

DONALD F. FAWCETT

No. 1938

THE BRITISH CORPORATION FOR THE SURVEY
AND
REGISTRY OF SHIPPING.

Report No.

1761

No. in Register Book

25/5057

S.S.

CHEMONG

Makers of Engines

J. G. Kincaid & Co. Ltd

Works No.

610

Makers of Main Boilers

(same.)

Works No.

"

Makers of Donkey Boiler

Works No.

✓

MACHINERY.



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002901-002915-0069

No.

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

Report No. 1761 No. in Register Book 3051

Received at Head Office 24th July 1921

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

"Chernong"

Official No.

Port of Registry

Newcastle

Registered Owners

Swan Hunter & Wigham

Richardson, Wallsend-on-Tyne.

Engines Built by

John G. Kincaid & Co. Ltd.

at

Greenock.

Main Boilers Built by

(Same firm)

at

(Same place.)

Donkey

at

Date of Completion

6/24

First Visit

8/11/23

Last Visit

21/6/24

Total Visits

34

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RECIPROCATING ENGINES.

Works No. **610** No. of Sets **1** Description **Triple expansion, vertical.**

No. of Cylinders each Engine **3** No. of Cranks **3**
 Diars. of Cylinders **16", 27" and 44"** Stroke **33"**

Cubic feet in each L.P. Cylinder **29**

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

Yes.

" " " each Receiver? **M.P. & L.P. only.**

Type of H.P. Valves,

Piston

" **M.P.**

Slide

" **L.P.**

Slide

" **Valve Gear**

Stevenson Link.

" **Condenser**

Surface.

Cooling Surface **950** sq. ft.

Diameter of Piston Rods (plain part) **4 1/8"** Screwed part (bottom of thread) **3.037"**

Material **Steel.**

Diar. of Connecting Rods (smallest part) **4"** Material **Steel.**

" Crosshead Gudgeons **4 1/2"** Length of Bearing **7"** Material **"**

No. of Crosshead Bolts (each) **4** Diar. over Thrd. **1 3/4"** Threds. per inch **6** Material **Steel.**

" Crank Pin " **2** " **2 1/2"** " **"**

" Main Bearings **6** Lengths **5 @ 8 3/8" and one @ 8 7/8"**

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

" Holding Down Bolts, each Engine **74** Diar. **1"** No. of Metal Chocks **44**

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

J.G. Kincaid & Co. Ltd.

Piston " " }

Crossheads, " " }

Connecting Rods, Finished by " " "

Piston " " }

Crossheads, " " }

Date of Harbour Trial

14/6/24

" Trial Trip

21/6/24.

Trials run at

Skelmalie.

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

Yes.

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

907

Revs. per min. **96**

Pressure in 1st I.P. Receiver, **45** lbs., 2nd I.P., - lbs., L.P., **18** lbs., Vacuum, **23.5** ins.

Speed on Trial

9.44 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 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

" 1st " Wheel

Width

Pitch of Teeth

Estimated Pressure per lineal inch

Diar. 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.

If the Conditions on Trial were such that full power records were required, the following estimated

" " L.P. " "

" " 1st Reduction Shafts

" " 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 DESCRIPTION OF INSTALLATION.

No. of Turbo-Generators sets Capacity of each
 Type of Turbines employed
 Description of Generator

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

DESCRIPTION OF INSTALLATION

Diar. of 1st Reduction Pinion
 " 1st " Wheel
 Width

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion
 " 2nd " Wheel
 Width

Estimated Pressure per lineal inch

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

S.H.P.

If the Conditions on Trial were such that full power records were required, the following estimated

" " L.P. " "

" " 1st Reduction Shafts

" " 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



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No. of Turbo-Generating Sets	Capacity of each
1	1000
2	1000
3	1000
4	1000
5	1000
6	1000
7	1000
8	1000
9	1000
10	1000
11	1000
12	1000
13	1000
14	1000
15	1000
16	1000
17	1000
18	1000
19	1000
20	1000
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84	1000
85	1000
86	1000
87	1000
88	1000
89	1000
90	1000
91	1000
92	1000
93	1000
94	1000
95	1000
96	1000
97	1000
98	1000
99	1000
100	1000

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

Diar. of 1st Reduction Pinion

„ 1st „ Wheel

Width

Pitch of Teeth

Estimated Pressure per lineal inch

Diar. of 2nd Reduction Pinion

.. 2nd .. Wheel

Width

Pitch of Teeth

Estimated Pressure per lineal inch

Revol. per min. of Generators at Full Power

22 Motors

" " 1st Reduction Shaft

22 22 2nd 22

" " Propellers at Full Power

Total Shaft Horse Power

Date of Harbour Trial

11 Trial Trip

Trials run at

Speed on Trial

Knots. Propeller Revols. per min.

