

No. 2473

THE BRITISH CORPORATION REGISTER  
OF SHIPPING AND AIRCRAFT.

Report No. 2528 No. in Register Book 4037

*N/W 'Ballysillar'*  
s.s. NISHTRAHULL

Makers of Engines JOHN LEWIS & SONS LTD

Works No. 213

Makers of Main Boilers JOHN LEWIS & SONS LTD

Works No. 177

Makers of Donkey Boiler —

Works No. —

MACHINERY.  
REPAIR

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003191-003194-0203

No.

THE BRITISH CORPORATION REGISTER  
OF SHIPPING AND AIRCRAFT.

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

Received at Head Office

16<sup>th</sup> Sept 1935

Surveyor's Report on the New Engines, Boilers, and Auxiliary  
Machinery of the ~~Single~~ <sup>Single</sup> ~~Quadruple~~ Screw STEAMER

INNISTRATHULL

Official No. 163217 Port of Registry

Belfast

Registered Owners

JOHN KELLY LTD

Engines Built by JOHN LEWIS & SONS LTD

at ABERDEEN.

Main Boilers Built by JOHN LEWIS & SONS LTD

at ABERDEEN.

Donkey " " " "

at

Date of Completion

First Visit

18-2-35

Last Visit

31-7-35

Total Visits

10



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## RECIPROCATING ENGINES.

Works No. 213 No. of Sets ONE Description TRIPLE EXPANSION,  
SURFACE CONDENSING, DIRECT ACTING, INVERTED, RECIPROCATING  
STEAM ENGINES.

No. of Cylinders each Engine 3 No. of Cranks 3  
Diars of Cylinders 14 1/2" 25" 41" Stroke 30"  
Cubic feet in each L.P. Cylinder 22.92 CF  
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. " ANDREW & CAMERON BALANCED  
2nd I.P., —  
L.P. " SLIDE D.  
" Valve Gear STEPHENSON LINK MOTION.  
" Condenser CAST IRON CIRCULAR Cooling Surface 893 sq. ft.  
Diameter of Piston Rods (plain part) 4 1/4" Screwed part (bottom of thread) 3.04"  
Material " MILD STEEL.  
Diar. of Connecting Rods (smallest part) 4 1/4" Material M.S.  
" Crosshead Gudgeons 4 1/4" Length of Bearing 4 1/4" Material "  
No. of Crosshead Bolts (each) 4 Diar. over Thrd. 1 3/4" Thrds. per inch 6 Material M.S.  
" Crank Pin " " 2 " 2 1/4" " 6 "  
" Main Bearings 6 Lengths 8 7/8"  
" Bolts in each 2 Diar. over Thread 2" Threads per inch 6 Material M.S.  
" Holding Down Bolts, each Engine 58" Diar. 1" No. of Metal Checks 50  
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? —  
If not, how are they fitted? —

Connecting Rods, Forged by

FIFE FORGE CO LTD. Langley Forge  
Piston " " } LANGLEY FORGE LTD J Lewis  
do.

Crossheads, " "

Connecting Rods, Finished by

JOHN LEWIS &amp; SONS

Piston " " }

Crossheads, " "

Date of Harbour Trial

29-7-35  
31-7-35

" Trial Trip

Trials run at

Aberdeen Bay

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

Yes

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

Revs. per min. 108

Pressure in 1st I.P. Receiver, 70 lbs., 2nd I.P.,

lbs., L.P., 1 1/2 lbs., Vacuum, 24 1/2 ins.

Speed on Trial 11.6

ccc letter 9-8-35

If the Conditions on Trial were such that full power records were not obtained give the following estimated

data:—

Builders' estimated I.H.P.

907.

Revs. per min. 103.

