

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No 2342

Port of Glasgow Date of First Survey 1<sup>st</sup> Nov. Date of Last Survey 23<sup>rd</sup> Nov. 1905 No. of Visits 4  
 No. in Reg. Book on the Iron or Steel Ser. Shm "Bessie Dollar" Port belonging to 1905  
 Built at Port Glasgow By whom Messrs A Rodgers & Co. When built 1905  
 Owners Messrs Dollar & Co. Owners' Address Victoria B.C.  
 Year 1906 Electric Light Installation fitted by J. Charters Glasgow When fitted 1905

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine an open type vertical with crankshaft governor driving a compound dynamo by belting from the flywheel.

Capacity of Dynamo 60 Amperes at 100 Volts, whether continuous or alternating current Continuous

Where is Dynamo fixed Engine Room Star. Side Bottom Platform Whether single or double wire system is used double

Position of Main Switch Board on Bulkhead near dynamo having switches to groups A. B. C. D. E. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each One in engine room 7 switches, one in wheelhouse 4 switches.

If cut outs are fitted on main switch board to the cables of main circuit No 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 100 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 54-16 CP + 25-32 CP. arranged in the following groups:—

|                    |                     |     |  |       |         |
|--------------------|---------------------|-----|--|-------|---------|
| A Engine Room      | 18 lights each of   | 16  | candle power requiring a total current of        | 10.08 | Amperes |
| B Officers         | 16 lights each of   | 16  | candle power requiring a total current of        | 8.96  | Amperes |
| C Saloon           | 16 lights each of   | 16  | candle power requiring a total current of        | 8.96  | Amperes |
| D Forecastle       | 9 lights each of    | 16  | candle power requiring a total current of        | 5.60  | Amperes |
| E Clusters         | 20 lights each of   | 32  | candle power requiring a total current of        | 42.4  | Amperes |
| 2 Mast head lights | with 1 lamp each of | 32  | candle power requiring a total current of        | —     | Amperes |
| 2 Side lights      | with 1 lamp each of | 32  | candle power requiring a total current of        | —     | Amperes |
| 4 Cargo lights     | of 5-32 CP Lps      | 160 | candle power, whether incandescent or arc lights | Inc.  |         |

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

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

## DESCRIPTION OF CABLES.

|                             |                          |                |   |
|-----------------------------|--------------------------|----------------|---|
| Main cable carrying         | 60 Amperes, comprised of | 19 wires, each | 16 L.S.G. diameter, .0603 square inches total sectional area  |
| Branch cables carrying      | 10 Amperes, comprised of | 7 wires, each  | 17 L.S.G. diameter, .077 square inches total sectional area   |
| Branch cables carrying      | 5 Amperes, comprised of  | 7 wires, each  | 18 L.S.G. diameter, .0725 square inches total sectional area  |
| Leads to lamps carrying     | 56 Amperes, comprised of | 1 wires, each  | 18 L.S.G. diameter, .00181 square inches total sectional area |
| Cargo light cables carrying | 44 Amperes, comprised of | 41 wires, each | 30 L.S.G. diameter, .005 square inches total sectional area   |

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Pure vulcanised India Rubber, I.R. Coated tape, braiding & composition

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

Are all the joints of cables thoroughly soldered, resin only having been used as a flux — 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 —

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 engine room, storeroom & holds & on deck & up mast conductors are run in screwed iron tubing & where wood casing is used.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes when holds are not full of cargo.*  
 What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *iron pipe*  
 What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *iron pipe*  
 What special protection has been provided for the cables near boiler casings *iron pipe*  
 What special protection has been provided for the cables in engine room *iron pipe*  
 How are cables carried through beams *under beams* through bulkheads, &c. *in tubing.*  
 How are cables carried through decks *in deck tubes*  
 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 *by iron pipes*  
 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 *terminals in Cast boxes*  
 In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *double wire.*  
 How are the returns from the lamps connected to the hull *✓*  
 Are all the joints with the hull in accessible positions *✓*  
 The installation is *—* supplied with a voltmeter and *—* 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.

*J. Charters, Glasgow,* Electrical Engineers Date *23<sup>rd</sup> Nov-1905*

COMPASSES.

Distance between dynamo or electric motors and standard compass *92'*  
 Distance between dynamo or electric motors and steering compass *88'*  
 The nearest cables to the compasses are as follows:—  
 A cable carrying *14.5* Amperes *18* feet from standard compass *15* feet from steering compass  
 A cable carrying *—* Amperes *—* feet from standard compass *—* feet from steering compass  
 A cable carrying *—* Amperes *—* feet from standard compass *—* 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 *—* degrees on *—* course in the case of the standard compass and *—* degrees on *—* course in the case of the steering compass.

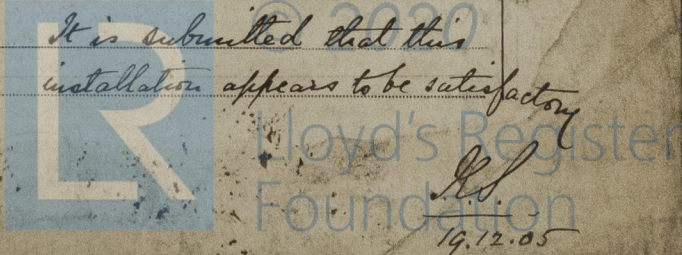
*A. Rodger & Co.* Builder's Signature. Date *11 Dec 1905*

GENERAL REMARKS.

*The installation has been well fitted & worked satisfactorily on trial.*

*Arthur L. Jones*  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute *Glasgow 18 DEC 1905*  
*Receives Electric light.*



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13-3m34