S.H.P.

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

© 2000



Lloyds

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SHAFTING.

Are the Crank Shafts Built or Solid?

Built.

No. of Lengths in each

3

Angle of Cranks

120°

Diar. by Rule

8.59"

Actual

8 7/8"

In Way of Webs

8 7/8"

,, of Crank Pins

8 7/8"

Length between Webs

8 7/8"

Greatest Width of Crank Webs

1'-4 1/2"

Thickness

5 7/8"

Least

Diar. of *Dowels* in Crank Webs*1 1/2"*

Length

3 3/4",, Dowels in Crank Pins *(none)*

Length

☒

Screwed or Plain

☒

No. of Bolts each Coupling

6

Diar. at Mid Length

2 7/8"

Diar. of Pitch Circle

1'-1"

Greatest Distance from Edge of Main Bearing to Crank Web

3/8"

Type of Thrust Blocks

Adjustable, horse-shoe.

No. ,, Rings

4

Diar. of Thrust Shafts at bottom of Collars

8 5/8"

No. of Collars

4

,, ,, Forward Coupling

"

At Aft Coupling

*8 5/8"*Diar. of Intermediate Shafting by Rule *(none.)* Actual

No. of Lengths

No. of Bolts, each Coupling

Diar. at Mid Length

Diar. of Pitch Circle

Diar. of Propeller Shafts by Rule

9.767"

Actual

9 7/8"

At Couplings

8 7/8"

Are Propeller Shafts fitted with Continuous Brass Liners?

Yes.

Diar. over Liners

11 1/8"

Length of After Bearings

3'-3 1/2"

Of what Material are the After Bearings composed?

Lignum Vitae.

Are Means provided for lubricating the After Bearings with Oil?

No

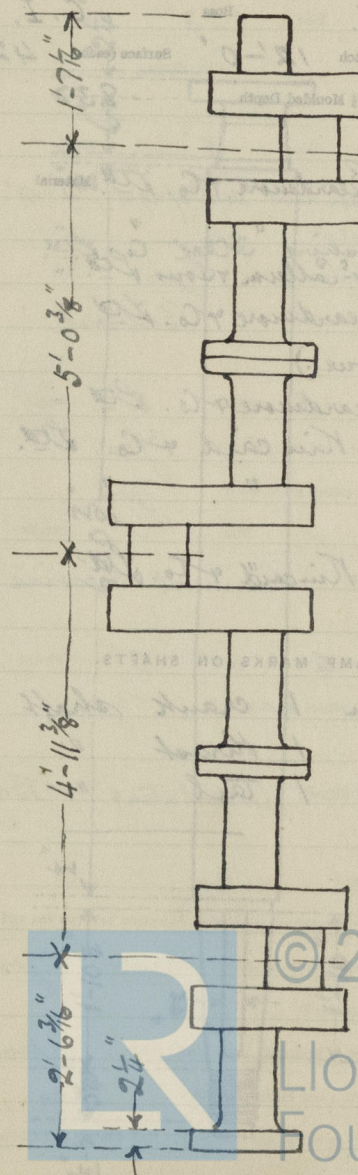
,, ,, to prevent Sea Water entering the Stern Tubes?

"

If so, what Type is adopted?

☒

SKETCH OF CRANK SHAFT.