Estimated Speed

12 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 Stern \_\_\_\_\_

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

Is Single or Double Reduction Gear employed? \_\_\_\_\_

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

Estimated Pressure per lineal inch \_\_\_\_\_

Diam. of 2nd Reduction Pinion \_\_\_\_\_ }  
" 2nd " Wheel \_\_\_\_\_ } Width \_\_\_\_\_ Pitch of Teeth \_\_\_\_\_

Estimated Pressure per lineal inch \_\_\_\_\_

Revs. per min. of H.P. Turbines at Full Power \_\_\_\_\_ S.H.P. \_\_\_\_\_

" " 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 Revs. per min. \_\_\_\_\_ S.H.P. \_\_\_\_\_

Turbine Spindles forged by \_\_\_\_\_

" " Wheels forged or cast by \_\_\_\_\_

Reduction Gear Shafts forged by \_\_\_\_\_

" " Wheels forged or cast by \_\_\_\_\_

## TURBO-ELECTRIC INSTALLATION OF ACHIERERY.

No. of Turbo-Generating Sets \_\_\_\_\_ Capacity of each \_\_\_\_\_

Type of Turbines employed \_\_\_\_\_

Description of Generators \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

No. of Motors driving Propeller Shafts \_\_\_\_\_

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 \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

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" " " " \_\_\_\_\_

" " " " \_\_\_\_\_

" " " " \_\_\_\_\_



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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 **8.16** Actual **8 3/8"** In Way of Webs **8 3/4"**

" of Crank Pins **8 3/8"** Length between Webs **8 5/8"**

Greatest Width of Crank Webs **1 - 3 3/4"** Thickness **5 1/2"**

Least " " **1' 0"** " " " " " "

Diar. of Keys in Crank Webs **1 1/2"** Length **3 5/8"**

" Dowels in Crank Pins **1"** Length **3 5/4** Screwed or Plain **PLAIN**

No. of Bolts each Coupling **6** Diar. at Mid Length **1 7/8** Diar. of Pitch Circle **1' - 0 3/4"**

Greatest Distance from Edge of Main Bearing to Crank We **1 1/4"**

Type of Thrust Blocks **HORSE SHOE**

No. " Rings **5 AHEAD & AFTERN**

Diar. of Thrust Shafts at bottom of Collars **8 3/8"** No. of Collars **5**

" " Forward Coupling **8 3/8"** At Aft Coupling **8 3/8"**

Diar. of Intermediate Shafting by Rule **7.77"** Actual **-** No. of Lengths **-**

No. of Bolts, each Coupling **-** Diar. at Mid Length **-** Diar. of Pitch Circle **-**

Diar. of Propeller Shafts by Rule **8.668** Actua **8 7/8"** At Coupling **8 7/8"**

Are Propeller Shafts fitted with Continuous Brass Liners? **YES.**

Diar. over Liners **10 1/8 - 10 1/4"** Length of After Bearings **2' - 11"**

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.

SEE BOOK FOR  
SS PORTAVOCIE

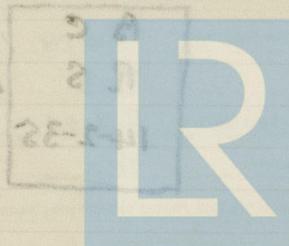
*[Faint sketch of a crankshaft with handwritten notes and dimensions.]*

2 M

*[Handwritten notes and dimensions, including "1' 0" and "3 5/8".]*

STAMP MARKS ON SHAFTS.

*[Handwritten notes and a stamped box containing the text "THRUST AND PROPELLER SHAFTS" and "R.R. 28-2-22".]*



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No. of Blades each Propeller **4** Fitted or Solid? **SOLID**  
 Material of Blades **CAST IRON** Boss **CAST IRON**  
 Diam. of Propellers **10'-9"** Pitch **12'-6"** Surface (each **40** S. ft.)  
 Coefficient of Displacement of Vessel at  $\frac{1}{2}$  Moulded Depth

Crank Shafts Forged by **Lougely Forge** Material **MS**  
 Pins " " " "  
 Webs " " " "  
 Thrust Shafts " " " "  
 Intermed. " " " "  
 Propeller " " **W coats & Sons Sangrekar**  
 Crank " Finished by **FIFE FORGE Co Lougely Forge**  
 Thrust " " **J. LEWIS & SONS LTD**  
 Intermed. " " " "  
 Propeller " " " "

## STAMP MARKS ON SHAFTS.

BE  
 101146.  
 RLS  
 2-5-35

THRUST AND  
 PROPELLER SHAFTS.

