

No. 2075

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. 2045 No. in Register Book 3386

S.S. "BARON TWEEDMOUTH"

Makers of Engines John G. Kincaid & Co. Ltd

Works No. 635

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

Works No. 635

Makers of Donkey Boiler —

Works No. —

MACHINERY.



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016155-0152-023

3 10 14

$\frac{1}{8}$ 28 LP

$\frac{11}{16}$

$\frac{40}{1000}$ see.

$\frac{55}{1000}$

$\frac{13}{16}$

11.46

$\frac{11}{16}$

Spelman Shafter
No Reports

No Reports
X Head
Pow. Rods
Pictorial



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No.

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No. No. in Register Book

Received at Head Office

14 June 1927

Surveyor's Report on the New Engines, Boilers, and Auxiliary
Machinery of the ~~Single~~ Screw Steamer

"BARON TWEEDMOUTH."

Official No.

Port of Registry ARROSSAN.

Registered Owners

H. Hogarth & Sons

Engines Built by

John G. Kincaid & Co. Ltd

at

Greenock

Main Boilers Built by

same firm

at

the place

Donkey

NONE

at

Date of Completion

9TH JUNE

© 2021
1927

First Visit 9. 9. 26

Last Visit

7. 6. 27

Total Visits 55

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RECIPROCATING ENGINES.

Works No. **635** No. of Sets **One** Description **Triple expansion**

**SURFACE CONDENSING, DIRECT ACTING, INVERTED,
RECIPROCATING STEAM ENGINES**

No. of Cylinders each Engine **3** ^{37"} No. of Cranks **3**
 * Diars. of Cylinders **21½", 35½" and 60" 62"** Stroke **39"**
 Cubic feet in each L.P. Cylinder **63.8. 68.13**

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

" " " each Receiver? **YES**

Type of H.P. Valves, **PISTON VALVE**
 " 1st L.P. " **SLIDE VALVE ANDREWS & CAMERON TYPE**

" 2nd L.P. " **SLIDE VALVE DOUBLE PORTED.**
 " L.P. " **SLIDE VALVE DOUBLE PORTED.**

" Valve Gear **Stevenson Link.**

" Condenser **Surface** Cooling Surface **1850** sq. ft.

Diameter of Piston Rods (plain part) **6"** Screwed part () **4½" 9" 10"**

Material " **INGOT STEEL**

Diar. of Connecting Rods (smallest part) **5½"** Material **INGOT STEEL**

" Crosshead Gudgeon **7"** Length of Bearing **10¾"** Material **GUN METAL.**

No. of Crosshead Bolts (each) **2** Diar. over Thrd. **3½"** Thrds. per inch **6** Material **MILD STEEL**

" Crank Pin " " **2** " **3½"** " **6** " " "

" Main Bearings **6** Lengths **12"**

" Bolts in each **2** Diar. over Thread **2¾"** Threads per inch **6** Material " "

" Holding Down Bolts, each Engine **81** Diar. **1¾"** No. of Metal Chocks **64**

Are the Engines bolted to the Tank Top or to a Built Seat? **BOLTED TO TANK TOP.**

Are the Bolts tapped through the Tank Top and fitted with Nuts Inside? **YES WHERE POSSIBLE.**

If not, how are they fitted?

* Diars. of cyls. altered, per J.A.K.'s letter of 15/10/26.
 (see shafting).

Connecting Rods, Forged by **HANIEL LUEG**
JOHN G. KINCAID & CO LTD *Haniel Lueg*

Piston " " " " " " " " " " " "

Crossheads, " " " " " " " " " " " "

Connecting Rods, Finished by **JOHN G. KINCAID & CO LTD**

Piston " " " " " " " " " " " "

Crossheads, " " " " " " " " " " " "

Date of Harbour Trial **2ND JUNE 1927.**

" Trial Trip **7TH JUNE 1927.**

Trials run at **FIRTH OF ELYDE.**

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

If so, what was the I.H.P.? **1618.** Revols. per min. **84.**

Pressure in 1st I.P. Receiver, **70** lbs., 2nd I.P., **—** lbs., L.P., **12** lbs., Vacuum, **27** ins.

Speed on Trial **11.66 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. **1300** Revols per min. **65.**

Estimated Speed **10 knots.**

VESSEL IN LIGHT DRAUGHT AT TIME OF TRIALS.



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TURBINE ENGINES.

Works No. — Type of Turbines —

No. of H.P. Turbines — No. of L.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? —

Diar. of 1st Reduction Pinion — } Width — Pitch of Teeth —

" 1st " Wheel — }

Estimated Pressure per lineal inch —

Diar. of 2nd Reduction Pinion — } Width — Pitch of Teeth —

" 2nd " Wheel — }

Estimated Pressure per lineal inch —

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

" " 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 — 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 —

DESCRIPTION OF INSTALLATION.