No. of Blades each Propeller *4* Fitted or Solid? *Fitted.*
 Material of Blades *C.I.* Boss *C.I.*
 Diam. of Propellers *11'-6"* Pitch *12'-0"* Surface (each) *42* S. ft.
 Coefficient of Displacement of Vessel at $\frac{1}{2}$ Moulded Depth *.832*

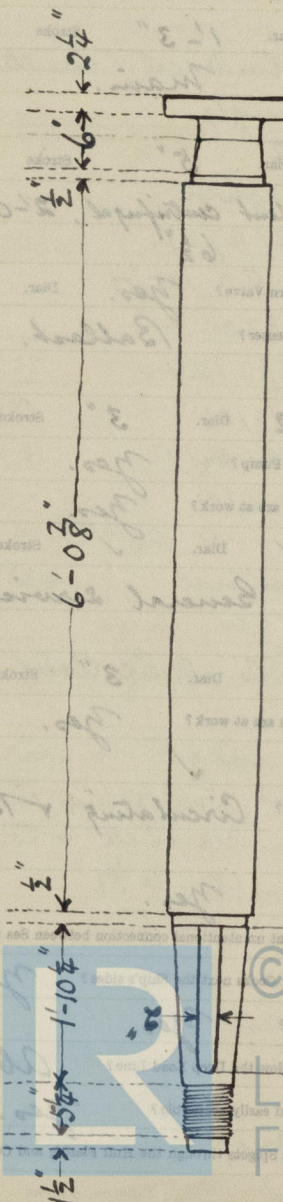
Crank Shafts Forged by *Wm Beardmore & Co. Ltd.* Material *I.S.*
 " Pins " *"* " *"*
 " Webs " *Langfishing Steel Co. Ltd.* " *"*
 " *ex F. W. Callum & Sons Ltd.* " *"*
 Thrust Shafts *Wm Beardmore & Co. Ltd.* " *"*
 Intermed. " *(none.)* " *"*
 Propeller " *Wm Beardmore & Co. Ltd.* " *"*
 Crank " Finished by *J.G. Kincaid & Co. Ltd.*
 Thrust " " " " " *"*
 Intermed. " *(none.)*
 Propeller " *J.G. Kincaid & Co. Ltd.*

STAMP MARKS ON SHAFTS.

B.C.
 9035
 J.W.H.
 28/3/24

on 1 crank shaft
 1 thrust "
 1 tail "

SKETCH OF PROPELLER SHAFT.



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PUMPS, ETC.

No. of Air Pumps *One* Diar. *1'-3"* Stroke *1'-3"*
 Worked by Main or Independent Engines? *Main.*

No. of Circulating Pumps *One* Diar. *5"* Stroke *5½"*
 Type of " *Independent centrifugal, 2'-0" impeller.*
 Diar. of " Suction from Sea *6½"*
 Has each Pump a Bilge Suction with Non-return Valve? *yes.* Diar. *4½"*
 What other Pumps can circulate through Condenser? *Ballast.*

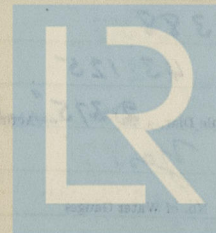
No. of Feed Pumps on Main Engine *2* Diar. *3"* Stroke *1'-3"*
 Are Spring-loaded Relief Valves fitted to each Pump? *yes.*
 Can one Pump be overhauled while the others are at work? *yes.*
 No. of Independent Feed Pumps *✓* Diar. *✓* Stroke *✓*
 What other Pumps can feed the Boilers? *General Service.*

No. of Bilge Pumps on Main Engine *2* Diar. *3"* Stroke *1'-3"*
 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? *Circulating & Ballast.*

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

No. of Boilers *2*
 Type *Cylindrical, vertical tubular*
 Single or Double ended *Single*
 No. of Furnaces in each *2*
 Type of Furnaces *Water-tube*
 Date when first approved *180 10/2/10*
 Approval Working Pressure *350*
 Hydraulic Test Pressure *350*
 Date of Hydraulic Test *180 10/2/10*
 when Safety Valves set *180 10/2/10*
 Pressure at which Valves were set *180 10/2/10*
 Date of Accommodation Test *180 10/2/10*
 Maximum Pressure upon Accommodation Test *180 10/2/10*
 System of Drafting *Natural*
 Can boiler be worked independently? *yes*
 Name of Engineer *H.W. Hunt, 1st & 2nd Class, 180 10/2/10*
 Signature *H.W. Hunt*
 Date *180 10/2/10*



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BOILERS.

