

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 17374

Port of Glasgow Date of First Survey  Date of Last Survey  No. of Visits   
 No. in Reg. Book on the Iron or Steel S.S. Montezuma Port belonging to \_\_\_\_\_  
 Built at Glasgow By whom A. Stephens When built 1899  
 Owners Elder Dempster Owners' Address Liverpool  
 Yard No. 383 Electric Light Installation fitted by W. H. Allen Son & Co When fitted 1899

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

One single cylinder engine ~~with~~ direct coupled to a pole drum dynamo

Capacity of Dynamo 175 Amperes at 60 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Engine room Starting platform, Thrust recess

Position of Main Switch Board Thrust recess having switches to groups A B C D E F of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

One at top of engine room containing 5 switches & fuses for cattle deck lights and fuses for the cargo light clusters

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

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

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 wire 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

Total number of lights provided for 186 arranged in the following groups:—

A	<u>12</u> lights each of <u>16</u> candle power requiring a total current of <u>14</u> Amperes
B	<u>22</u> lights each of <u>32</u> candle power requiring a total current of <u>28</u> Amperes
C	<u>31</u> lights each of <u>16</u> candle power requiring a total current of <u>31</u> Amperes
D	<u>42</u> lights each of <u>16</u> candle power requiring a total current of <u>43</u> Amperes
E	<u>20</u> lights each of <u>32</u> candle power requiring a total current of <u>20</u> Amperes
F	<u>54</u> candle power requiring a total current of <u>54</u> Amperes
	1 Mast head light with 1 lamp each of <u>32</u> candle power requiring a total current of <u>32</u> Amperes
	2 Side light with 1 lamp each of <u>32</u> candle power requiring a total current of <u>32</u> Amperes
F	<u>9</u> Cargo lights of <u>96</u> candle power, whether incandescent or arc lights <u>Incandescent</u>

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

Where are the switches controlling the masthead and side lights placed in wheelhouse on bidge

## DESCRIPTION OF CABLES.

Main cable carrying 175 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .186 square inches total sectional area  
 Branch cables carrying 54 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0612 square inches total sectional area  
 Branch cables carrying 28 Amperes, comprised of 7 wires, each 15 L.S.G. diameter, .0285 square inches total sectional area  
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .00181 square inches total sectional area  
 Cargo light cables carrying 6 Amperes, comprised of 145 wires, each 38 L.S.G. diameter, .000408 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

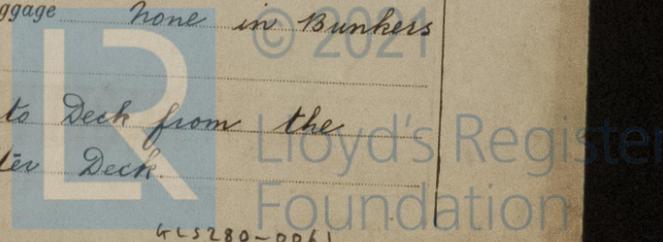
Pure india rubber then vulcanised india rubber, India-rubber coated tape vulcanised together with braided cotton & preservative compound, in strong wood casing; Cattle Deck, lead covered in wood casing

Joints in cables, how made, insulated, and protected Spliced joints, soldered then insulated with a layer of felt. Rubber strips then finished off with cycloite tape & insulating varnish

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 none in Bunkers

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 Through the beams close to Deck from the Engine Room Fore & aft along starboard alleyway under Shelter Deck



**DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.**

Are they in places always accessible *yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *no wires in open alleyway, Mast & Side light wires in Iron pipe*

What special protection has been provided for the cables near galley or oil lamps or other sources of heat *none near undue heat*

What special protection has been provided for the cables near boiler casings *Lead covered & armoured*

What special protection has been provided for the cables in engine room *Lead covered & armoured*

How are cables carried through beams *In Fibre Bushes through bulkheads, &c. Through Fibre Bushes*

How are cables carried through decks *In Galv'd iron pipes bushed with fibre*

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

If so, how are they protected *Strong wood casing & lead sheathed wire*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *none in Bunkers, Portables for cargo space*

If so, how are the lamp fittings and cable terminals specially protected *-----*

Where are the main switches and cut outs for these lights fitted *Engine room entrance*

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 *By brass compound*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Screwed to dynamo pole piece*

How are the returns from the lamps connected to the hull *Brass screws with wire soldered on*

Are all the joints with the hull in accessible positions *yes*

**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 installation is *supplied with a voltmeter ~~and~~ an ammeter, fixed on Switchboard*

The copper used is guaranteed to have a conductivity of *98* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2000* 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 W. H. ALLEN, SON & Compy*  
*L. Caton* Electrical Engineers Date *September 23/99*

**COMPASSES.**

Distance between dynamo or electric motors and standard compass *190*

Distance between dynamo or electric motors and steering compass *182*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>28</i>	Amperes	<i>28</i>	feet from standard compass	<i>20</i>	feet from steering compass
A cable carrying	<i>6</i>	Amperes	<i>20</i>	feet from standard compass	<i>12</i>	feet from steering compass
A cable carrying	<i>1</i>	Amperes	<i>4</i>	feet from standard compass	<i>into</i>	feet from steering compass

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 *every* course in the case of the standard compass and *nil* degrees on *every* course in the case of the steering compass.

*Ally. Stephens Son* Builder's Signature. Date *28<sup>th</sup> Sept. 1899.*

**GENERAL REMARKS.** *This installation has been well fitted on board & is in accordance with the rules*

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

Committee's Minute *It is submitted that this installation appears to be in accordance with the Rules*

*analy.*

*14.10.99*

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.

