

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 24498

Port of Glasgow Date of First Survey 20<sup>th</sup> Sept Date of Last Survey 6<sup>th</sup> Oct No. of Visits 5  
 No. in Reg. Book on the ~~Iron or Steel~~ S. S. Berna Port belonging to London  
 Built at Dublin By whom The Dublin Dockyard Co. When built 1906  
 Owners John Harrison & Co. Owners' Address 110<sup>th</sup> Tower St London E.C.  
 Yard No. 56 Electric Light Installation fitted by Claud Hamilton & Co. When fitted 1906

**DESCRIPTION OF DYNAMO, ENGINE, ETC.**

Direct coupled compound wound dynamo and single cylinder double acting steam engine

Capacity of Dynamo 45 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used double  
 Position of Main Switch Board Engine Room having switches to groups 4 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each none

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 — 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

Total number of lights provided for 54 arranged in the following groups:—

A	14	lights each of	16	candle power requiring a total current of	9	Amperes
B	13	lights each of	16	candle power requiring a total current of	8.3	Amperes
C	14	lights each of	16	candle power requiring a total current of	9	Amperes
D	13	lights each of	16	candle power requiring a total current of	8.3	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1		Mast head light with 1 lamps each of	32	candle power requiring a total current of	1.2	Amperes
2		Side light with 2 lamps each of	32	candle power requiring a total current of	2.4	Amperes
7		Cargo lights of 3 with 6 and 2 with 4 - 16 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 Chart Room

**DESCRIPTION OF CABLES.**

Main cable carrying 36 Amperes, comprised of 34 wires, each 19 L.S.G. diameter, .04 square inches total sectional area  
 Branch cables carrying 14 Amperes, comprised of 19 wires, each 20 L.S.G. diameter, .01 square inches total sectional area  
 Branch cables carrying — Amperes, comprised of — wires, each — L.S.G. diameter, — square inches total sectional area  
 Leads to lamps carrying 3.6 Amperes, comprised of 3 wires, each 20 L.S.G. diameter, .003 square inches total sectional area  
 Cargo light cables carrying 3.6 Amperes, comprised of 170 wires, each 40 L.S.G. diameter, .003 square inches total sectional area

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

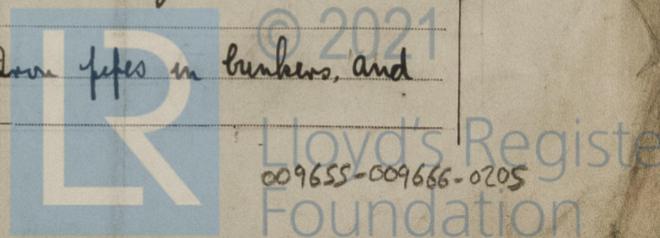
Cables are insulated with fine india rubber, vulcanized india rubber, IR coated tape, braided and coated with fuselative compound

Joints in cables, how made, insulated, and protected Soldered and insulated with fine rubber tape and solution water proof tape and 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 yes

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 Leak wood casing and wrought iron pipes in bunkers, and cargo spaces etc.



**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 wrought 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 teak wood casing

How are cables carried through beams wood rippers through bulkheads, &c. water tight glands

How are cables carried through decks 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 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 —

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 yes supplied with a voltmeter and yes an amperemeter, fixed on switch board in E. engine Room

**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 1000 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 CLAUD HAMILTON, Limited J.H.S. Electrical Engineers Date 17/10/06.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 120 feet

Distance between dynamo or electric motors and steering compass —

The nearest cables to the compasses are as follows:—

A cable carrying	<u>13</u> Amperes	<u>10</u> feet from standard compass	<u>—</u> feet from steering compass
A cable carrying	<u>9</u> Amperes	<u>20</u> feet from standard compass	<u>—</u> 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 —

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.

The Dublin Dockyard Co. Builder's Signature. Date 18th Oct. 1906  
Walter Scott PARTNER

**GENERAL REMARKS.**

The electric installation of this vessel has been well fitted on board and satisfactorily tried under steam  
Jas Cairns  
Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute Glasgow 5 - NOV 1906  
Record "Electric Light."  
It is submitted that the Record Dec. light be noted in the Reg. Books.  
6.11.06

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.—5m.34.