Works No. **610**

No. of Boilers **2** Type **Cylindrical, multi tubular.**

Single or Double-ended **Single**

No. of Furnaces in each **2**

Type of Furnaces **Deighton.**

Date when Plan approved **3/11/23.**

Approved Working Pressure **180 lbs/□**

Hydraulic Test Pressure **320 "**

Date of Hydraulic Test **28/3/24.**

„ when Safety Valves set **21/6/24**

Pressure at which Valves were set **183 lbs/□**

Date of Accumulation Test **21/6/24**

Maximum Pressure under Accumulation Test **186 lbs/□**

System of Draught **Natural**

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

Makers of Plates **Steel Co. of Scotland Ltd.**

„ Stay Bars **" " "**

„ Rivets **N.W. Rivet, Bolt & Nut Factory Ltd.**

„ Furnaces **John Marshall & Co. Ltd.**

Greatest Internal Diam. of Boilers **12'-4 $\frac{1}{2}$ "**

„ „ Length „ **10'-6"**

Square Feet of Heating Surface each Boiler **1388**


„ „ Grate „ „ **43.125**

No. of Safety Valves each Boiler **2** Rule Diam. **2.375** Actual **2 $\frac{1}{2}$ "**

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

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

„ Test Cocks **3** „ Salinometer Cocks **"**

B.C. TEST.
4598
320 lbs.
WP. 180 - 
J.W.H.
28/3/24

Wrapper plates; John Spencer & Sons, Ltd. Newcastle.

Nuts by Carr & Nichol Ltd., Asherton.

A. Cockburn & Co.

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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?

Cocks.

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

Yes, valves.

No. of Strakes of Shell Plating in each Boiler

One.

Plates in each Strake

2

Thickness of Shell Plates Approved

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

" " 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.

Thickness of outside Butt Straps

$\frac{13}{16}$ "

" inside "

$\frac{15}{16}$ "

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

$7\frac{3}{4}$ "

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 $1\frac{5}{32}$ " Pitch

3.57"

No. of Rows of Rivets in Back End Circumferential Seams

2

Are these Seams Hand or Machine Riveted?

Machine.

Diam. of Rivet Holes $1\frac{5}{32}$ " Pitch

3.57"

Size of Manholes in Shell

16" x 12"

Dimensions of Compensating Rings

3'-0 $\frac{3}{4}$ " x 2'-6 $\frac{1}{4}$ "

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Doors by Chas. McNeil & Co.

Thickness of End Plates in Steam Space Approved

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

" " " " " in Boilers

Pitch of Steam Space Stays

 $1'-5\frac{1}{2}"$

(1'-5" vert.)

Diar. " " " " Approved

 $2\frac{3}{4}"$

Threads per Inch

6

" " " " " in Boilers

"

"

"

Material of " " "

Steel.

How are Stays Secured?

Nuts + small washers inside + out.

Diar. and Thickness of Loose Washers on End Plates

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

Riveted

✓

Width " " Doubling Strips

✓

Thickness of Middle Back End Plates Approved

 $2\frac{5}{32}"$

" " " " " in Boilers

"

Thickness of Doublings in Wide Spaces between Fireboxes

Pitch of Stays at

" " " "

 $1'-1\frac{3}{4}"$ (8 $\frac{3}{4}"$ vert.)

Diar. of Stays Approved

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

Threads per Inch

9

" " " " in Boilers

"

"

"

Material "

Steel.

Are Stays fitted with Nuts outside?

Yes.

Thickness of Back End Plates at Bottom Approved

 $2\frac{5}{32}"$

" " " " " in Boilers

"

Pitch of Stays at Wide Spaces between Fireboxes

(various.)

Thickness of Doublings in

 $\frac{9}{16}"$

Thickness of Front End Plates at Bottom Approved

 $1\frac{5}{16}"$

" " " " " in Boilers

"

No. of Longitudinal Stays in Spaces between Furnaces

3

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 End Plates Approved

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 End Plates Approved

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in

Are Stay Tubes fitted with Nuts at Front End?

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Thickness of Back End Plates Approved

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 End Plates Approved

Pitch of Stay Tubes at Spaces between Stacks of Tubes

Thickness of Doublings in



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Diar. of Stays Approved

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

Threads per Inch

6

" " in Boilers

Material

Steel

Thickness of Front Tube Plates Approved

 $\frac{15}{16}"$

" " " in Boilers

Pitch of Stay Tubes at Spaces between Stacks of Tubes

 $1'-2\frac{1}{4}"$ $(8\frac{3}{4}" \text{ vert.})$

Thickness of Doublings in

 $\frac{3}{8}"$

" Stay Tubes at

Are Stay Tubes fitted with Nuts at Front End?

yes.