No. of Turbo-Generators 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 —

Diar. of 1st Reduction Pinion —

" 1st " Wheel —

Estimated Pressure per lineal inch —

Diar. of 2nd Reduction Pinion —

" 2nd " Wheel —

Estimated Pressure per lineal inch —

Revs. per min. of Generators at 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 →

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

Estimated Pressure per lineal inch →

Diam. of 2nd Reduction Pinion → } Width → Pitch of Teeth →
 „ 2nd „ Wheel →

Estimated Pressure per lineal inch →

Revs. per min. of Generators at Full Power →

„ Motors „ →

„ „ 1st Reduction Shaft →

„ „ 2nd „ →

„ „ Propellers at Full Power →

Total Shaft Horse Power →

Date of Harbour Trial →

„ Trial Trip →

Trials run at →

Speed on Trial → Knots. Propeller Revs. per min. → S.H.P. →

Makers of Turbines →

„ Generators →

„ Motors →

„ Reduction Gear →

Turbine Spindles forged by →

„ Wheels forged or cast by →

Reduction Gear Shafts forged by →

„ Wheels forged or cast by →

DESCRIPTION OF INSTALLATION.



SHAFTHING.

Are the Crank Shafts Built or Solid?

Built

No. of Lengths in each

3

Angle of Cranks

120°

Diar. by Rule

11-75"
11-8"

Actual

11¹³/₁₆"

In Way of Webs

12"

.. of Crank Pins

11¹³/₁₆"

Length between Webs

1-0"

Greatest Width of Crank Webs

1-10¹/₂"

Thickness

7³/₈"

Least

Pins

"

1-5¹/₂"

"

7³/₈"

Diar. of ~~Web~~ in Crank Webs

1³/₄"

Length

4³/₄"

.. Dowels in Crank Pins

Length

Screwed or Plain

No. of Bolts each Coupling

6

Diar. at Mid Length

2¹³/₁₆"

Diar. of Pitch Circle

1-5¹/₄"

Greatest Distance from Edge of Main Bearing to Crank Web

1¹/₄"

Type of Thrust Blocks

Horse-Shoe.

No. .. Rings

5

Diar. of Thrust Shafts at bottom of Collars

11¹³/₁₆"

No. of Collars

5

.. .. Forward Coupling

11¹³/₁₆"

At Aft Coupling

11¹³/₁₆"

Diar. of Intermediate Shafting by Rule

11-23"
11-19"

Actual

11¹/₄"

No. of Lengths

5

No. of Bolts, each Coupling

6

Diar. at Mid Length

2¹³/₁₆"

Diar. of Pitch Circle

1-5¹/₄"

Diar. of Propeller Shafts by Rule

12-57"
12-52"

Actual

13¹/₂"

At Couplings

11¹³/₁₆"

Are Propeller Shafts fitted with Continuous Brass Liners?

Yes.

Diar. over Liners

14³/₄"

15" aft

15¹/₁₆" forw.

Length of After Bearings

5'-6"

Of what Material are the After Bearings composed?

LIENUMVITAE

Are Means provided for lubricating the After Bearings with Oil?

No.

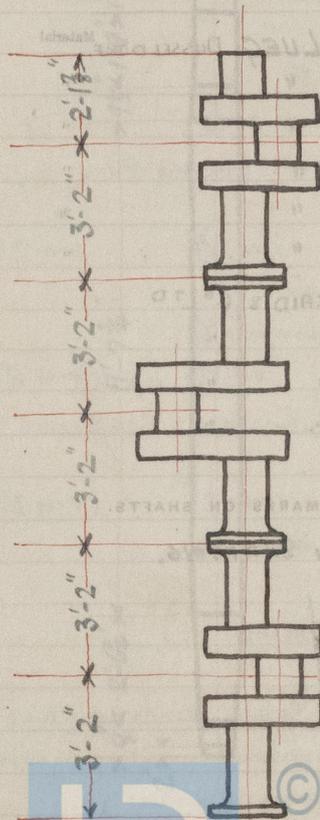
.. .. to prevent Sea Water entering the Stern Tubes?

No.

If so, what Type is adopted?

—

SKETCH OF CRANK SHAFT.



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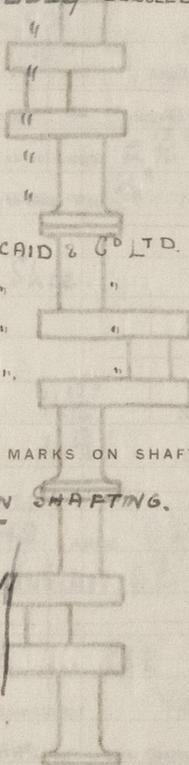
No. of Blades each Propeller **4** Fitted or Solid? **SOLID**
 Material of Blades **BRONZE** Boss **BRONZE**
 Diam. of Propellers **16'-0"** Pitch **16'-0"** Surface (each **91** S. ft.
 Coefficient of Displacement of Vessel at 1/4 Moulded Depth **Unrestricted Service.**

