

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5918

Port of Belfast Date of First Survey April 6th Date of Last Survey 16th May No. of Visits 5  
 No. in Reg. Book on the ~~Iron~~ Steel ss. "Dacware" Port belonging to Belfast  
 Built at Belfast By whom Workman Black & Co., Ltd When built 1905  
 Owners Clare & Tyffers (Shipping) Ltd Owners' Address \_\_\_\_\_  
 Yard No. 221 Electric Light Installation fitted by M. J. Allen, Son & Co., Ltd When fitted 1905

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

Engine having cylinder 8" dia<sup>r</sup> x 9" stroke. Dynamo four pole, compound wound  
 Capacity of Dynamo 150 Amperes at 100 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed on starting platform, starboard side  
 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 -  
 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 100 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 258 arranged in the following groups :-  

A say 91 (Holdas)	lights each of	16	candle power requiring a total current of	55	Amperes
B " 42 (Machy spaces)	lights each of	16	candle power requiring a total current of	25	Amperes
C " 25 (Brew)	lights each of	16	candle power requiring a total current of	14	Amperes
D " 76 (Accom)	lights each of	16	candle power requiring a total current of	46	Amperes
E cargo as below	lights each of		candle power requiring a total current of		Amperes
1 Mast head light with 1 lamp	each of	32	candle power requiring a total current of	1.2	Amperes
2 Side lights with 1 lamp	each of	32	candle power requiring a total current of	2.4	Amperes
4 Cargo lights	each of	6	16 candle power, whether incandescent or arc lights	Incandescent	

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

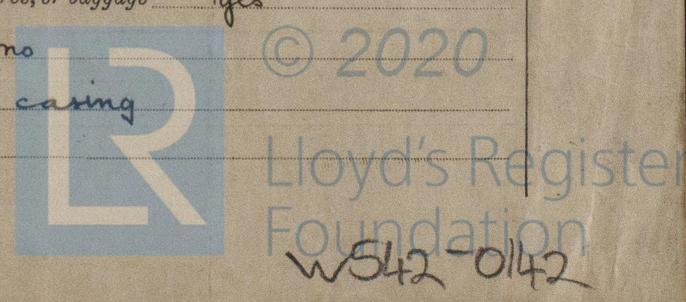
Where are the switches controlling the masthead and side lights placed in wheelhouse on Captain's Bridge

**DESCRIPTION OF CABLES.**

Main cable carrying	150	Amperes, comprised of	37	wires, each	15	L.S.G. diameter,	.154	square inches total sectional area
Branch cables carrying	25	Amperes, comprised of	7	wires, each	16	L.S.G. diameter,	.0229	square inches total sectional area
Branch cables carrying	13	Amperes, comprised of	7	wires, each	18	L.S.G. diameter,	.0129	square inches total sectional area
Branch cables carrying	7	Amperes, comprised of	7	wires, each	20	L.S.G. diameter,	.0073	square inches total sectional area
Leads to lamps carrying	4	Amperes, comprised of	7	wires, each	22	L.S.G. diameter,	.0043	square inches total sectional area
Leads to lamps carrying	3	Amperes, comprised of	1	wires, each	16	L.S.G. diameter,	.0032	square inches total sectional area
Cargo light cables carrying	3.6	Amperes, comprised of	145	wires, each	38	L.S.G. diameter,	.0042	square inches total sectional area

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

The conductor is covered with one layer of pure Para rubber, then two layers of vulcanizing rubber, the whole vulcanized together and finally taped & braided.  
 Joints in cables, how made, insulated, and protected thoroughly soldered, insulated with pure rubber prepared tape, & varnished  
 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 in strong wood casing



**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 none exposed to weather except on mast where they are in galvanized iron pipe.  
 What special protection has been provided for the cables near galleys 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, sewed & spirally armoured  
 What special protection has been provided for the cables in engine room } with galvanized iron wires  
 How are cables carried through beams in fibre ferrules through bulkheads, &c. in fibre ferrules  
 How are cables carried through decks in galvanized iron pipes bushed with fibre  
 Are any cables run through coal bunkers no or cargo spaces no or spaces which may be used for carrying cargo, stores, or baggage yes  
 If so, how are they protected in strong wood casing  
 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 Double Wires

**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 with an amperemeter, fixed on main switch board

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 W.H. Allen & Co. Ltd.  
C.P. Miller Electrical Engineers Date 30/1/05.

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 106 feet  
 Distance between dynamo or electric motors and steering compass 107 feet  
 The nearest cables to the compasses are as follows:—  
 A cable carrying 25 Amperes 20 feet from standard compass 16 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 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.

PRO WORKMAN, CLARK & CO., LIMITED, Builder's Signature. Date 8th June 1905.

**GENERAL REMARKS.**

This installation appears to be of good description, and has been fitted in accordance with the Rules.

R. J. B. Mould  
 Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

This installation appears to be fitted in accordance with the Rules  
16/6/05

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.