Thickness of Back Tube Plates Approved

 $\frac{3}{4}"$

" " " in Boilers

Pitch of Stay Tubes in Back Tube Plates

 $11\frac{1}{4}"$ (mean.) $(8\frac{3}{4}" \text{ vert.})$

" Plain "

 $4\frac{1}{2}"$ $(4\frac{3}{8}" \text{ "})$

Thickness of Stay Tubes

 $\frac{5}{16}"$

" Plain "

9 w.g.

External Diar. of Tubes

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

Material

Lap welded wro't iron.

Thickness of Furnace Plates Approved

 $\frac{19}{32}"$

" " " in Boilers

Smallest outside Diar. of Furnaces

 $3'-10\frac{3}{16}"$

Length between Tube Plates

 $7'-0"$

Width of Combustion Chambers (Front to Back)

 $2'-7\frac{19}{32}"$

Thickness of " " Tops Approved

 $\frac{21}{32}"$

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

 $9\frac{7}{8}"$ $(8\frac{1}{4}" \text{ bet. girders.})$

P

Threads per Inch

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

Diar. of Screwed Stays Approved

" " " in Boilers

Material

Steel

 $\frac{5}{16}"$

Thickness of Combustion Chamber Plates Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

Diar. " " " Approved

" " " in Boilers

Material

Steel

 $\frac{5}{16}"$

Thickness of Combustion Chamber Plates Approved

" " " in Boilers

Pitch of Screwed Stays in C.O. Tops

Diar. " " " Approved

" " " in Boilers

Material

Steel

Lap welded

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

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber

Centre " " "

Height and Thickness of Girders

Pitch of Stays in

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Diam. of Screwed Stays Approved $1\frac{5}{8}"$ Threads per Inch 9

" " " in Boilers "
Material " " Steel.

Thickness of Combustion Chamber Sides Approved $\frac{21}{32}"$

" " " " in Boilers "

Pitch of Screwed Stays in C.O. Sides $9\frac{3}{8}"$ ($8\frac{1}{4}"$ vert. bet. rows.)
Diam. " " Approved $1\frac{5}{8}"$ Threads per Inch 9

" " " in Boilers "
Material " " Steel.

Thickness of Combustion Chamber Backs Approved $\frac{21}{32}"$

" " " " in Boilers "

Pitch of Screwed Stays in C.O. Backs $9"$ ($8\frac{3}{4}"$ vert.)
Diam. " " Approved $1\frac{5}{8}"$ Threads per Inch 9

" " " in Boilers "
Material " " Steel.

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

Yes.
 $\frac{3}{4}"$

Thickness of Combustion Chamber Bottoms

No. of Girders over each Wing Chamber 5

" " " Centre "

Depth and Thickness of Girders $8\frac{1}{2}" \times 5\frac{7}{8}"$ (double.)

Material of Girders Steel plates.

No. of Stays in each 2

No. of Tubes, each Boiler 188

Size of Lower Manholes $16" \times 12"$

VERTICAL DONKEY BOILERS

No. of Boilers
Type
Greatest Int. Diam.
Height
Height of Boiler Crown above Fire Grate
Are Boiler Crown Plates Dished?
Internal Radius of Dished Ends
Description of Stays in Boiler Crown
Diam. of Stays
Height of Firebox Crown above Fire Grate
Are Firebox Crown Plates Dished?
Internal Radius of Dished Crown
No. of Crown Stays
Diam.
Material
Thickness of Plates
External Diam. of Firebox at Top
No. of Water Tubes
Material of Water Tubes
Size of Manhole in Shell
Dimensions of Combustion Chamber
Location of Tubes, each Boiler

SUPERHEATERS

Description of Superheaters

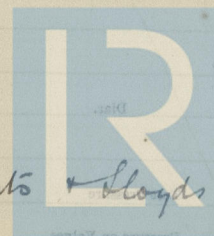
When required?

Which Boilers are connected to superheaters?
Can superheaters be used if which boilers are working?

