

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 25704

Port of Sunderland Date of First Survey 7 Dec. Date of Last Survey 10 Dec. 11 No. of Visits 5  
 No. in Reg. Book on the Iron or Steel SS Cheltonian Port belonging to London  
 Built at Sunderland By whom Messrs Bartram & Sons When built 1911  
 Owners J. Mathias & Sons (Rgs) Owners' Address Aberystwyth  
 Yard No. 221 Electric Light Installation fitted by Clarke Chapman & Co LTD When fitted 1911

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One Single Cylinder double acting open type vertical engine direct coupled to a continuous current compound wound dynamo  
 Capacity of Dynamo 65 Amperes at 105 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 near Dynamo having switches to groups A B C of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Each light & group of lights provided with switches as required.

If cut outs 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 Yes 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes  
 Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 50 per cent over the normal current  
 Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes slate & porcelain.

Total number of lights provided for 102 arranged in the following groups:—

A	<u>21</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>12.6</u>	Amperes
B	<u>32</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>19.2</u>	Amperes
C	<u>49</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>29.4</u>	Amperes
D	—	lights each of	—	candle power requiring a total current of	—	Amperes
E	—	lights each of	—	candle power requiring a total current of	—	Amperes
<u>2</u>	Mast head light with	<u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamp each of	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes
<u>5</u>	Cargo lights of	<u>each 7 - 16</u>		candle power, whether incandescent or are lights	<u>incandescent</u>	

If are 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	<u>60</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>16</u>	L.S.G. diameter, <u>.06010</u> square inches total sectional area
Branch cables carrying	<u>22</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>16</u>	L.S.G. diameter, <u>.02214</u> square inches total sectional area
Branch cables carrying	<u>16</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>17</u>	L.S.G. diameter, <u>.01695</u> square inches total sectional area
Leads to lamps carrying	<u>.6</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>19</u>	L.S.G. diameter, <u>.00181</u> square inches total sectional area
Cargo light cables carrying	<u>5</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>14</u>	L.S.G. diameter, <u>.00502</u> square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

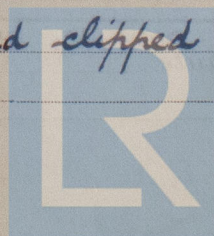
Vulcanized india rubber taped & braided & lead covered small wire exposed steel armoured over the lead covering.

Joints in cables, how made, insulated, and protected no joints except mechanical ones.

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes no.

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 Lead covered & armoured clipped to underside of deck.



© 2020

Lloyd's Register Foundation

W919.0024



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *no*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covered & steel armoured*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Lead & armoured*

What special protection has been provided for the cables near boiler casings

What special protection has been provided for the cables in engine room

How are cables carried through beams *in lead bushes* through bulkheads, &c. *in glands*

How are cables carried through decks *in galvanized iron deck tiles.*

Are any cables run through coal bunkers *Yes* or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage *Yes*

If so, how are they protected *Lead covered & steel armoured*

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 cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *portable*

How fixed *to WTCI connection boxes Double wire system.*

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

The installation is *now* supplied with a voltmeter and *also.* an amperemeter, fixed *on Switchboard*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and cut-outs fitted in positions not liable to the accumulation of petroleum vapour or gas

Are any switches, cut outs, 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 *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *600.* megohms per statute mile after 24 hours' immersion in seawater.

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.

*FOR CLARKE, CHAPMAN & Co. LTD.*

*W. Woodson*

Electrical Engineers

Date *December 14<sup>th</sup> 1911.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Direct 96'*

Distance between dynamo or electric motors and steering compass *88'*

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>12</i>	<i>6</i>	
<i>.6</i>	<i>6</i>	<i>12</i>	
<i>—</i>	<i>—</i>	<i>—</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 *nil* degrees on *all.* course in the case of the standard compass and *nil* degrees on *all* course in the case of the steering compass.

*Bartram Hoos*

Builder's Signature.

Date *Dec 18<sup>th</sup> 1911*

GENERAL REMARKS.

*This installation as far as can be seen is fitted in accordance with the Rules examined under working conditions & found satisfactory*

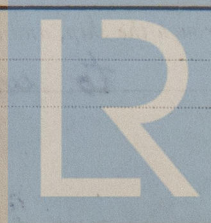
*J. Y. Hindlay*

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

*It is submitted that this vessel is eligible for THE RECORD.*



Lloyd's Register Foundation