No. 1646

TRANSFERRED TO
L. R. SYSTEM

THE BRITISH CORPORATION FOR THE SURVEY

AND

REGISTRY OF SHIPPING.

RETAIN

Report No. 1426. No. in Register Book 2561

S.S. "FAIRWATER" EX
S.S. SCOTTISH AMERICAN

Makers of Engines GEO CLARK LD SUNDERLAND.

Works No. 1056

Makers of Main Boilers GEO CLARK LD SUNDERLAND

Works No. 1056

Makers of Donkey Boiler NONE FITTED

Works No. —

MACHINERY.

1, 12, 22, 36,

No.

# THE BRITISH CORPORATION FOR THE SURVEY
AND
# REGISTRY OF SHIPPING.

Report No. 1426 No. in Register Book 2561

Received at Head Office 2nd June 1921

## Surveyor's Report on the New Engines, Boilers, and Auxiliary Machinery of the Single Triple / Twin Quadruple Screw

Official No. 144695 Port of Registry LONDON.

Registered Owners TANKERS. Ld.

Engines Built by Geo Clarks Ld

at Sunderland

Main Boilers Built by Geo Clarks

at Sunderland

Donkey " "

at

Date of Completion 25th August 1920

First Visit Last Visit 25th August 1920 Total Visits

## RECIPROCATING ENGINES.

Works No. 1056 No. of Sets 1 Description Triple Expansion Surface Condensing

No. of Cylinders each Engine 3 No. of Cranks 3

Diars. of Cylinders 27" — 45" — 74" — Stroke 54"

Cubic feet in each L.P. Cylinder 128·13

Are Spring-loaded Relief Valves fitted to Top and Bottom of each Cylr.? H.P. Cylinder top only.

" " " each Receiver? yes.

Type of H.P. Valves, Piston Valve

" 1st I.P. " Slide "

" 2nd I.P. " ✓

" L.P. " Slide "

" Valve Gear Stephenson's

" Condenser Weir Uniflux Cooling Surface 2,400 sq. ft.

Diameter of Piston Rods (plain part) 7" Screwed part (bottom of thread) 5

Material " Forged Steel

Diar. of Connecting Rods (smallest part) 7" Material Forged Steel

" Crosshead Gudgeons 7 3/4" Length of Bearing 13 Material Forged Steel

No. of Crosshead Bolts (each) 2 Diar. over Thrd. 4 Thrds. per inch 4 Material " "

" Crank Pin " " 2 " 4 " 4 " " "

" Main Bearings 6 Lengths 1'-2"

" Bolts in each 2 Diar. over Thread 3 3/8 Threads per inch 4 Material Mild Steel

" Holding Down Bolts, each Engine 80 Diar. 1 1/2" No. of Metal Chocks none fitted

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 where possible

If not, how are they fitted?



Connecting Rods, Forged by George Clark Ltd Sunderland

Piston " " " " " "

Crossheads, " " " " "

Connecting Rods, Finished by " " " "

Piston " " " " " "

Crossheads, " " " " "

Date of Harbour Trial 6th August 1920

" Trial Trip 25th August 1920

Trials run at Sea off the River Tyne

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

If so, what was the I.H.P.? 2977 Revols. per min. 70

Pressure in 1st I.P. Receiver, 55 lbs., 2nd I.P., lbs., L.P., 6 lbs., Vacuum, 27 ins.

Speed on Trial 11·1

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

Builders' estimated I.H.P. Revols. per min.

Estimated Speed

## 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?

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

" " I.P. " "

" " L.P. " "

" " 1st Reduction Shaft

" " 2nd "

" " Propeller Shaft

Total Shaft Horse Power

Date of Harbour Trial

" Trial Trip

Trials run at

Speed on Trial

Turbine Spindles forged by

" Wheels forged or cast by

Reduction Gear Shafts forged by

" Wheels forged or cast by

DESCRIPTION OF INSTALLATION.