No. of Safety Valves on each Superheater

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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

External, Welded or Seamed

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Pipes

Material

External, Welded or Seamed

Internal Diar.

Thickness

How are Flanges secured?

Date of Hydraulic Test

Test Pressure

No. of Pipes

Material

External, Welded or Seamed

Internal Diar.

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		

One

FEED WATER HEATERS.

No.	Type	Surface H.P.	no. 8 "C.M."
Makers	Holden & Brooke Ltd Manchester.		
Working Pressure	180	Test Pressure	Cold 45.0 Date of Test 30/1/24.

FEED WATER FILTERS.

No.	One	Type	Low pressure	Size	No. 1 Suction
Makers	Bawie & Horne Johnstone				
Working Pressure	—	Test Pressure	—	Date of Test	—

STEERING ENGINE.

No.	One	Type	Vertical steam
Makers	Hastie Greenock		
fitted with Tellmotor Gear.			

INJECTOR.

Brooke's patent, size 9, by Holden & Brooke Ltd.

LIST OF DONKEY PUMPS.

Ballast, vert. duplex, 9" & 13" x 10", by Kincaid.
 Suctions; - Sea, tanks, bilges, + hold flooding connection.
 Discharges; - O'board, tanks, + Condenser.

General Service, vert. duplex, 6" & 4 1/4" x 6", by Dawson & Downie.

Suctions; - Sea, Hot well, e-r tank, Condenser, boilers, + circulating discharge.

Discharges; - O'board, boilers, heater, deck, + e-r hose.

Circulating, centrifugal, 5" x 5 1/2", (6 1/2" suet. + disch.) by H. Watson & Sons.

Suctions; - Sea, bilge injection.

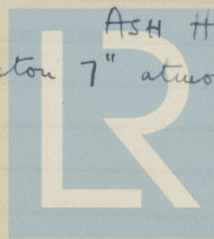
Discharge; - Condenser.

Sanitary, horz. duplex, 4 1/2" & 2 3/4" x 4", by Dawson & Downie.

Suctions; - Sea, e-r tank.

Discharge; - Sanitary tank.

One Crompton 7" atmospheric, self-tipping bucket.



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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 " 6
" Junk Ring ^{Studs} 3	" Feed Pump Valves 1 set with sets.	" Bilge Pump Valves 1 set with sets.
" H.P. Piston Rings	" L.P. Piston Rings	" L.P. Piston Rings
" " Springs	" " Springs	" " Springs
" Safety Valve 1	" Fire Bars 1/2 set for 1 boiler with wing bars.	" Feed Check Valves 1 main and 1 aux.
" Piston Rods	" Connecting Rods	" Valve Spindles
" Air Pump Rods	" Air Pump Buckets	" Air Pump Valves 1/2 set
" Cr. " "	" Cr. " "	" Cr. " "
" Crank Shafts	" Crank Pin Bushes	" Crosshead Bushes
" Propeller Shafts	" Propellers	" Propeller Blades 4 c.i.
" Boiler Tubes 3 plain to be sent	" Condenser Tubes 3	" Condenser Ferrules 20

OTHER ARTICLES OF SPARE GEAR:—

- 24 assorted bolts & nuts. 48 woodite
- 24 gauge glasses, with 1 day. rubber rings.
- 2 sheets tin.
- 1 " Muntz metal.
- 1 set feed donkey water valves
- 1 " ballast " " "
- 1 " Sanitary pump " "
- 1 escape valve spring for each size fitted.
- Bar & plate iron in various sizes.

ROTARY ENGINE

} Included in assorted bolts.



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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.
Machine Room	68	70	3 1/2	2 1/2
Condenser	Continuous			2 1/2
Refrigerant	Scrubber	air system		
Particulars of Pump	Shut side eng room			
Particulars of Pump	Engine room			
No. of Cylinders in which Refrigerant is stored			Five	
Particulars of these Cylinders				
Machine Room	16	78	7/16	348
Engine Room	38	24 1/2	4/16	100
Particulars of Pump	32	10	7/16	3105
Particulars of Pump	16	22 1/2	7/16	1445

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



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Direct-coupled to single cyl. steam engine 6"x5"
by same makers.

ELECTRIC LIGHTING.