6	Crank Shafts Forged by	HANIEL & LUEG DUSSELDORF.	Material	IS.
3	" Pins "	"	"	"
6	" Webs "	"	"	"
1	Thrust Shafts "	"	"	"
5	Intermed. " "	"	"	"
1	Propeller " "	"	"	"
	Crank " Finished by	J. G. KINCAID & CO. LTD.		
	Thrust " "	"		
	Intermed. " "	"		
	Propeller " "	"		

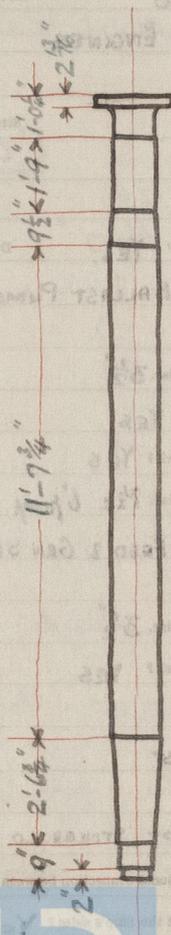
STAMP MARKS ON SHAFTS.

FINAL MARKS ON SHAPING.

BC.
 NO 10411
 RLC
 19-4-27



SKETCH OF PROPELLER SHAFT.



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PUMPS, ETC.

No. of Air Pumps 1 Diar. 20" Stroke 22"

Worked by Main or Independent Engines? MAIN ENGINES

No. of Circulating Pumps 1 Diar. Stroke

Type of " CENTRIFUGAL

Diar. of " Suction from Sea 9"

Has each Pump a Bilge Suction with Non-return Valve? YES. Diar. 7"

What other Pumps can circulate through Condenser? BALLAST PUMP

No. of Feed Pumps on Main Engine 2 Diar. 3 1/2" Stroke 22

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 1 Diar. 8 1/2" 6" pump Stroke 18"

What other Pumps can feed the Boilers? HARBOUR FRED & GEN SERVICE PUMP

No. of Bilge Pumps on Main Engine 2 Diar. 3 1/2" Stroke 22

Can one Pump be overhauled while the others are at work? YES

No. of Independent Bilge Pumps NONE

What other Pumps can draw from the Bilges? BALLAST

Are all Bilge Suctions fitted with Roses? YES EXCEPT STOKANOLD BILGES.

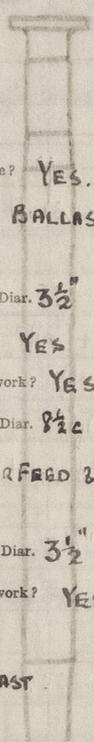
Are the Valves, etc., so arranged as to prevent unintentional connection between Sea and Bilges? YES.

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 ~~the~~ the Deep Load Line? YES EXCEPT MAIN DISCHARGE

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

No. of Boilers 2
 Type of Boilers
 Date of Installation
 Maximum Pressure
 System of Heating
 Can Boilers be worked separately
 Name of Boiler
 No. of Boilers
 Type of Boilers
 Date of Installation
 Maximum Pressure
 System of Heating
 Can Boilers be worked separately
 Name of Boiler
 No. of Boilers
 Type of Boilers
 Date of Installation
 Maximum Pressure
 System of Heating
 Can Boilers be worked separately
 Name of Boiler

COAL ONLY
 22/9/26
 210 1/2"
 362"
 29.4.27
 2.5.27
 210 lbs
 2.5.27
 210 lbs
 Natural
 No.



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BOILERS.

Works No. **635**

No. of Boilers **2** Type **Cylindrical multitubular.**

Single or Double-ended **Single.**

No. of Furnaces in each **3**

Type of Furnaces **Deighton. COAL ONLY.**

Date when Plan approved **22/9/26.**

Approved Working Pressure **210 lb/□"**

Hydraulic Test Pressure **365 "**

Date of Hydraulic Test **29. 4. 27.**

„ when Safety Valves set **2. 6. 27.**

Pressure at which Valves were set **210 lbs.**

Date of Accumulation Test **2. 6. 27.**

Maximum Pressure under Accumulation Test **212 lbs.**

System of Draught **Natural.**

Can Boilers be worked separately? **Yes.**

Makers of Plates **Mannesmannwerke Düsseldorf. ✓**

„ Stay Bars **Gutterhoffnungsbütte Oberhausen.**

„ Rivets **North-West Rivet, Bolt & Nut Factory, Ltd**

„ Furnaces **Deighton Pat. Furn. & Tube Co Ltd. ✓**

Greatest Internal Diam. of Boilers **15'-10½"**

„ „ Length „ **11'-6"**

Square Feet of Heating Surface each Boiler **2499**

„ „ Grate „ „ **61.5**

No. of Safety Valves each Boiler **One pair** Rule Diam. **2 63/64"** Actual **3"**

