

## REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 79596

Port of Liverpool Date of First Survey Sept 8 Date of Last Survey Sept 16 No. of Visits 6  
 No. in Reg. Book 198896 on the Iron or Steel of Dionysios Stathatos Port belonging to  
 Built at Birkenhead By whom Messrs Cammell Laird & Co When built 1919  
 Owners Messrs Cammell Laird & Co Owners' Address  
 Yard No. 853 Electric Light Installation fitted by Messrs Cammell Laird & Co When fitted 1919

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Messrs Clarke Chapman Single Cylinder open type Engine and  
Messrs Clarke Chapman Compound wound dynamo.

Capacity of Dynamo 100 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed In Engine Room Whether single or double wire system is used Double

Position of Main Switch Board In Engine Room having switches to groups five in no of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each none fitted

If fuses are fitted on main switch board to the cables of main circuit yes and on each auxiliary switch board to the cables of auxiliary circuits — and at each position where a cable is branched or reduced in size yes and to each lamp circuit yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidisable metal yes and constructed to fuse at an excess of 75 per cent over the normal current

Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit yes

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 2 x 6 380 arranged in the following groups:—

A 88 lights each of 32 8 16 candle power requiring a total current of 21.0 Amperes

B 40 lights each of 16 candle power requiring a total current of 22.3 Amperes

C 60 lights each of 16 candle power requiring a total current of 33.4 Amperes

D 28 lights each of 32, 16 8 6 candle power requiring a total current of 11.7 Amperes

E Wireless Telegraph lights each of — candle power requiring a total current of 26.0 Amperes

2 Mast head light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes

2 Side light with 1 lamps each of 32 candle power requiring a total current of 2.2 Amperes

10 Cluster Cargo lights of 6 lamps of 16 candle power, whether incandescent or arc lights incandescent

If arc lights, what protection is provided against fire, sparks, &c. —

Where are the switches controlling the masthead and side lights placed In Wheel House

## DESCRIPTION OF CABLES.

Main cable carrying 95.3 Amperes, comprised of 19 wires, each 14 S.W.G. diameter, .094 square inches total sectional area

Branch cables carrying 22.3 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area

Branch cables carrying 21 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area

Leads to lamps carrying 2.5 Amperes, comprised of 3 wires, each 22 S.W.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 33.4 Amperes, comprised of 7 wires, each 16 S.W.G. diameter, .022 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

All cables of 600 Megohm C.M.A. grade Lead covered, armoured and braided in Engine & Boiler Rooms, Braided and run in wood casing in Accommodation spaces

Joints in cables, how made, insulated, and protected None

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances — Are all joints in accessible positions, none being made in bunks, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage —

Are there any joints in or branches from the cable leading from dynamo to main switch board no

How are the cables led through the ship, and how protected In galvanized steel tubing with

Inspection boxes at intervals



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DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *No. Some cables are run through Cargo Spaces*  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *cables in steel tubing*  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *cables in steel tubing*  
 What special protection has been provided for the cables near boiler casings *Lead covered & armoured cable fitted*  
 What special protection has been provided for the cables in engine room *do. do. do.*  
 How are cables carried through beams *in lead bushes* through bulkheads, &c. *in W.T. Glands*  
 How are cables carried through decks *in W.T. Deck Tubes*  
 Are any cables run through coal bunkers *no* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage  
 If so, how are they protected *in steel tubing*  
 Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no*  
 If so, how are the lamp fittings and cable terminals specially protected *—*  
 Where are the main switches and fuses for these lights fitted *—*  
 If in the spaces, how are they specially protected *—*  
 Are any switches or fuses fitted in bunkers *no*  
 Cargo light cables, whether portable or permanently fixed *Portable* How fixed *—*  
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *—*  
 How are the returns from the lamps connected to the hull *—*  
 Are all the joints with the hull in accessible positions *—*  
 Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed *on Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *—*  
 Are any switches, fuses, or joints of cables fitted in the pump room or companion *—*  
 How are the lamps specially protected in places liable to the accumulation of vapour or gas *—*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

CAMMELL LAIRD AND COMPANY LIMITED.

*G. W. Laird* Electrical Engineers

Date *16 SEP 1919*

COMPASSES.

LOCAL SECRETARY.

Distance between dynamo or electric motors and standard compass

*96 feet*

Distance between dynamo or electric motors and steering compass

*98 feet*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>.6</i>	<i>1</i>	<i>9</i>	<i>1</i>
<i>.6</i>	<i>9</i>	<i>1</i>	<i>1</i>
<i>11.7</i>	<i>11</i>	<i>6</i>	<i>6</i>

Have the compasses been adjusted with and without the electric installation at work at full power *yes.*

The maximum deviation due to electric currents, etc., was found to be *1° E* degrees from *E to SSE* course in the case of the

standard compass and *3° E* degrees on *E by SE* course in the case of the steering compass.

CAMMELL LAIRD AND COMPANY LIMITED.

*G. W. Laird* Builder's Signature.

Date *16-9-19*

GENERAL REMARKS.

The Electric Installation has been fitted in accordance with the Rules and when tried under full working conditions was found satisfactory in every respect. In our opinion, it is eligible for the notification of "Electric Light".

It is submitted that

this vessel is eligible for

THE RECORD. Elec. light.

*25/9/19.*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Electric Light.*

*LR*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THE MARGIN.