✓*Current required for Motors and Heaters *8*

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

None fitted. Distribution fuse boxes fitted in various parts of the ship.

Are Cut-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

yes

On Aux. " " each Auxiliary Circuit

✓

Wherever a Cable is reduced in size

yes

To each Lamp Circuit

yes

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

yes

Are the Fuses of Standard Sizes?

yes (Richardsons)

Are all Switches and Cut-outs constructed of Non-inflammable Material?

yes

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

yes

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

How are Conductors in Engine and Boiler Spaces protected?

Lead covered, Armoured & Braided

" Saloons, State Rooms, &c.,

? Wood casings

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

Lead covered, Armoured & Braided.

(2) " " passing through Bunkers or Cargo Spaces

Expanded iron sheathed
Holes lined with lead

(3) " " Deck Beams or Bulkheads

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

is unimpaired?

yes.

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

yes

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

—

Are the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously

affected by them?

yes

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

yes

Has the Insulation Resistance over the whole system been tested?

yes.

What does the Resistance amount to?

1.2

Meg Ohms.

Is the Installation supplied with a Voltmeter?

yes

" " " an Ampere Meter?

yes

Date of Trial of complete Installation 18th/10/21.

Duration of Trial

7 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*

"Kingswood."

The above correctly describes the Machinery of the S.S. *Shirley*, Ex *Larale*,
as ascertained by ^{us}me from personal examination *Yes*

C. M. Nichols
H. Burch
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.

	Cub. ft.	:	:
L.P.C.		:	:

£	:	:
---	---	---

Testing, &c. ...	:	:
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£	:	:
---	---	---

Expenses ...	:	:
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Total ...	£	:	:
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It is submitted that this Report be approved,

W. H. King
Chief Surveyor.

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

7th Decr 1921

Fees advised

Fees paid



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Secretary.

GENERAL CONSTRUCTION

- 7th/5/20. Discussed plans etc with General Manager.
 19/8/20. Stamped test pieces on five piston rods.
 9/9/20. Tested various boiler mountings.
 1/10/20. Transferred stamp on piston rod forgings.
 15/10/20. Stamped test pieces on valve spindles etc.
 12/11/20. Stamped various forgings.
 6/12/20. Tested various forgings & examined E. & B. work in hand.
 11/12/20. Examined the engine & boiler work in hand.
 16/12/20. " " " " "
 22/12/20. Tested two boilers.
 5/1/21. Stamped tests on con. rods & examined the E. & B. work in hand.
 11/1/21. Examined the Engine and Boiler work in hand.
 19/1/21. Stamped test pieces on various forgings.
 24/1/21. Tested Con. Rod forgings & examined the E. & B. work.
 27/1/21. Examined port propeller shaft before shrinking on liner.
 31/1/21. Examined engine work in hand.
 1/2/21. Stamped quadrant links for test.
 2/2/21. Examined the engine work in hand.
 4/2/21. Tested eccentric rods & examined starboard M.P. cylinder.
 9/2/21. Transferred stamp on various forgings.
 10/2/21. Examined cylinders and other work.
 11/2/21. Examined the port L.P. cylinder.
 18/2/21. Examined the engine work in hand.
 19/2/21. " " " " "
 2/3/21. " " " " "
 7/3/21. Stamped propeller shafts.
 11/3/21. Examined the L.P. cylinder and other work.
 12/3/21. Tested steam & feed pipe connections.
 14/3/21. Examined the Engine work in hand.

- 16/3/21. Examined the L.P. cylinder and other work.
 21/3/21. Tested the port H.P. M.P. and L.P. cylinders.
 23/3/21. Tested the starboard H.P. M.P. and L.P. cylinders.
 24/3/21. Examined the work in hand.
 31/3/21. Transferred stamp on various forgings.
 2/4/21. Examined the Engine work in hand.
 7/4/21. " " " "
 9/4/21. Tested two steam regulating valves
 19/4/21. Examined the Engine work in hand.
 29/4/21. Tested the main condenser.
 4/5/21. Examined the Engine work in hand.
 17/5/21. " " " "
 23/5/21. " " " "
 27/5/21. " " " "
 30/5/21. Tested various main & auxiliary feed pipes.
 31/5/21. Tested the main steam pipes.
 9/6/21. Examined the Engine work in hand.
 25/6/21. " " " "
 1/7/21. " " " "
 29/7/21. Floated the boiler safety valves & witnessed harbour trial.
 2/8/21. Obtained particulars for machinery book.
 11/9/21. Examined the work in hand
 13/9/21. " " " "
 15/9/21. " " " "
 16/9/21. " " " "
 4/10/21. Obtained particulars of Refrigerating trials
 11/10/21. Examined generally the work in hand.
 18/10/21. Accompanied Vessel on trial trip & carried out Electrical tests
 19/10/21. Carried out the Accumulation tests on boilers.

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