

No. 1536

THE BRITISH CORPORATION FOR THE SURVEY  
AND  
REGISTRY OF SHIPPING.

Report No. *1414* No. in Register Book *2536*

*PERGAMON* *by* *DESTRIAN*  
S.S. *"Destro" Es*

Makers of Engines *Dunlop Breuner & Co.*

Works No. *324*

Makers of Main Boilers *J. G. Kincaid & Co.*

Works No. *62*

Makers of Donkey Boiler */*

Works No. */*

MACHINERY.



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No.

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. 1414 No. in Register Book 2536

Received at Head Office 15<sup>th</sup> July 1920

Surveyor's Report on the New Engines, Boilers, and Auxiliary Machinery of the ~~Twin Quadruple~~ <sup>Single Triple</sup> Screw "Destro".

Official No. 144046 Port of Registry Hull.

Registered Owners Ellerman's Wilson Line, Ltd.  
Hull.

Engines Built by Dunlop Bremner & Co.

at Port - Glasgow

Main Boilers Built by J. G. Kincaid & Co.

at Greenock

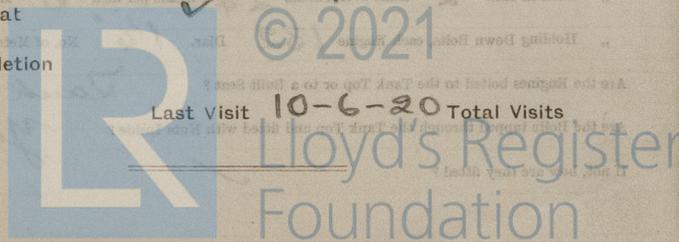
Donkey " " "

at

Date of Completion

First Visit

Last Visit 10-6-20 Total Visits



## RECIPROCATING ENGINES.

Works No. **324** No. of Sets **1** Description **Triple, S-C, 3 Cyls.**

No. of Cylinders each Engine **3** No. of Cranks **3**  
 Diars. of Cylinders **21", 36"; 62"** Stroke **39"**  
 Cubic feet in each L.P. Cylinder **68.1**  
 Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr. **Yes.**  
 " " " each Receiver? **Yes.**  
 Type of H.P. Valves, **Piston**  
 " 1st I.P. " **Andrews & Cameron**  
 " 2nd I.P. " **✓**  
 " L.P. " **Double ported slide.**  
 " Valve Gear **Stephenson's link.**  
 " Condenser **Surface.** Cooling Surface **2000** sq. ft.  
 Diameter of Piston Rods (plain part) **5 1/8"** Screwed part (bottom of thread) **4.412"**  
 Material " **Iron.**  
 Diar. of Connecting Rods (smallest part) **5 1/8"** Material **I. Steel**  
 " Crosshead Gudgeons **6 1/2"** Length of Bearing **6 1/2"** Material " "  
 No. of Crosshead Bolts (each) **4** Diar. over Thrd. **2 3/8"** Thrds. per inch **6** Material **Steel**  
 " Crank Pin " " **2** " **3 1/2"** " **6** " "  
 " Main Bearings **6** Lengths **13 1/2"**  
 " Bolts in each **2** Diar. over Thread **2 3/4"** Threads per inch **6** Material **Steel**  
 " Holding Down Bolts, each Engine **132** Diar. **1 1/4"** No. of Metal Chocks  
 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 **Dunlop Breuners & Co.**  
 Piston " " "  
 Crossheads, " " "  
 Connecting Rods, Finished by "  
 Piston " " "  
 Crossheads, " " "  
 Date of Harbour Trial **5-6-20.**  
 " Trial Trip **10-6-20.**  
 Trials run at **Firth of Clyde.**  
 Were the Engines tested to full power under Sea-going conditions? **No; light ship.**  
 If so, what was the I.H.P.? **1262.25** Revols. per min. **82**  
 Pressure in 1st I.P. Receiver, **144.5** lbs., 2nd I.P., **47.5** lbs., L.P., **4.5** lbs., Vacuum **27 1/4** ins.  
 Speed on Trial **10.95** 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. **1350** Revols. per min. **68**  
 Estimated Speed **10** knots.



