

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 42540

Port of Newcastle-on-Tyne Date of First Survey Oct 3<sup>rd</sup> Date of Last Survey Oct 25<sup>th</sup> No. of Visits 6  
 No. in Reg. Book 12246 on the Iron or Steel s/s "FORTUNATUS" Port belonging to Melbourne  
 Built at Newcastle By whom Armstrong Whiteley & Co When built 10.1901  
 Owners Archibald Currie & Co Owners' Address Melbourne  
 Yard No. 718 Electric Light Installation fitted by Messrs J. Holmes & Co When fitted 10.1901

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 7 1/2" x 7" open Auto Engine 80 lbs coupled to One Castle Dynamo  
 Capacity of Dynamo 185 Amperes at 60 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed Starting Platform of Engine Room  
 Position of Main Switch Board Near Dynamo 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 A fixed in pantry with 9 Sws & 150 lbs fuse B fixed at top of engine room with 8 Sws & fuses C fixed in top of engine room with 7 Sws & fuses D fixed at top of engine room with 4 Sws & fuses E fixed on starting platform with 6 Sws & fuses F fixed on main switch board to the cables of main circuit  
 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 no reduction 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 slate or porcelain

Total number of lights provided for 180 arranged in the following groups :-

Group	Number of lights	Each of	Candle power	Requiring a total current of	Amperes
A	<u>58</u>	lights each of	<u>16</u>	<u>58</u>	<u>58</u>
B	<u>26</u>	lights each of	"	<u>26</u>	<u>26</u>
C	<u>26</u>	lights each of	"	<u>26</u>	<u>26</u>
D	<u>24</u>	lights each of	"	<u>24</u>	<u>24</u>
E	<u>21</u>	lights each of	"	<u>21</u>	<u>21</u>
F	<u>23</u>	Mast head lights with <u>2</u> lamps each of	<u>32</u>	<u>4</u>	<u>4</u>
	<u>2</u>	Side light with <u>1</u> lamp each of	"	<u>4</u>	<u>4</u>
	<u>4</u>	Cargo lights of	<u>6-16</u>	<u>4</u>	<u>4</u>

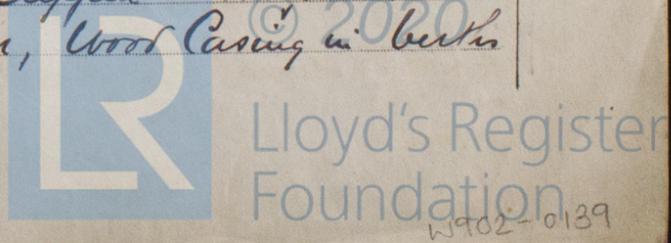
If arc lights, what protection is provided against fire, sparks, &c. none  
 Where are the switches controlling the masthead and side lights placed in wheel house

### DESCRIPTION OF CABLES.

Main cable carrying 180 Amperes, comprised of 37 wires, each 14 L.S.G. diameter, .18 square inches total sectional area  
 Branch cables carrying 58 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0624 square inches total sectional area  
 Branch cables carrying 21 Amperes, comprised of 4 wires, each 16 L.S.G. diameter, .0229 square inches total sectional area  
 Leads to lamps carrying 1.8 Amperes, comprised of 3 wires, each 16 L.S.G. diameter, .0018 square inches total sectional area  
 Cargo light cables carrying 24 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .0024 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

Cables are insulated with pure rubber vulcanised taped braided & comp<sup>d</sup> & further protected by lead & iron sheathing where necessary  
 Joints in cables, how made, insulated, and protected carefully twisted, cold dressed & insulated with manson tapes  
 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  
 Are there any joints in or branches from the cable leading from dynamo to main switch board none undecid<sup>d</sup> of  
 How are the cables led through the ship, and how protected Lead covered wire clipped to the deck in Cattle decks. Armoured wire in Engine Room, Wood casing in berths



**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 Lead Coverd

What special protection has been provided for the cables near galley, or oil lamps or other sources of heat Armoured wire

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

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

How are cables carried through beams bushed with fibre through bulkheads, &c. Stuffing Glands

How are cables carried through decks in lead or iron tubes flanged & made watertight

Are any cables run through coal bunkers now or cargo spaces Cattle decks or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected Lead Coverd clipped on battens

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage now

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

Where are the main switches and cut outs for these lights fitted in Engine Room for Cattle decks

If in the spaces, how are they specially protected now

Are any switches or cut outs fitted in bunkers now

Cargo light cables, whether portable or permanently fixed Portable How fixed Cables fixed in C.I. Boxes

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel Brass sockets fixed with 1/2" bolts

How are the returns from the lamps connected to the hull with 3/8" brass screws & washers

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 now supplied with a voltmeter and with an amperemeter, fixed on main sea 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.

J. H. Brown - E Electrical Engineers Date Oct 21/01

**COMPASSES.**

Distance between dynamo or electric motors and standard compass 96

Distance between dynamo or electric motors and steering compass 86

The nearest cables to the compasses are as follows:—

A cable carrying	<u>1</u>	Amperes	<u>6</u>	feet from standard compass	<u>4</u>	feet from steering compass
A cable carrying	<u>6</u>	Amperes	<u>10</u>	feet from standard compass	<u>8</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 yes

The maximum deviation due to electric currents, etc., was found to be nil degrees on N & East course in the case of the standard compass and nil degrees on N & East course in the case of the steering compass.

Arthur Gullston Builder's Signature. Date 2<sup>nd</sup> Nov 1901

**GENERAL REMARKS.**

This installation has been fitted in accordance with the Rules of a satisfactory

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

Committee's Minute

It is submitted that this installation appears to meet the Rule requirements



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 11.