Thrust Shaft.

BE  
 693  
 R S  
 6-2-35

Tail Shaft

AC  
 RS  
 14-2-35  
 No Number

## SKETCH OF PROPELLER SHAFT.

No. of Air Pumps 1  
 Dia. of Air Pumps 18"  
 What other pumps can circulate through Condensers?  
 GALLET PUMP  
 No. of Condensing Pumps 1  
 Dia. of Condensing Pumps 18"  
 Type of Condensing Pumps CENTRIFUGAL  
 Dia. of Main Engine 81"  
 What other pumps can circulate through Condensers?  
 GALLET PUMP  
 No. of Feed Pumps on Main Engine 5  
 Dia. of Feed Pumps 12"  
 Are feed-pumps fitted to each pump?  
 YES  
 Can one pump be overhauled while the others are at work?  
 YES  
 No. of Independent Feed Pumps 5  
 Dia. of Independent Feed Pumps 12"  
 What other pumps can feed the boilers?  
 GENERAL SERVICE PUMP  
 No. of High Pumps on Main Engine 5  
 Dia. of High Pumps 12"  
 Can one pump be overhauled while the others are at work?  
 YES  
 No. of Independent High Pumps 5  
 Dia. of Independent High Pumps 12"  
 What other pumps can draw from the bilge?  
 GALLET  
 Are all bilge sections fitted with hoses?  
 YES  
 Are the valves, etc., so arranged as to prevent unobstructed connection between sea and bilge?  
 YES  
 Are all sea connections fitted with valves?  
 YES  
 Are they placed so as to be easily accessible?  
 YES  
 Are the Discharge Pipes placed above or below the Dead End?  
 YES  
 Are the Discharge Pipes fitted with valves?  
 YES





## BOILERS

Works No. 177

No. of Boilers 1. Type CYLINDRICAL MULTITUBULAR MARINE.

Single or Double-ended SINGLE END FIRED

No. of Furnaces in each THREE.

Type of Furnaces PLAIN (WITHDRAWABLE)

Date when Plan approved 27-10-33.

Approved Working Pressure 200 lbs/ft<sup>2</sup> YES

Hydraulic Test Pressure 350 lbs/ft<sup>2</sup> PCTEST. NO 6473.

Date of Hydraulic Test 25-6-35. T.P. 350 lbs

„ when Safety Valves set 29-7-35. WP 200 lbs

Pressure at which Valves were set 205 lbs. RLG 25-6-35.

Date of Accumulation Test 31-7-35.

Maximum Pressure under Accumulation Test 205 lbs.

System of Draught NATURAL. COAL STEAM PUMP.

Can Boilers be worked separately? -

Makers of Plates STEEL CO. OF SCOTLAND.

„ Stay Bars CILVILLES LTD.

„ Rivets RIVET BOLT 2 NUT CO.

„ Furnaces J. Marshall & Co. Ltd.

Greatest Internal Diam. of Boilers 115'-0 3/8\"

„ „ Length „ 10'-9\"

Square Feet of Heating Surface each Boiler 2357

„ „ Grate „ „ 60

No. of Safety Valves each Boiler 2. Rule Diam. 2 5/16\" Actual 3\"

Are the Safety Valves fitted with Easing Gear? YES.

No. of Pressure Gauges, each Boiler 2. No. of Water Gauges 1

„ Test Cocks „ 3 „ Salinometer Cocks 1

Are the Water Gauges fitted direct to the boiler shells or connected to (Pipes)?