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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?

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

"	"	L.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

Words No.	Type of Turbine	No. of Axiom
No. of H.P. Turbine	No. of H.P.	No. of L.P.

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

Is Single or Double Reduction Gear employed?

How is the min. of H.P. Turbine at full power?

100

100

100

100

100

100

100

100

100

100

100

100

100

100

DESCRIPTION OF INSTALLATION

TURBO-ELECTRIC PROPELLING MACHINERY

No. of Turbo-Generator Sets	Capacity of each	Submerged?
Type of Turbine employed		

Description of Turbine

By direct electric motor

By gear or direct shaft

By gear or direct shaft

By gear or direct shaft

No. of Motors driving Propeller Shafts

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

Is Single or Double Reduction Gear employed?

Description of Motor

Revolvs. per min. of Generator at Full Power

Motor

Propeller

Total shaft Horse Power

Rate of Rotation 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

Revol. 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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LIST OF THE SPECIFICATIONS FOR THE DESIGN OF THE MACHINE

Generator  
Motor  
Reduction Gear

Transmission layout by

Which layout or case by

Reduction gear which layout by

Which layout or case by

LIST OF THE SPECIFICATIONS FOR THE DESIGN OF THE MACHINE

Also the Crank shafts half or bolts  
 No. of Engines in each  
 Dist. of half 11-20  
 " of Crank Pins 12 3/8  
 Diameter Width of Crank Webs 3 3/8  
 Length 1 1/2  
 Dist. of Holes in Crank Webs  
 " Down in Crank Pins 1 1/2  
 No. of Holes each Coupling Dist. in Mid Length 3 3/8  
 Distance from edge of main bearing to Crank Web 18 3/8

Type of Turbine Holes  
 Dist. of Turbine Shafts at bottom of Bolts 12 1/4  
 Forward Coupling  
 Dist. of Intermediate Shafts by Bolt 11-01  
 No. of Holes each Coupling Dist. in Mid Length 3 3/8  
 Dist. of Propeller Shafts by Bolt 12 3/8

Dist. over Lines  
 Of what material are the Axle Bearings composed?  
 The Bearings are of the type known as C.P.T.  
 to prevent the wheel from coming off the bearings





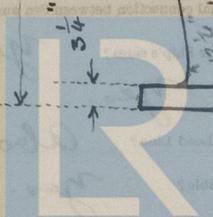
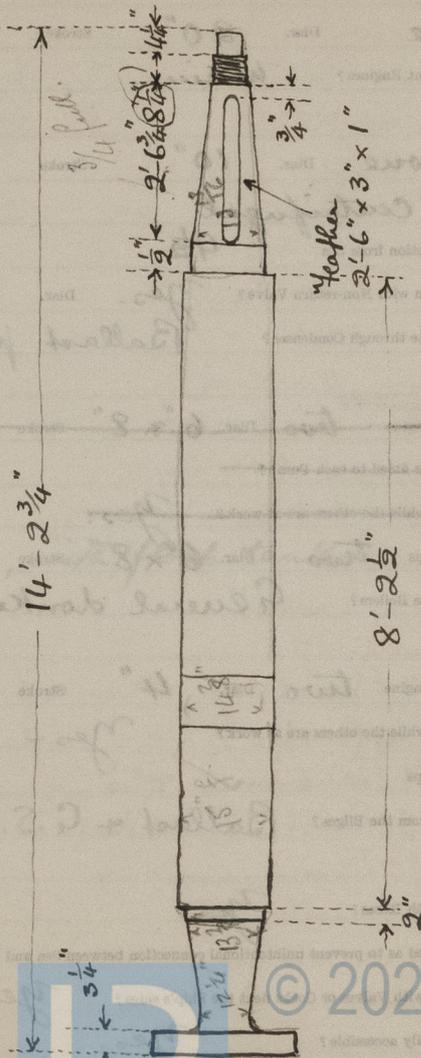
No. of Blades each Propeller **4** Fitted or Solid? **Solid**  
 Material of Blades **Bronze** Boss **bronze**  
 Diam. of Propellers **16'-6"** Pitch **15'-9"** Surface (each) **82** S. ft.  
 Coefficient of Displacement of Vessel at  $\frac{3}{4}$  Moulded Depth **.453**