## 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

Revols. 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

## SHAFTING.

Are the Crank Shafts Built or Solid? Built

No. of Lengths in each 3 Angle of Cranks 120°

Diar. by Rule R. 14.63" Actual 14¾" In Way of Webs 15½"

" of Crank Pins 14¾" Length between Webs 1'-4⅛

Greatest Width of Crank Webs 2'-6 Thickness 10"

Least " " 1'-11½" " 10"

Diar. of Keys in Crank Webs SCREWED 1¼" Length 5"

" Dowels in Crank Pins — Length — Screwed or Plain —

No. of Bolts each Coupling 6 Diar. at Mid Length 3¼" Diar. of Pitch Circle 1'-9¼

Greatest Distance from Edge of Main Bearing to Crank Web ¼".

Type of Thrust Blocks Ordinary horse shoe

No. " Rings 9

Diar. of Thrust Shafts at bottom of Collars 1'-2⅞" No. of Collars 9

" " Forward Coupling 1'-2¾ At Aft Coupling 1'-2¾

Diar. of Intermediate Shafting by Rule — Actual — No. of Lengths none

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

Diar. of Propeller Shafts by Rule R 15".5 Actual 1'-3⅝" At Couplings 1'-2¾"

Are Propeller Shafts fitted with Continuous Brass Liners? yes

Diar. over Liners 1'-5⅛" Length of After Bearings 5'-2½

Of what Material are the After Bearings composed? Lignum Vitae

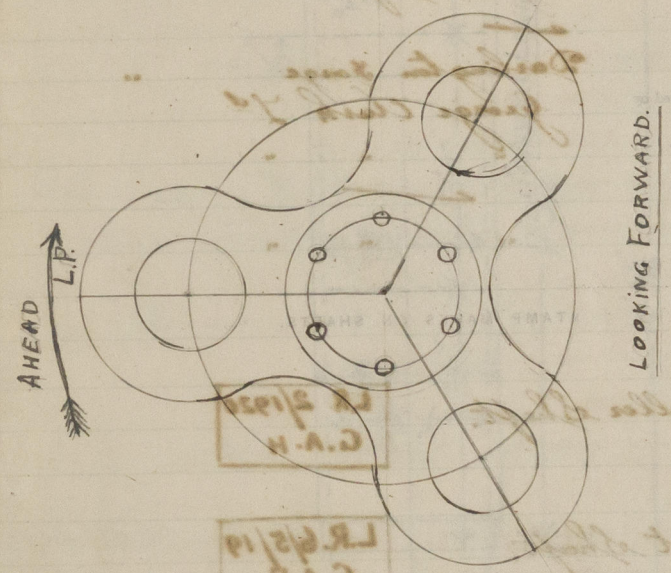
Are Means provided for lubricating the After Bearings with Oil? yes

" " to prevent Sea Water entering the Stern Tubes? yes

If so, what Type is adopted? Vickers Patent Stern Tube Gland



## SKETCH OF CRANK SHAFT.



No. of Blades each Propeller 4 Fitted or Solid? Solid

Material of Blades Cast iron Boss Cast Iron.

Diar. of Propellers 18'-9" Pitch 17'-0" Surface (each) 108 S. ft.

Coefficient of Displacement of Vessel at ⅔ Moulded Depth

Crank Shafts Forged by Darlington Forge Material Steel

" Pins " " " " "

" Webs " Spencers Newburn " "

Thrust Shafts " Darlington Forge " "

Intermed. " " — " "

Propeller " " Darlington Forge " "

Crank " Finished by George Clark Ld

Thrust " " " " "

Intermed. " " — " "

Propeller " " " " "

STAMP MARKS ON SHAFTS.