Are the Water Gauges fitted direct to the boiler shells or connected to (Pipes)?

Are these Boilers connected to boilers by Cocks or Valves?

Are Blow-off Cocks or Valves fitted on boiler shells?

No. of Plates of shell fitting to each boiler 1

Plates in each boiler 2

Thickness of shell plates approved 1/2\"

Are the rivets iron or steel? STEEL

Are the longitudinal seams tight or lap joints? BUTT

Are the butt seams tight or lapped? DOUBLE

Are the double butt seams of equal width? YES.

Thickness of outside butt straps 1

„ „ „ 1/8\"

Are longitudinal seams hand or machine riveted? MACHINE

Are they single, double, or triple riveted? TRIPLE

No. of rivets in a pitch 2

Pitch 4 1/2\"

No. of rows of rivets in Centre Circumferential seams 7

Are these seams hand or machine riveted? -

Line of rivet holes -

No. of rows of rivets in front and circumferential seams 5

Are these seams hand or machine riveted? HAND

Line of rivet holes -

No. of rows of rivets in back and circumferential seams 5

Are these seams hand or machine riveted? MACHINE

Line of rivet holes -

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Thickness of End Plates in Steam Space Approved  $1\frac{1}{4}$ "

" " " " " in Boilers —

Pitch of Steam Space Stays  $1'-8\frac{1}{4}" - 1'-8\frac{1}{2}" \times 1\frac{1}{2}" - 1\frac{1}{2}"$

Diar. " " " " Approved  $8/8$  Threads per Inch 6

" " " " in Boilers —

Material of " " " STEEL

How are Stays Secured? DOUBLE NUTS INSIDE 1 OUTSIDE.

Diar. and Thickness of Loose Washers on End Plates —

" " Riveted " " —

Width " " Doubling Strips " —

Thickness of Middle Back End Plates Approved  $27/32$ "

" " " " " in Boilers —

Thickness of Doublings in Wide Spaces between Fireboxes —

Pitch of Stays at " " " EITHER SIDE WING FURNACES

Diar. of Stays Approved 2" Threads per Inch 6

" " in Boilers —

Material " STEEL

Are Stays fitted with Nuts outside? YES.

Thickness of Back End Plates at Bottom Approved  $27/32$ "

" " " " " in Boilers —

Pitch of Stays at Wide Spaces between Fireboxes  $14\frac{1}{8}" \times 9\frac{1}{8}"$

Thickness of Doublings in " " —

Thickness of Front End Plates at Bottom Approved  $29/32$ "

" " " " " in Boilers —

No. of Longitudinal Stays in Spaces between Furnaces —

Diar. of Stays Approved — Threads per Inch —  
 " in Boilers —  
 Material " —  
 Thickness of Front Tube Plates Approved  $29/32$   
 " " " " in Boilers —  
 Pitch of Stay Tubes at Spaces between Stacks of Tubes  $14/8' \times 9'$   
 Thickness of Doublings in " " " —  
 " Stay Tubes at " " "  $5/16$   
 Are Stay Tubes fitted with Nuts at Front End? BETWEEN NESTS.  
 Thickness of Back Tube Plates Approved  $25/32$   
 " " " " in Boilers —  
 Pitch of Stay Tubes in Back Tube Plates  $9" - 1' - 1 1/2" \times 9"$   
 " Plain "  $4 1/2" \times 4 1/2"$   
 Thickness of Stay Tubes  $54 - 1/4" \quad 45 - 5/16"$   
 " Plain "  $228 \text{ WQ} - \frac{1}{8}$   
 External Diar. of Tubes  $3 1/4'$   
 Material " LAP WELDED WROG IRON  
 Thickness of Furnace Plates Approved  $13/16$   
 " " " " in Boilers —  
 Smallest outside Diar. of Furnaces  $3' - 7/8'$   
 Length between Tube Plates  $6' - 11/2'$   
 Width of Combustion Chambers (Front to Back)  $3' - 0'$   
 Thickness of " " Tops Approved  $24/32$   
 " " " " in Boilers —  
 Pitch of Screwed Stays in C.C. Tops  $8/9' \times 9'$