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

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

„ Test Cocks „ **NONE** „ Salinometer Cocks **1**



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Are the Water Gauges fitted direct to the Boiler Shells or mounted on Pillars? *Mounted on 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? *COCKS*
 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 *2*
 Thickness of Shell Plates Approved *1 1/2"*
 " " in Boilers *COAL ONLY*
 Are the Rivets Iron or Steel? *Siemens Martin Mild 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.*
 Thickness of outside Butt Straps *1 1/8"*
 " inside *1 1/4"*
 Are Longitudinal Seams Hand or Machine Riveted? *Machine.*
 Are they Single, Double, or Treble Riveted? *Treble.*
 No. of Rivets in a Pitch *5*
 Diam. of Rivet Holes *1 1/2"* Pitch *10 1/2"*
 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 *2*
 Are these Seams Hand or Machine riveted? *MACHINE*
 Diam. of Rivet Holes *1 1/2"* Pitch *4.075"*
 No. of Rows of Rivets in Back End Circumferential Seams *2*
 Are these Seams Hand or Machine Riveted? *MACHINE.*
 Diam. of Rivet Holes *1 1/2"* Pitch *4.075"*
 Size of Manholes in Shell *Manholes in top back end plates:*
 Dimensions of Compensating Rings *—*

16" x 12"
 Thickness of End Plates at Bottom Approved
 in Boilers
 Thickness of Shell Plates Approved
 in Boilers
 Thickness of Middle Deck End Plates Approved
 in Boilers
 Thickness of Decking in White Spaces between Frames
 in Boilers
 Thickness of Rivets at
 Ends of Straps Approved
 in Boilers
 Material
 Are Straps fitted with Rows outside?
 Thickness in Deck End Plates at Bottom Approved
 in Boilers
 Thickness of Straps at White Spaces between Frames
 Thickness of Decking in
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Thickness of End Plates in Steam Space Approved $1\frac{11}{32}$ "

" " " " " in Boilers "

Pitch of Steam Space Stays (See opposite.)

Diar. " " " " Approved $3\frac{1}{2}$ " Threads per Inch 6

" " " " " in Boilers " " "

Material of " " " Steel.

How are Stays Secured? Nuts & loose washers inside & outside.

Diar. and Thickness of Loose Washers on End Plates $12\frac{1}{4}$ " x $\frac{29}{32}$ "

" " Riveted " " "

Width " " Doubling Strips "

Thickness of Middle Back End Plates Approved $2\frac{7}{32}$ "

" " " " " in Boilers "

Thickness of Doublings in Wide Spaces between Fireboxes —

Pitch of Stays at " " " $14\frac{1}{4}$ "

Diar. of Stays Approved $1\frac{7}{8}$ " Threads per Inch 9

" " " in Boilers " " "

Material " " Steel.

Are Stays fitted with Nuts outside? Yes.

Thickness of Back End Plates at Bottom Approved $2\frac{7}{32}$ "

" " " " " in Boilers "

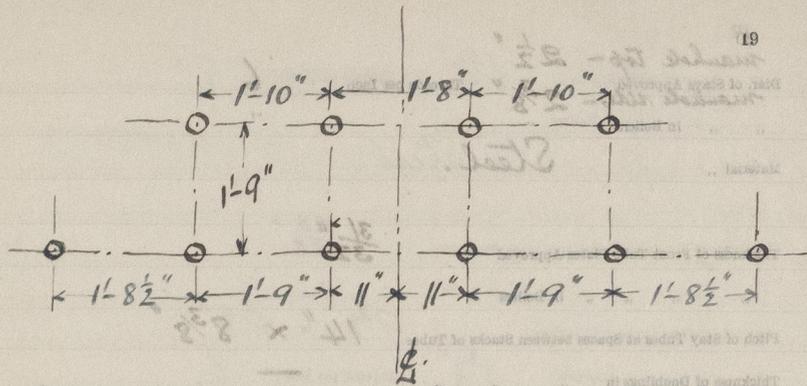
Pitch of Stays at Wide Spaces between Fireboxes Widening - various.

Thickness of Doublings in " " "

Thickness of Front End Plates at Bottom Approved $\frac{3}{32}$ "

" " " " " in Boilers "

No. of Longitudinal Stays in Spaces between Furnaces 3



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manhole top - $2\frac{1}{2}$ "
 Diar. of Stays Approved manhole side - $2\frac{3}{8}$ " Threads per Inch 6
 " " in Boilers " "
 Material " Steel.
 Thickness of Front Tube Plates Approved $\frac{31}{32}$ "
 " " " " in Boilers " "
 Pitch of Stay Tubes at Spaces between Stacks of Tubes $14" \times 8\frac{3}{8}"$
 Thickness of Doublings in " " " "
 " Stay Tubes at " " " "
 Are Stay Tubes fitted with Nuts at Front End? Yes. $\frac{3}{8}"$ (Corner $\frac{7}{16}"$)
 Thickness of Back Tube Plates Approved $\frac{13}{16}"$
 " " " " in Boilers " "
 Pitch of Stay Tubes in Back Tube Plates $10\frac{15}{32}" \times 8\frac{3}{8}"$
 " Plain " $4\frac{1}{4}" \times 4\frac{3}{16}"$
 Thickness of Stay Tubes $\frac{5}{16}"$
 " Plain " 8 w.g.
 External Diar. of Tubes Steel 3"
 Material " Hot solid-drawn steel.
 Thickness of Furnace Plates Approved $\frac{23}{32}"$
 " " " " in Boilers " "
 Smallest outside Diar. of Furnaces $4'-0\frac{7}{16}"$
 Length between Tube Plates $7'-2"$
 Width of Combustion Chambers (Front to Back) $3'-4"$ (outside)
 Thickness of " " Tops Approved $\frac{23}{32}"$
 " " " " in Boilers " "
 Pitch of Screwed Stays in O.C. Tops $9\frac{3}{8}" \times 9\frac{1}{8}"$