Crank Shafts Forged by **Langley Forge Co.** Material **I.S.**  
 „ Pins „ „ „ „  
 „ Webs „ **D. Colville Sons.** „ „ „  
 Thrust Shafts „ **Langley Forge Co.** „ „ „  
 Intermed. „ „ „ „ „  
 Propeller „ „ „ „ „  
 Crank „ Finished by **Dunlop Breuner & Co.**  
 Thrust „ „ „ „ „  
 Intermed. „ „ „ „ „  
 Propeller „ „ „ „ „

## STAMP MARKS ON SHAFTS.

B. C.  
 No 6458.  
 D. M<sup>c</sup>A.  
 20/1/20.

## SKETCH OF PROPELLER SHAFT.



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## PUMPS, ETC.

No. of Air Pumps *one* Diar. *20"* Stroke *22"*

Worked by Main or Independent Engines? *main.*

No. of Circulating Pumps *one* Diar. *10"* Stroke

Type of " *Centrifugal*

Diar. of " Suction from Sea *9½"*

Has each Pump a Bilge Suction with Non-return Valve? *yes.* Diar. *8"*

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

~~No. of Feed Pumps on Main Engines *two* Diar. *6" x 8"* Stroke *21"*~~

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

~~Can one Pump be overhauled while the others are at work?~~ *yes.*

No. of Independent Feed Pumps *two* Diar. *6" x 8"* Stroke *21"*

What other Pumps can feed the Boilers? *General donkey pump.*

No. of Bilge Pumps on Main Engine *two* Diar. *4"* Stroke *22"*

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? *Ballast + G.S.*

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.*

## BOILERS.

*weir's, with float tank.*



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

on Pillars.  
 Pipes.  
 Cocks.  
 Valves.

No. of Strakes of Shell Plating in each Boiler

three

Plates in each Strake

one

Thickness of Shell Plates Approved

$1\frac{14}{32}$ "

" " in Boilers

"

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

Thickness of outside Butt Straps

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

" inside "

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

$1\frac{14}{32}$ "

Pitch

$10\frac{1}{2}$ "

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?

Machine.

Diar. of Rivet Holes

$1\frac{14}{32}$ "

Pitch

4.34"

No. of Rows of Rivets in Back End Circumferential Seams

2

Are these Seams Hand or Machine Riveted?

Both.

Diar. of Rivet Holes

$1\frac{14}{32}$ "

Pitch

4.34"

Size of Manholes in Shell

16" x 12"

Dimensions of Compensating Rings

3'-0 $\frac{1}{4}$ " x 2'-8 $\frac{1}{4}$ "

Thickness of End Plates in Steam Space Approved

" " in Boilers

Pitch of Steam Space Straps

Diar. of Rivet Holes

" " in Boilers

Material of

How are Stay Seams?

Diar. and Thickness of Loose Washers on End Plates

Rivets

Width of Doubling Straps

Thickness of Middle Back End Plates Approved

" " in Boilers

Thickness of Doubling in Wide Spaces between Fireboxes

Pitch of Straps as

Diar. of Stay Approved

" " in Boilers

Material

Are Stay Straps fitted with nuts outside?

Thickness of Back End Plates at Bottom Approved

" " in Boilers

Pitch of Straps as Wide Spaces between Fireboxes

Thickness of Doubling in



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Thickness of End Plates in Steam Space Approved

1 5/16"

" " " " " in Boilers

"

Pitch of Steam Space Stays

1'-4"

Diar. " " " " Approved 3 1/2" Threads per Inch

8

" " " " " in Boilers

Steel

Material of " " "

How are Stays Secured? Nuts inside & outside.