Diar. of Stays Approved — Threads per Inch —  
 " in Boilers —  
 Material " STEEL  
 Thickness of Front Tube Plates Approved  $29/32$   
 " " " " in Boilers —  
 Pitch of Stay Tubes at Spaces between Stacks of Tubes  $14/8' \times 9'$   
 Thickness of Doublings in " " " —  
 " Stay Tubes at " " "  $5/16$   
 Are Stay Tubes fitted with Nuts at Front End? BETWEEN NESTS.  
 Thickness of Back Tube Plates Approved  $25/32$   
 " " " " in Boilers —  
 Pitch of Stay Tubes in Back Tube Plates  $9" - 1' - 1 1/2" \times 9"$   
 " Plain "  $4 1/2" \times 4 1/2"$   
 Thickness of Stay Tubes  $54 - 1/4" \quad 45 - 5/16"$   
 " Plain "  $228 \text{ WQ} - \frac{1}{8}$   
 External Diar. of Tubes  $3 1/4'$   
 Material " STEEL  
 Thickness of Furnace Plates Approved  $13/16$   
 " " " " in Boilers —  
 Smallest outside Diar. of Furnaces  $3' - 7/8'$   
 Length between Tube Plates  $6' - 11/2'$   
 Width of Combustion Chambers (Front to Back)  $3' - 0'$   
 Thickness of " " Tops Approved  $24/32$   
 " " " " in Boilers —  
 Pitch of Screwed Stays in C.C. Tops  $8/9' \times 9'$



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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

*RB Type Superheater Co Ltd  
London*

Where situated?

*Smoke box & tubes. Elements in tubes Headers in boxes*

Which Boilers are connected to Superheaters?

Can Superheaters be shut off while Boilers are working?

*yes*

No. of Safety Valves on each Superheater

Diar.

*2"*

Are " " fitted with Easing Gear?

*yes*

Date of Hydraulic Test

Test Pressure

Date when Safety Valves set

*31-7-35*

Pressure on Valves

*Superheater  
has been  
removed.  
Completely  
WSW*

## MAIN STEAM PIPES.

*20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100*



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## MAIN STEAM PIPES.

No. of Lengths	4		
Material	SD Steel		
Brazed, Welded or Seamless	SD Steel		
Internal Diam.	4"		
Thickness	1/4"		
How are Flanges secured?	Screwed with vanishing thread		
Date of Hydraulic Test	4/11/11		
Test Pressure			
No. of Length			
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			

LIST OF PUMPS			
BALANCE PUMP			
SUCKING			
DISCHARGE			
CIR. PUMP			
ENGINE			
FEED WATER HEATERS			
STEAM ENGINE			
FEED WATER FILTERS			



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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. <i>one</i>	Type <i>4 Surface.</i>		
Makers <i>J Lewis</i>			
Working Pressure <i>200 in water</i>	Test Pressure <i>300</i>	Date of Test <i>19-1-35.</i>	

## FEED WATER FILTERS.

No. <i>1</i>	Type <i>Section Filter</i>	Size <i>2 1/2</i>
Makers <i>J Lewis</i>		
Working Pressure	Test Pressure	Date of Test

## LIST OF DONKEY PUMPS.

BALLAST PUMP *Dawson & Downie 7X9 1/8*  
SUCTIONS:- *Bilge line Direct Bilge Tanks Sea*  
DISCHARGES:- *Overboard Tanks Condenser.*

C.R. PUMP. *Amos & Smith* " *6 Bore*  
" ENGINE. " "

GENERAL SERVICE PUMP. *6 x 4 1/4 x 6 Dawson & Downie*  
SUCTIONS:- *4 Tank Boiler & 2 Tank off Peak & Sea*  
DISCHARGES:- *Boiler 4 Tank Deck & Sawaleng tank*

DYNAMO ENGINE. *Sunderland Forge*

STEERING ENGINE.