Diar. of Screwed Stays Approved $1\frac{3}{4}$ " Threads per Inch 9
 " " " in Boilers " "
 Material " " *Steel.*

Thickness of Combustion Chamber Sides Approved

$\frac{23}{32}$ "

" " " " in Boilers "

Pitch of Screwed Stays in C.O. Sides

$9\frac{3}{8}$ " x $9\frac{1}{8}$ "

Diar. " " Approved $1\frac{3}{4}$ " Threads per Inch 9

" " " in Boilers

Material " "

Steel.

Thickness of Combustion Chamber Backs Approved

Centre - $\frac{23}{32}$ "
 Wings - $\frac{11}{16}$ "

" " " " in Boilers "

Pitch of Screwed Stays in C.O. Backs

$9\frac{3}{8}$ " x $8\frac{1}{4}$ "

Diar. " " Approved $1\frac{3}{4}$ " Threads per Inch 9

" " " in Boilers

Material " "

Steel.

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

Yes.
 $\frac{15}{16}$ "

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

4

" " Centre "

3

Depth and Thickness of Girders

$10\frac{1}{2}$ " x $\frac{7}{8}$ " (double)

Material of Girders

Steel plates.

No. of Stays in each

3

No. of Tubes, each Boiler

356

Size of Lower Manholes

16 " x 12 "

VERTICAL DONKEY BOILERS

No. of Boilers
 Diameter of Boilers
 Height of Boilers from above
 Internal Diameter of Boilers
 Thickness of Plates
 Diameter of Tubes
 No. of Tubes
 Material of Tubes
 Diameter of Manholes in Shell
 Dimensions of Compressing Box
 Heating Surface each Boiler
 Type of Boilers

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

No. of Pipes

Material

Broken, Walled or Rusted

Internal Diar.

Thickness

How are Flanges mounted?

Date of Hydraulic Test

Test Pressure

No. of Pipes

Material

Broken, Walled or Rusted

Internal Diar.

Thickness

How are Flanges mounted?

Date of Hydraulic Test

Test Pressure



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EVAPORATORS.

No. DNE Type ONE No 83240. Tons per Day

Makers G & J WEIR LTD

Working Pressure 210/lbs. Test Pressure 250/lbs. Date of Test 4/2/27

Date of Test of Safety Valves under Steam 7. 6. 27 at 25/lbs.

FEED WATER HEATERS.

No. ONE Type ONE No 83238

Makers G. & J. WEIR LTD.

Working Pressure 210/lbs. Test Pressure 250/lbs. Date of Test 4/2/27

FEED WATER FILTERS.

No. One Type Pressure Size 3752 JW
H

Makers Davis & Home Ltd.

Working Pressure 210 lbs./sq. in. Test Pressure 500 lb/sq. in. Date of Test 23/11/26

LIST OF DONKEY PUMPS.

INDEP. FEED PUMP. G. & J. WEIR LTD. No 83239

SUCTIONS. F.W. TANK, HEATER, SEA, CONDENSER & FLOAT TANK, BOILERS

DISCHARGE MAIN & AUX FEED CHECKS & OVERBOARD.

DONKEY OR HARBOUR PUMP. LAMONT 6" x 4 1/4" x 6 No 1359

SUCTION FLOAT CONTROL TANK.

DISCHARGE AUX FEED CHECK.

CENTRIFUGAL CIR. PUMP. DRYSDALE No 18167. COMP. ENGINE

BALLAST PUMP. LAMONT 8" x 9" x 10" No 13755

SUCTIONS. MAIN BILGE, INDEP. BILGE, TANKS,

DISCHARGES CONDENSER, WING CONDENSER, TANKS, OVERBOARD.

GENERAL SERVICE PUMP. LAMONT 8" x 5" x 9" No 13762

SUCTIONS. BOILERS, CONDENSER & HOTWELL, TANKS, SEA,

DISCHARGES OVERBOARD, WING CONDENSER, FILTERS, DECK.

STEERING ENGINE

MCGREGOR P. GLASGOW TELEMOTOR BROWN BROS.

WINDLASS. EMERSON WALKER & THOMPSON.



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REFRIGERATORS.