Diar. and Thickness of Loose Washers on End Plates

10 1/2" x 3/8"

" " Riveted " " "

✓

Width " " Doubling Strips " "

✓

Thickness of Middle Back End Plates Approved

29/32"

" " " " " in Boilers

"

Thickness of Doublings in Wide Spaces between Fireboxes

✓

Pitch of Stays at " " " "

1'-2" x 8 1/4"

Diar. of Stays Approved 1 7/8" Threads per Inch

11

" " " " " in Boilers

"

Material " Steel.

Are Stays fitted with Nuts outside? yes.

Thickness of Back End Plates at Bottom Approved

29/32"

" " " " " in Boilers

"

Pitch of Stays at Wide Spaces between Fireboxes

1'-3 1/2" x 9"

Thickness of Doublings in " "

✓

Thickness of Front End Plates at Bottom Approved

1 3/32"

" " " " " in Boilers

"

No. of Longitudinal Stays in Spaces between Furnaces

3 (each.)

Thick of Back Plates Approved

" " " " " in Boilers

Material " Steel

Thickness of Front Tube Plates Approved

" " " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in " "

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

Thickness of Stay Tubes

" " " " " in Boilers

Material " Steel

Are Stay Tubes fitted with Nuts outside?

Thickness of Furnace Plates Approved

" " " " " in Boilers

Smallest outside Diar. of Furnaces

Length between Tube Plates

Thickness of Front Tube Plates Approved

" " " " " in Boilers

Thickness of Back Tube Plates Approved

" " " " " in Boilers

Thickness of Furnace Plates Approved

" " " " " in Boilers



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Diar. of Stays Approved

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

Threads per Inch

8

" " in Boilers

"

Material "

Steel

Thickness of Front Tube Plates Approved

 $1\frac{3}{32}"$ 

" " " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

 $1'-1\frac{1}{8}" \times 9"$ 

Thickness of Doublings in

" Stay Tubes at

 $\frac{5}{16}"$  (top corner  $\frac{7}{16}"$ )

Are Stay Tubes fitted with Nuts at Front End?

No.

Thickness of Back Tube Plates Approved

 $\frac{13}{16}"$ 

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

 $11\frac{1}{4}" \times 9"$ 

" Plain "

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

Thickness of Stay Tubes

" Plain "

 $\frac{5}{16}" \times 4.2"$ 

8 n.g.

External Diar. of Tubes

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

Material "

Lapwelded wrought iron.

Thickness of Furnace Plates Approved

 $\frac{21}{32}"$ 

" " " in Boilers

Smallest outside Diar. of Furnaces

 $3'-5\frac{13}{16}"$ 

Length between Tube Plates

 $4'-6"$ 

Width of Combustion Chambers (Front to Back)

 $3'-2"$  (mean)

Thickness of " " Tops Approved

 $\frac{11}{16}"$ 

" " " " in Boilers

"

Pitch of Screwed Stays in C.C. Tops

 $8\frac{1}{2}" \times 8\frac{15}{16}"$ 

Diar. of Screwed Stays Approved

Diar. of Screwed Stays Approved

" " " in Boilers

Material "

Thickness of Combustion Chamber Plates Approved

" " " in Boilers

Pitch of Screwed Stays in C.C. Sides

Diar. of Stays Approved

Diar. of Stays Approved

" " " in Boilers

Material "

Thickness of Combustion Chamber Plates Approved

" " " in Boilers

Pitch of Screwed Stays in C.C. Heads

Diar. of Stays Approved

Diar. of Stays Approved

" " " in Boilers

Material "

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

Center

Depth and Thickness of Girders

Material of Girders

No. of Stays in each Wing Chamber

No. of Stays in each Wing Chamber

Size of Lower Flanges



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Diar. of Screwed Stays Approved  $1\frac{3}{4}$ " Threads per Inch 11

" " " in Boilers " "

Material " " Steel

Thickness of Combustion Chamber Sides Approved  $\frac{11}{16}$ "

" " " " in Boilers "

Pitch of Screwed Stays in C.O. Sides  $8\frac{3}{8}$ " x  $8\frac{3}{4}$ "

Diar. " " Approved  $1\frac{3}{4}$ " Threads per Inch 11

" " " in Boilers " "

Material " " Steel.