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## SPARE GEAR.

No. of Top End Bolts.	No. of Bot. End Bolts.	No. of Cylinder Cover Studs
4	2	36
" Coupling Bolts 6	" Main Bearing Bolts 2	" Valve Chest " 36
" Junk Ring Bolts 6	" Feed Pump Valves 2	" Bilge Pump Valves 2
" H.P. Piston Rings —	" I.P. Piston Rings —	" L.P. Piston Rings —
" " Springs —	" " Springs —	" " Springs —
" Safety Valve " 1	" Fire Bars $\frac{1}{2}$ Boiler	" Feed Check Valves 2
" Piston Rods —	" Connecting Rods —	" Valve Spindles —
" Air Pump Rods —	" Air Pump Buckets —	" Air Pump Valves 1 set
" Impeller Shaft Cir. " —	" " " —	" " " —
" Crank Shafts —	" Crank Pin Bushes —	" Crosshead Bushes —
" Propeller Shafts —	" Propellers 1	" Propeller Blades —
" Boiler Tubes 3	" Condenser Tubes 3	" Condenser Ferrules 12

## OTHER ARTICLES OF SPARE GEAR:—

assorted Iron  
 1 Escape Valve Spring for each size  
 1 Ecc  
 assorted Bolts & nuts

## REFRIGERATORS



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## REFRIGERATORS.

No. of Machines      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     

## 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.
Makers of Engines				
Capacity				
Particulars of Pumps				
No. of Cranks				
Particulars of Pumps				
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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Positions of Auxiliary Switch Boards, with No. of Switches on each

*Installation filed by: Jones*  
*No. and Description of Dynamos: 1147 of 2000 watt dynamo*  
*Makers of Dynamos: Siemens*  
*Capacity: 2 KW 1/2 110 Volts 430 Revs. per Min.*  
*Current Alternating or Continuous: Continuous*  
*Kind of Double Wire System: Double wire system*  
*Position of Dynamos: 2 ft side aft end of engine room*  
*Main Switch Board: 2 ft " " " "*  
*No. of Circuits to which switches are provided on Main Switch Board: 11*  
*Particulars of these Circuits:*

Particulars of these Circuits	Kind of Power	Number of Lights	Wattage	Current (Amperes)	Size of Conductors	Current (Amperes)	Size of Conductors
Are Cut-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.	S.W.G.	Largest, No.	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							

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?  
 Has the Insulation Resistance over the whole system been tested? *yes*  
 What does the Resistance amount to? *Infinite* Ohms.  
 Is the Installation supplied with a Voltmeter? *yes*  
 " " " an Ampere Meter? *yes*  
 Date of Trial of complete Installation *31-7-35* 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. *yes*

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. *Imuistrakull*

as ascertained by <sup>us</sup> <sub>me</sub> from personal examination

*Robert L. Craig*

Engineer Surveyor to the British Corporation Register  
of Shipping and Aircraft.

Fees—

MAIN BOILERS, £ s. d.

H.S. 2357 Sq. ft. 16 : 4 : -

G.S. 60 " : :

DONKEY BOILERS.

H.S. *[scribble]* Sq. ft. : :

G.S. " : :

£ : :

ENGINES.

L.P.C. 22.92 Cub. ft. 21 : 10 : -

£ : :

Testing, &c. ... .. : :

£ : :

Expenses ... .. : :

Total ... £ : :

It is submitted that this Report be approved,

*Robert L. Craig*  
Chief Surveyor  
23 OCT 1935

Approved by the Committee for the Class of M.B.S.\* on the *23<sup>rd</sup> October 1935*

Fees advised

*15-8-35*

Fees paid



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