No. of Machines *2* Capacity of each *2*

Makers *6*

Description *12*

No. of Steam Cylinders, each Machine *6* No. of Compressors *2* No. of Cranks *2*

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.
<i>FORWARD</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>
<i>MIDSHIP</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>
<i>AFT</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>
<i>FORWARD</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>
<i>MIDSHIP</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>
<i>AFT</i>	<i>30</i>	<i>7.00</i>	<i>1.00</i>	<i>1.00</i>

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



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Line of Lamp	Time required to obtain this light	Time of burning this lamp	Time of burning this lamp	Time of burning this lamp
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Description

No. of lamps connected with dynamo

No. of lamps

No. of lamps

Position of lamps in relation to the ship

No. of lamps

ELECTRIC LIGHTING.

Installation Fitted by **TELFORD GRIER & MACKAY, LTD.**No. and Description of Dynamo **ONE COM. WOUND SEMI-ENCLOSED**Makers of Dynamo **N 14 ALLEN & CO BEDFORD. N^o R/68**Capacity **73 Amperes, at 8K.W. Volts. 110. Revols. per Min. 330**Current Alternating or Continuous **CONTINUOUS.**Single or Double Wire System **DOUBLE**Position of Dynamo **ENGINE RM. AFT STARBOARD.**

,, Main Switch Board " " " " " "

No. of Circuits to which Switches are provided on Main Switch Board **SIX.**

Particulars of these Circuits:—

Circuit.	Number of Lights	Candle Power Watts	Current Required. Amps.	Size of Conductor.	Current Density.	Conductivity of Conductor.	Insulation Resistance per Mile.
FORWARD	20	30	6	7/029	1332	100%	600000
ENGINEERS.	28	30	17	7/036	2430
	1	100					
WIRELESS.			14	7/036	2000		
NAVIGATION.	17	Danion	8	7/029	1778		
SALOON.	34	30	9	7/029	2000		
ENGINE ROOM.	3	110.	10	7/029	2222		
	26	30					

Total No. of Lights **129.** No. of Motors driving Fans, &c. No. of Heaters

Current required for Motors and Heaters



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

Installation fitted by TELFORD GRIER & MACDONALD
 No. and Description of Dynamos One COM wound dynamo & increased
 Makers of Dynamos H. H. Allen & Co. Bedford W. 1887
 Capacity 75 Amps at 80 V. 100
 Currents of Dynamos or Controllers CONTINUOUS
 Single or Double Wire System DOUBLE
 Position of Dynamos ENGINE RM AFT STABBOARD
 This Switch Board "
 No. of Dynamos to which switches are provided on this Switch Board SIX
 Positions of these Dynamos:—

Position of Dynamos	Capacity	Currents of Dynamos or Controllers	Single or Double Wire System	Position of Dynamos

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 Cut-outs constructed of Non-inflammable Material?

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

Smallest Single Wire used, No. $\frac{1}{8}$ S.W.G., Largest, No. $\frac{1}{8}$ S.W.G.How are Conductors in Engine and Boiler Spaces protected? Armoured lead covered." Saloons, State Rooms, &c., " ? Lead covered

What special protection is provided in the following cases?—

- (1) Conductors exposed to Heat or Damp Armoured & in tubing where required
- (2) " " passing through Bunkers or Cargo Spaces tubing
- (3) " " Deck Beams or Bulkheads Glands in Bulkheads.

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

is unimpaired? NoneAre all Joints in accessible positions, none being made in Bunkers or Cargo Spaces? Approved PlansAre all Hull Connections for Single-Wire Systems made with Screws of large Surface? Not applicableAre the Dynamos, Motors, Main and Branch Cables, so placed that the Compasses are not injuriously affected by them? YesHave Tests been made to prove that this condition has been satisfactorily fulfilled? YesHas the Insulation Resistance over the whole system been tested? YesWhat does the Resistance amount to? 85,000 Ohms.Is the Installation supplied with a Voltmeter? Yes" " " an Ampere Meter? YesDate of Trial of complete Installation 7-6-27Duration of Trial 6 hoursHave all the requirements of Section 42 been satisfactorily carried out? YesRobert L. Greig

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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. *BARON TWEEDMOUTH*

as ascertained by ^{us}me from personal examination

Robert Lacey
 Engineer Surveyor to the British Corporation for the
 Survey and Registry of Shipping.

Fees—

MAIN BOILERS.

	£	s.	d.
H.S.	Sq. ft.	29	10 : 0
G.S.	"	:	:

DONKEY BOILERS.

H.S.	Sq. ft.	:	:
G.S.	"	:	:
		£	:

ENGINES.

L.P.C.	Cub. ft.	AH	1 : 6
		£	:

Testing, &c. : :

Expenses	EL	8 : 0 : 0
Total	£	81 : 11 : 6

It is submitted that this Report be approved.

J. G. Lacey
 Chief Surveyor.

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

10th August 1917

Fees advised

Fees paid



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 Secretary.