Installation Fitted by *The Sunderland Forge Co Ltd*
No. and Description of Dynamos *One - multipolar Compound Wound Dynamos*
Makers of Dynamos *Sunderland Forge & Eng. Co Ltd Belfast.*
Capacity " *68* Amperes, at *110* Volts, *375* Revs. per Min. *7 1/2 1/2 K.W.*
Current Alternating or Continuous *Continuous*
Single or Double Wire System *Double wire system*
Position of Dynamo *Stand side eng. room.*
" Main Switch Board *Engine room.*
No. of Circuits to which Switches are provided on Main Switch Board *Five.*

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.
1. Eng. & Bk. rooms	14	16	4.4	4/064	342	100%	2500megs.
2. Port Accom. & Cargo	38	16	24.75	4/064	1100	100%	"
3. Nav. & India	5	32	5.5	4/064	344.5	100%	"
4. Apt room & Cargo	54	16	32.45	4/064	1445	100%	"
5. Spare.							

Total No. of Lights *111* No. of Motors driving Fans, &c. *nil* No. of Heaters *nil*
Current required for Motors and Heaters *nil*

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

1 in wheel house for Nav. Lights 5 switches
1 " eng. room " Eng. Rm. & B. Rm. " "

Are Out-outs fitted as follows?—

On Main Switch Board, to Cables of Main Circuits

Yes.

On Aux. " " each Auxiliary Circuit

Yes.

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.

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

Yes.

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

Yes.

Smallest Single Wire used, No. *all* S.W.G., Largest, No.

S.W.G.

How are Conductors in Engine and Boiler Spaces protected? *Lead covered, armoured & braided*

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

What special protection is provided in the following cases?—

(1) Conductors exposed to Heat or Damp *Lead cov. armoured & braided*

(2) " passing through Bunkers or Cargo Spaces *Cables run in galv. W.I. pipe*

(3) " " Deck Beams or Bulkheads *Bushed holes or W.I. 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?

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 Megohm.

Ohms.

Is the Installation supplied with a Voltmeter?

Yes.

" " " an Ampere Meter?

Yes.

Date of Trial of complete Installation

16/6/34

Duration of Trial

12 hrs.

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. *Are the Dynamometer Main and Branch Cables, as placed that the Compressors are*

affected by them?

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

Has the Installation Resistance over the whole system been tested?

What was the Resistance amount to?

Is the Installation supplied with a little Voltmeter?

As an Ampere Meter?

Date of Trial of complete installation

Have all the requirements of Section 23 been satisfactorily carried out?

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.

"CHEMONG"

as ascertained by ^{us} ~~me~~ from personal examination

J. Wood Harrington.
Geo. W. Luke.

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.E. "	:	:
£	:	:

ENGINES.

L.P.C. Cub. ft.	:	:
£	:	:
Testing, &c. ...	:	:
£	:	:
Expenses ...	:	:
Total ... £	:	:

It is submitted that this Report be approved.

Jan Burr for Chief Surveyor.

Approved by the Committee for the Class of M.B.S.* on the *11th June 1924.*

Fees advised

Fees paid



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Secretary.

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It is submitted that this Report be approved.

Approved by the Committee for the Class of M.S.S. on the 11th of June 1924.

Approved by the Committee for the Class of M.S.S. on the 11th of June 1924.

Approved by the Committee for the Class of M.S.S. on the 11th of June 1924.

Approved by the Committee for the Class of M.S.S. on the 11th of June 1924.

For advised

For paid

Visits.

8/11/23

12 "

30 "

11/12/23.

18 "

27 "

10/1/24

18 "

24 "

30 "

5/2/24

11 "

14 "

18 "

30 "

22 "

4/3/24.

7 "

10 "

11 "

13 "

17 "

20 "

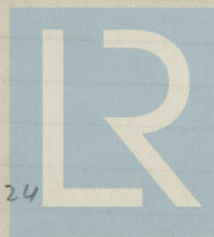
26 "

28 "

31 "

4/4/24

10 "



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1574/24.

18 "

30 "

575724.

22/5/24

3/6/24

5 "

19 "

21 "

. 24/11/24

25/11/24

" 31

" 08

. 26/11/24

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45/1/01

" 31

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2/6/20

2/7/20

2/8/20

2/9/20



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