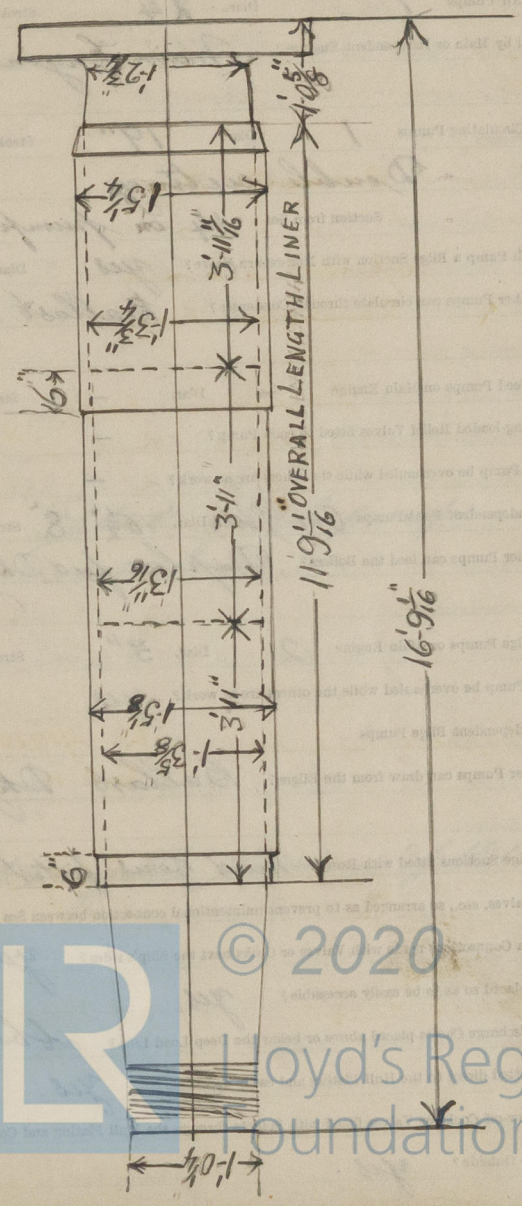
Propeller Shaft. L.R. 2/1920 G.A.H

Thrust Shaft. L.R. 6/5/19 G.A.H.

Crank Shaft. L.R. 28/6/20 G.A.H.



SKETCH OF PROPELLER SHAFT.



## PUMPS, ETC.

No. of Air Pumps 1 Diar. 24" Stroke 30"

Worked by Main or Independent Engines? Main Engines

No. of Circulating Pumps 1 Diar. 19" Stroke 30"

Type of " Double acting

Diar. of " Suction from Sea 14 on pump

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

What other Pumps can circulate through Condenser? Ballast Donkey.

No. of Feed Pumps on Main Engine — Diar. — Stroke —

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

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

No. of Independent Feed Pumps One Pair Diar. 16½" 8" Stroke 21 — Woodesons Patent feed pumps

What other Pumps can feed the Boilers? Duplex feed Dky 9x5¼x10

No. of Bilge Pumps on Main Engine 2 Diar. 5" Stroke 30"

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 Dky.

Are all Bilge Suctions fitted with Roses? Mud Boxes fitted in Stokehold, on the Bilge direct & injection Strums are fitted

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 Valves

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.

Works No. 1056

No. of Boilers four Type Multitubular Marine Cylindrical

Single or Double-ended Single

No. of Furnaces in each 3

Type of Furnaces Morrisons

Date when Plan approved 27/5/19

Approved Working Pressure 180 lbs per □"

Hydraulic Test Pressure 360

Date of Hydraulic Test R test see correspondence

" when Safety Valves set 6th August 1920

Pressure at which Valves were set 180 lbs □"

Date of Accumulation Test 6th August 1920

Maximum Pressure under Accumulation Test 188 lbs □"

System of Draught Howdens Forced Draught (Oil fuel)

Can Boilers be worked separately? yes

Makers of Plates Spencers & Sons Newburn-on-Tyne

" Stay Bars " " " " "

" Rivets Rivet Nut & Bolt Co Ld

" Furnaces

Greatest Internal Diar. of Boilers 13'-6 27/32"

" " Length " 11'-7 1/8"

Square Feet of Heating Surface each Boiler 2093

" " Grate " " 49

No. of Safety Valves each Boiler Two Diar. 2 3/8"

Are the Safety Valves fitted with Easing Gear? yes

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

" Test Cocks " 3 " Salinometer Cocks 1

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

Are the Water Gauge Pillars fitted direct to the Boiler Shells or connected by Pipes? Direct to Shell on After Boilers, Connected by pipes on forward Boilers.