GENERAL CONSTRUCTION

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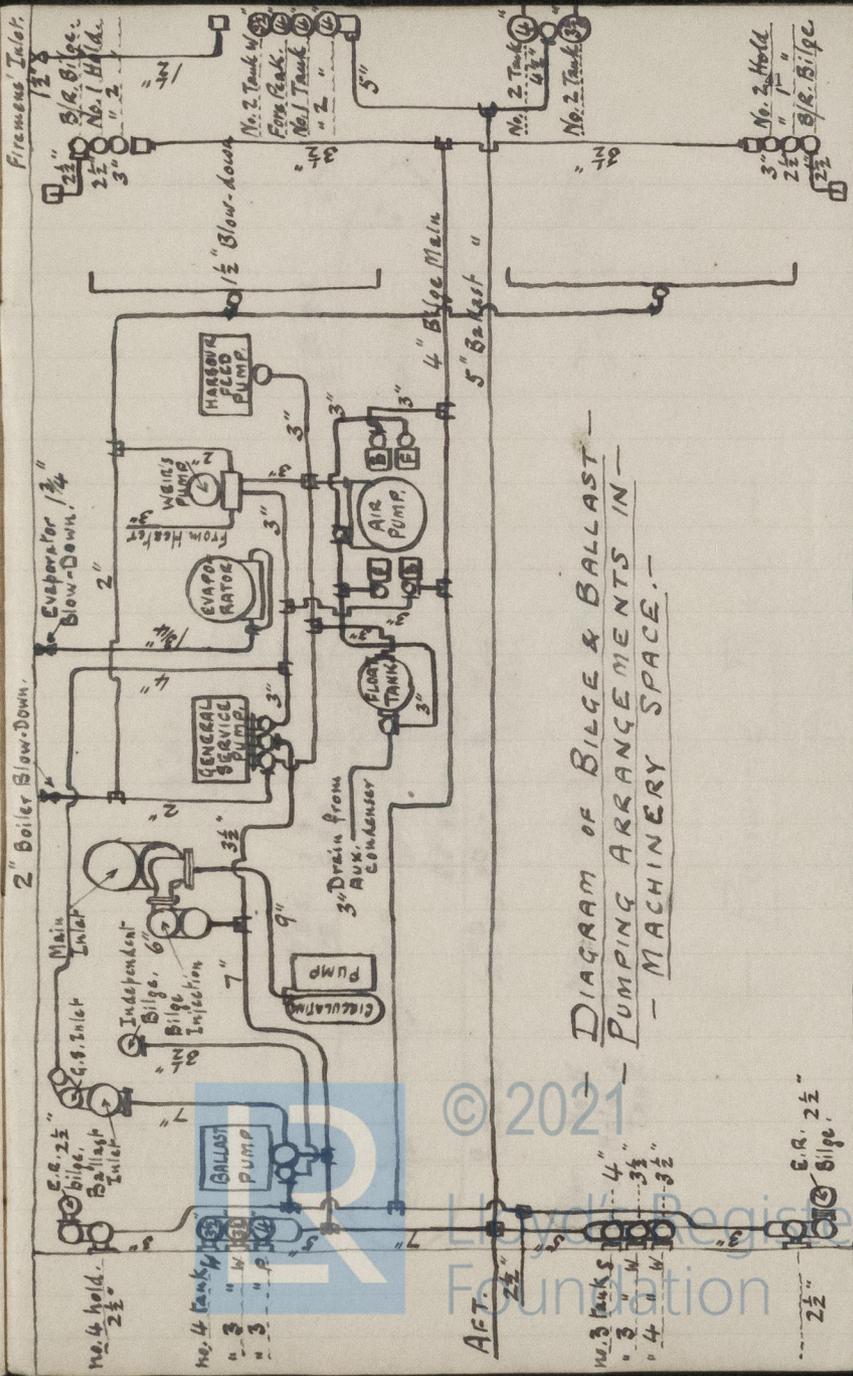
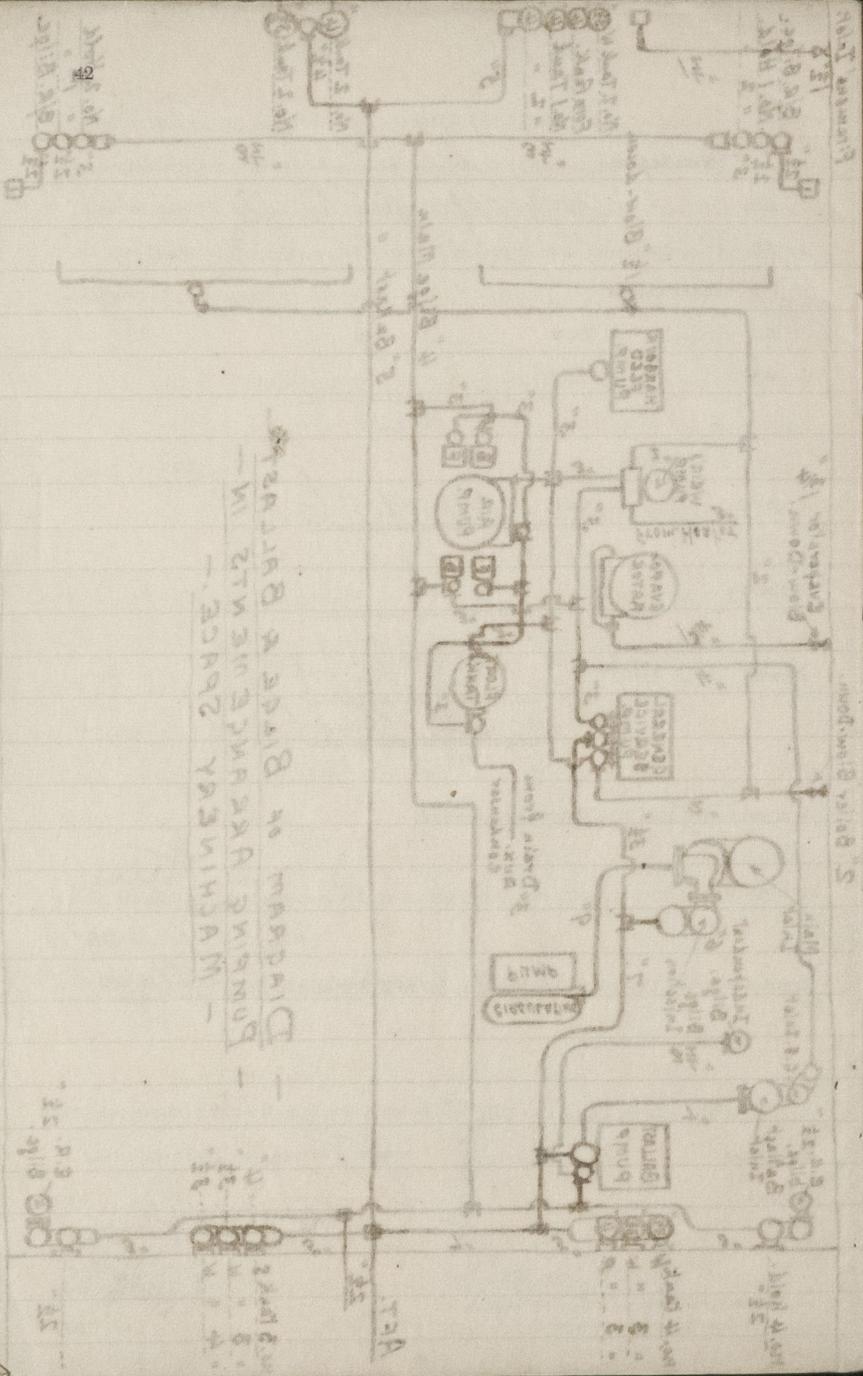
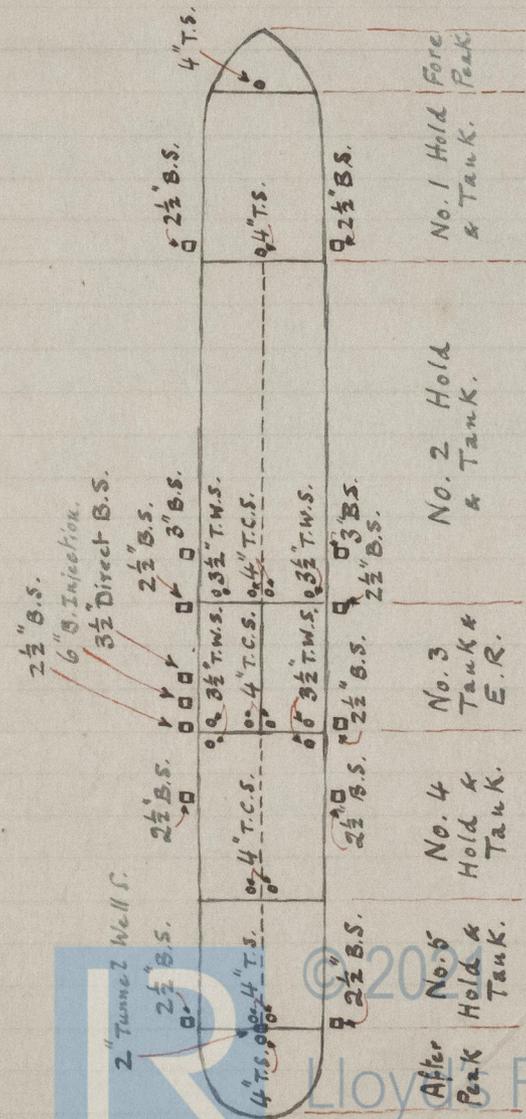


DIAGRAM OF BILGE & BALLAST PUMPING ARRANGEMENTS IN MACHINERY SPACE.

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- WATERWAY SOURCE -
 - BANKING ARRANGEMENTS IN -
 - DISCHARGE BY BARGE & BUTTRESS -



- PUMPING PLAN -