Thickness of Combustion Chamber Backs Approved  $\frac{11}{16}$ "

" " " in Boilers "

Pitch of Screwed Stays in C.O. Backs  $8\frac{1}{4}$ " x 9"

Diar. " " Approved  $1\frac{3}{4}$ " Threads per Inch 11

" " " in Boilers " "

Material " " Steel.

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

Thickness of Combustion Chamber Bottoms  $\frac{3}{4}$ "

No. of Girders over each Wing Chamber 4.

" " " Centre " 2"

Depth and Thickness of Girders  $10\frac{1}{2}$ " x  $\frac{3}{4}$ " (double)

Material of Girders Steel.

No. of Stays in each 3.

No. of Tubes, each Boiler 320

Size of Lower Manholes  $16$ " x  $12$ "

VERTICAL DONKEY BOILERS

No. of Boilers	
Greatest Int. Diam.	
Height	
Height of Boiler Crown above Fire Grate	
Are Boiler Crowns Flat or Dished?	
Internal Radius of Dished Boilers	
Thickness of Plates	
Description of Stays in Boiler Crowns	
Width of Overlap	
Diam. of Rivet Holes	
Height of Rivet Crowns above Fire Grate	
Are Rivet Crowns Flat or Dished?	
External Radius of Dished Crowns	
Thickness of Plates	
No. of Crown Stays	
Diam.	
Internal Diam. of Front of Top	
Thickness of Plates	
No. of Water Tubes	
Int. Diam.	
Material of Water Tubes	
Size of Manhole in Shell	
Thickness of Compression Ring	
Height outside each Bolt	
Gate Bolts	

SUPERHEATERS

Description of Superheaters	
Where situated?	
Which Boilers are connected to Superheaters?	
Are Superheaters on front of wide Boilers or working?	
No. of Tubes on each Superheater	
Int. Diam. of each Tube	
Material of Tubes	
Height of each Tube above Fire Grate	
Thickness of Plates	
Pressure on Valves	



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## MAIN STEAM PIPES.

No. of Lengths	4
Material	Woot iron
Brazed, Welded or Seamless	Welded
Internal Diar.	4½"
Thickness	¼"
How are Flanges secured?	Screwed
Date of Hydraulic Test	31-5-20
Test Pressure	500 lb.

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	

Finished by Dunlop Breunna & Co.



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## EVAPORATORS.

No. *one* Type *vertical* Tons per Day *15*  
 Makers *G. & J. Weir Ltd.*  
 Working Pressure *15* Test Pressure *Shell 30 lb. Coils 420* Date of Test *30-9-1919.*  
 Date of Test of Safety Valves under Steam *5-6-20.*

## FEED WATER HEATERS.

No. *one* Type *Direct contact.*  
 Makers *G. & J. Weir Ltd.*  
 Working Pressure *atmosphere* Test Pressure *40 lb.* Date of Test *22-11-19.*  
*5 lb.*

## FEED WATER FILTERS.

No. *one* Type *gravitation* Size  
 Makers *Dunlop Bremner & Co.*  
 Working Pressure *atmos.* Test Pressure *✓* Date of Test *✓*

## LIST OF DONKEY PUMPS.

1. *Ballast, fly wheel type, 9" x 9" x 9", by Amos & Smith, of Hull.*
2. *General service, vert. 6 1/4" x 4 3/4" x 6", with float tank, by Amos & Smith.*



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## SPARE GEAR

No. of Top End Bolts.	2	No. of Bot. End Bolts.	2	No. of Cylinder Cover Studs	6
" 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	80 + 8 wing	" Feed Check Valves	1
" 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	Solid.
" Boiler Tubes	6 plain	" Condenser Tubes	3	" Condenser Ferrules	20.