Are these Pipes connected to Boilers by Cocks or Valves? yes (Valves)

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 two

Thickness of Shell Plates Approved 1 5/64"

" " 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 29/32"

" nside " 1"

Are Longitudinal Seams Hand or Machine Riveted? Machine

Are they Single, Double, or Treble Riveted? Treble Rivetted

No. of Rivets in a Pitch 5.

Diar. of Rivet Holes 1 1/8 Pitch 7 3/4"

No. of Rows of Rivets in Centre Circumferential Seams —

Are these Seams Hand or Machine Riveted? —

Diar. of Rivet Holes — Pitch —

No. of Rows of Rivets in Front End Circumferential Seams two

Are these Seams Hand or Machine riveted? Hand

Diar. of Rivet Holes 1 1/8" Pitch 3 5/16"

No. of Rows of Rivets in Back End Circumferential Seams two

Are these Seams Hand or Machine Riveted? Machine

Diar. of Rivet Holes 1 1/8 Pitch 3 5/16"

Size of Manholes in Shell 12" X 16"

Dimensions of Compensating Rings 2' 8" x 2' 4" x 1 1/8"

Thickness of End Plates in Steam Space Approved 1 7/32"

" " " " " in Boilers "

Pitch of Steam Space Stays 20 3/4 + 18"

Diar. " " " " Approved 2 7/8 Threads per Inch = 6 + 2 3/4 ditto

" " " " " in Boilers " " " " " "

Material of " " " Steel

How are Stays Secured? Double nuts & Washers

Diar. and Thickness of Loose Washers on End Plates 7" x 3/16"

" " Riveted " " " ✓

Width " " Doubling Strips " " ✓

Thickness of Middle Back End Plates Approved ✓

" " " " " in Boilers ✓

Thickness of Doublings in Wide Spaces between Fireboxes ✓

Pitch of Stays at " " " " ✓

Diar. of Stays Approved ✓ Threads per Inch ✓

" " in Boilers ✓ " ✓

Material " ✓ ✓

Are Stays fitted with Nuts outside? ✓

Thickness of Back End Plates at Bottom Approved 15/16"

" " " " " in Boilers "

Pitch of Stays at Wide Spaces between Fireboxes 14 3/4

Thickness of Doublings in " " ✓

Thickness of Front End Plates at Bottom Approved 15/16

" " " " " in Boilers "

No. of Longitudinal Stays in Spaces between Furnaces 1

Diar. of Stays Approved 2 1/2" Threads per Inch 6

" " in Boilers " "

Material " Steel

Thickness of Front Tube Plates Approved 15/16"

" " " " in Boilers "

Pitch of Stay Tubes at Spaces between Stacks of Tubes 13 1/2

Thickness of Doublings in " " " ✓

" Stay Tubes at " " " 3/8 x 5/16"

Are Stay Tubes fitted with Nuts at Front End ? yes

Thickness of Back Tube Plates Approved 3/4"

" " " in Boilers "

Pitch of Stay Tubes in Back Tube Plates 11 1/4" 7 1/4"

" Plain " 3 3/4" & 3 5/8"

Thickness of Stay Tubes 3/8" 5/16" 1/4"

" Plain " no 8 S.W.G

External Diar. of Tubes 2 1/2"

Material " Iron Lapiveldied

Thickness of Furnace Plates Approved 1/2" Morison

" " " in Boilers " "

Smallest outside Diar. of Furnaces 3'-2 1/4"

Length between Tube Plates 7'- 8 5/16

Width of Combustion Chambers (Front to Back) 3'-0"

Thickness of " " Tops Approved 25/32"

" " " " in Boilers "

Pitch of Screwed Stays in C.C. Tops 11" x 10 1/2"

Diar. of Screwed Stays Approved 1 7/8" Threads per Inch 9

" " " in Boilers " "

Material " " Steel

Thickness of Combustion Chamber Sides Approved 13/16

" " " " in Boilers "

Pitch of Screwed Stays in C.C. Sides 10 1/4" 10 3/4"

Diar. " " Approved 1 7/8" Threads per Inch 9

" " " in Boilers " "

Material " " Steel

Thickness of Combustion Chamber Backs Approved 3/4"

" " " in Boilers "

Pitch of Screwed Stays in C.C. Backs 10 1/2" x 10

Diar. " " Approved 1 7/8" Threads per Inch 9 2" 2 1/8" + 2 1/4"

" " " in Boilers " " " " "

Material " " Steel

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

Thickness of Combustion Chamber Bottoms 13/16

No. of Girders over each Wing Chamber 3

" " " Centre " 2

Depth and Thickness of Girders 7 5/8" x 1 3/4"

Material of Girders Steel

No. of Stays in each 2

No. of Tubes, each Boiler 338

Size of Lower Manholes 15" x 12"

## 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 Lengths | 6 |
| Material | Wrot iron |
| Brazed, Welded or Seamless | Welded |
| Internal Diar. | 5" |
| Thickness | 5/16 |
| How are Flanges secured? | Vanishing thread screwed on |
| Date of Hydraulic Test | 8/7/20 |
| Test Pressure | 360 lbs □" |

Between Boilers Port & Stbd

| | |
|---|---|
| No. of Lengths | 1 |
| Material | Wrot. iron |
| Brazed, Welded or Seamless | Welded |
| Internal Diar. | 6 3/4" |
| Thickness | 3/8" |
| How are Flanges secured? | Screwed on Vanishing thread |
| Date of Hydraulic Test | 7/20 |
| Test Pressure | 360 lbs □" |

Steam to Engines

| | |
|---|---|
| No. of Lengths | 1 |
| Material | Wrot iron |
| Brazed, Welded or Seamless | Welded |
| Internal Diar. | 9 1/4" |
| Thickness | 3/8" |
| How are Flanges secured? | Screwed on Vanishing thread |
| Date of Hydraulic Test | 7/20 |
| Test Pressure | 360 lbs □" |

## EVAPORATORS.

No. One Type Geo Clark Ltd Make Tons per Day 40

Makers Geo Clark Ltd Sunderland

Working Pressure 5 lbs□" Test Pressure 50 lbs□" Date of Test 5/8/20

Date of Test of Safety Valves under Steam 23/8/20

## FEED WATER HEATERS.

No. One Type Direct Contact

Makers Clarke Chapman Gateshead

Working Pressure Test Pressure Date of Test

## FEED WATER FILTERS.

No. One Type Davie Suction Size 4" inlet.

Makers Davie & Thorne Ltd

Working Pressure Test Pressure Date of Test



## LIST OF DONKEY PUMPS.

## 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 „ | 4 |
| „ Junk Ring Bolts | 6 | „ Feed Pump Valves | 2 sets | Bilge Pump Valves | 2 sets |
| „ H.P. Piston Rings | | „ I.P. Piston Rings | | „ L.P. Piston Rings | |
| „ „ Springs | | „ „ Springs | | „ „ Springs | 10 |
| „ Safety Valve „ | 2 | „ Fire Bars | (Oil fuel) | Feed Check Valves | 2 |
| „ Piston Rods | | „ Connecting Rods | | „ Valve Spindles | 1 |
| „ Air Pump Rods | | „ Air Pump Buckets | | „ Air Pump Valves | 1 set |
| „ Cir. „ | | „ Cir. „ | | „ Cir. „ | 1 set |
| „ Crank Shafts | | „ Crank Pin Bushes | 1 | „ Crosshead Bushes | 1 |
| „ Propeller Shafts | 1 | „ Propellers | 1 | „ Propeller Blades | — |
| „ Boiler Tubes | 12 | „ Condenser Tubes | 24 | „ Condenser Ferrules | 100 |

OTHER ARTICLES OF SPARE GEAR:—

## REFRIGERATORS.

No. of Machines Capacity of each

Makers G & E Hall Ld

Description No 7 size S V M TYPE C.O 2.