## OTHER ARTICLES OF SPARE GEAR:—

1 donkey feed check valve, 4 escape valve springs,  
 1 back bridge plate, 1 set front baffle plates,  
 1 eccentric strap, spares for centrifugal circu-  
 lating pump, firebricks, + 6 stay nests: also set  
 of gear for dynamo engine.

## RECEIPTS



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## REFRIGERATORS.

No. of Machines 2 Capacity of each 5  
 Makers 6  
 Description 6

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

## 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.
100	100	100		
3	32	32		
42	16	16		
3	8	8		
16	16	16		

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



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ELECTRIC LIGHTING.

Installation Fitted by *J. H. Holmes*  
 No. and Description of Dynamos *one 10 Kw. direct coupled to*  
 Makers of Dynamos *J. H. Holmes. (Single Robey engine.)*  
 Capacity .. *100* Amperes, at *100* Volts, *350* Revols. per Min.  
 Current Alternating or Continuous *Continuous*  
 Single or Double Wire System *Double*  
 Position of Dynamos *Starboard side engine-room, bottom platform.*  
 .. Main Switch Board " " "  
 No. of Circuits to which Switches are provided on Main Switch Board *5*

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.
<i>Saloon accom. &amp; forward.</i>	<i>3</i>	<i>32</i>	<i>25.6</i>	<i>7/14</i>	<i>1000 amp. per sq. in.</i>	<i>100%</i>	<i>600 megohms.</i>
	<i>42</i>	<i>16</i>					
	<i>3</i>	<i>8</i>					
	<i>(1 arc lamp.)</i>						
<i>Engine and boiler rooms.</i>	<i>30</i>	<i>16</i>	<i>16.8</i>	<i>7/14</i>	<i>"</i>	<i>"</i>	
<i>Midship and after accom.</i>	<i>2</i>	<i>32</i>	<i>21.9</i>	<i>19/18</i>	<i>"</i>	<i>"</i>	
	<i>50</i>	<i>16</i>					
	<i>1</i>	<i>8</i>					
	<i>(1 arc lamp.)</i>						
<i>Wireless</i>	<i>—</i>	<i>—</i>	<i>13</i>	<i>7/18</i>	<i>"</i>	<i>"</i>	
<i>Spare</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	<i>—</i>	

Total No. of Lights *133* No. of Motors driving Fans, &c. *None* No. of Heaters *None*

Current required for Motors and Heaters

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

*One each in  
Chart room, Saloon party, Engineer's mess, and  
engine room. (Starboard side).*

Location	Number of Switches
Chart room	1
Saloon party	1
Engineer's mess	1
Engine room	1

Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

*yes.*

On Aux. " " each Auxillary 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

*yes.*

Are the Fuses of Standard Sizes?

*"*

Are all Switches and Cut-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. *18* S.W.G.

How are Conductors in Engine and Boiler Spaces protected?

*Lead covered & Armoured cable.*

" Saloons, State Rooms, &c., " ?

*Lead covered cable.*

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp

*none necessary.*

(2) " " passing through Bunkers or Cargo Spaces

*armoured & piped.*

(3) " " Deck Beams or Bulkheads

*" with W.T. glands*

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

is unimpaired?

*no joints*

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

*no joints.*

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?

What does the Resistance amount to?

Ohms.

Is the Installation supplied with a Voltmeter?

*yes.*

" " " an Ampere Meter?

Date of Trial of complete Installation

*10-6-20*

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. "Destro"

as ascertained by me from personal examination

*Wood Harrington*  
 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 ...		£	:	:

*Full*  
*See*

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 *22<sup>nd</sup> December*

*1920*

Fees advised

Fees paid



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