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 Co 2

" Insulation Brine

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. |
|---|---|---|---|---|
| | | | | |

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

## ELECTRIC LIGHTING.

Installation Fitted by Sunderland Forge & Eng^g Co^y Ltd Sunderland

No. and Description of Dynamos Open type Engine coupled to Compound Multipole Dynamo

Makers of Dynamos Sunderland Forge & Eng Co^y Ltd Sunderland

Capacity 10·5 KW-105 Amperes, at 100 Volts, 320 Revols. per Min.

Current Alternating or Continuous Continuous

Single or Double Wire System Double wire system

Position of Dynamos Engine room bottom platform starb^d side

" Main Switch Board close to Dynamo

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

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. |
|---|---|---|---|---|---|---|---|
| Navigation & Compasses | 21 | 16 c/p | 11·8 | 7/16 | 531 | 100 % | 2,500 |
| Saloon & Pump room | 49 | " | 27·5 | 7/16 | 1230 | " | " |
| Forward | 17 | " | 9·5 | 7/16 | 427 | " | " |
| Aft Accommodation | 23 | " | 13 | 7/20 | 1860 | " | " |
| Engine & Boiler Rooms | 24 | " | 13·5 | 7/20 | 1940 | " | " |
| Wireless | — | — | 15/25 | 7/16 | 1125 | " | " |

Total No. of Lights 136 @ 16 c/p No. of Motors driving Fans, &c. 22 No. of Heaters ~~and Heaters~~ not fitted

Current required for Motors ~~and Heaters~~ 12·3 amperes

Positions of Auxiliary Switch Boards, with No. of Switches on each in Chart Room with switches controlling Compasses, Telegraphs, & Morse Lamp and a navigation Light Indicator with switches controlling Foremast Mainmast. Port & Starboard lights

Are Cut-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 Cut-outs constructed of Non-inflammable Material? yes

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

Smallest Single Wire used, No. 3/22 S.W.G., Largest, No. 19/14 S.W.G.

How are Conductors in Engine and Boiler Spaces protected? Lead Covered & Armoured

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

What special protection is provided in the following cases? Lead covered & Armoured

(1) Conductors exposed to Heat or Damp Lead covered & armoured & Lead covered & x & brazed in iron pipe.

(2) " passing through Bunkers or Cargo Spaces — — —

(3) " " Deck Beams or Bulkheads holes bushed with fibre x x or watertight glands.



Are all Joints in Cables properly soldered and thoroughly Insulated so that the efficiency of the Cables is unimpaired? none made

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? 8 megohms Ohms.

Is the Installation supplied with a Voltmeter? yes on main switchboard

" " " an Ampere Meter? yes - - -

Date of Trial of complete Installation 18th August 1920 Duration of Trial nine hours

## 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. SCOTTISH AMERICAN as ascertained by ~~me~~ me from personal examination

In order
JB

James Matthew Scott

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



Fees—

| | | £ | s. | d. |
|---|---|---|---|---|
| MAIN BOILERS. | | | | |
| H.S. | Sq. ft. | | : | : |
| G.S. | ,, | | : | : |
| DONKEY BOILERS. | | | | |
| H.S. | Sq. ft. | | : | : |
| G.S. | ,, | | : | : |
| | £ | | : | : |
| ENGINES. | | | | |
| L.P.C. | Cub. ft. | | : | : |
| | £ | | : | : |
| Testing, &c. ... ... ... ... ... ... | | | : | : |
| | £ | | : | : |
| Expenses ... ... ... ... ... ... | | | : | : |
| Total ... | £ | | : | : |

It is submitted that this Report be approved,

J Lauder King

*Chief Surveyor.*

Approved by the Committee for the Class of **M.B.S.*** on the 8th June 1921

Fees advised

Fees paid

Robert Henning

*Secretary.*