

NOV. 22 OCT 1908

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 5605

Port of *Middlesbrough* Date of First Survey *18th Sept.* Date of Last Survey *5th Oct.* No. of Visits *6*

No. in *Sup* on the ~~Iron~~ *Steel* *S.S. "Jamaica"* Port belonging to
 Reg. Book *9* Built at *Middlesbrough* By whom *W. Harkness & Son L^{td}* When built *1908*
 Owners *Elder, Dempster & Co.* Owners' Address
 Yard No. *175* Electric Light Installation fitted by *Campbell & Isherwood* When fitted *1908*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A Campbell & Isherwood compound wound dynamo direct coupled to a Matthew Paul enclosed engine

Capacity of Dynamo *105* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Starboard side Engineer room* Whether single or double wire system is used *single*

Position of Main Switch Board " " " having switches to groups *5* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Engineer room & Captain's room*
79 a switch in a convenient position for each light

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 *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 *121* arranged in the following groups :-

A	Engineer room	lights each of	<i>16 of 16</i>	candle power requiring a total current of	<i>9.6</i>	Amperes
B	Arc & cargo	lights each of	<i>2 arcs & 18 of 16</i>	candle power requiring a total current of	<i>20.8</i>	Amperes
C	Forward & aft	lights each of	<i>18 of 16 & 2 of 32</i>	candle power requiring a total current of	<i>13.2</i>	Amperes
D	Officers & Stairs	lights each of	<i>23 of 16 & 5 of 32</i>	candle power requiring a total current of	<i>19.2</i>	Amperes
E	Passenger Accom.	lights each of	<i>32 of 16</i>	candle power requiring a total current of	<i>19.2</i>	Amperes
	2 Mast head light with	1 lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.4</i>	Amperes
	2 Side light with	1 lamps each of	<i>32</i>	candle power requiring a total current of	<i>2.4</i>	Amperes
	3-6 light	Cargo lights of	<i>16</i>	candle power, whether incandescent or arc lights	<i>16</i>	

If arc lights, what protection is provided against fire, sparks, &c. *Enamelled sheet iron reflector with plate glass bottom*

Where are the switches controlling the masthead and side lights placed *Captain's Room*

DESCRIPTION OF CABLES.

Main cable carrying	<i>105</i> Amperes, comprised of	<i>37</i> wires, each	<i>16</i> L.S.G. diameter,	<i>.1184</i> square inches total sectional area
Branch cables carrying	<i>20.8</i> Amperes, comprised of	<i>7</i> wires, each	<i>16</i> L.S.G. diameter,	<i>.0234</i> square inches total sectional area
Branch cables carrying	<i>13.2</i> Amperes, comprised of	<i>7</i> wires, each	<i>18</i> L.S.G. diameter,	<i>.0126</i> square inches total sectional area
Leads to lamps carrying	<i>1.8</i> Amperes, comprised of	<i>1</i> wires, each	<i>18</i> L.S.G. diameter,	<i>.0018</i> square inches total sectional area
Cargo light cables carrying	<i>3.6</i> Amperes, comprised of	<i>68</i> wires, each	<i>33</i> L.S.G. diameter,	<i>.004</i> square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

In Engineer room & boiler spaces lead covered & armoured. In cargo holds vulcanised in galvanised steel tubing cabins vulcanised in wood casings

Joints in cables, how made, insulated, and protected *none made*

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 _____

How are the cables led through the ship, and how protected *In holds vulcanised wires in galvanised steel tubing, cabins wood casings*



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 steel tubing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat lead covered & armoured

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 fibre females through bulkheads, &c. glands

How are cables carried through decks galvanised deck tubes flanged

Are any cables run through coal bunkers no or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage no

If so, how are they protected galvanised steel tubing

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

If so, how are the lamp fittings and cable terminals specially protected Portable fitting brass cover for terminals

Where are the main switches and cut outs for these lights fitted Companion to Stowage

If in the spaces, how are they specially protected _____

Are any switches or cut outs fitted in bunkers _____

Cargo light cables, whether portable or permanently fixed portable How fixed special plug socket

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel set bolt into frame of dynamo

How are the returns from the lamps connected to the hull brass lap screws of large surface

Are all the joints with the hull in accessible positions yes

The installation is yes supplied with a voltmeter and yes an amperemeter, fixed main board

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 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2500 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.

Campbell & Iskerwood Ltd Electrical Engineers Date Oct 15th 1908

COMPASSES.

Distance between dynamo or electric motors and standard compass 65 ft.

Distance between dynamo or electric motors and steering compass 60 ft.

The nearest cables to the compasses are as follows:—

A cable carrying	<u>7</u>	Amperes	<u>17</u>	feet from standard compass	<u>12</u>	feet from steering compass
A cable carrying	<u>7</u>	Amperes	<u>21</u>	feet from standard compass	<u>16</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 every course in the case of the standard compass and nil degrees on every course in the case of the steering compass.

Builder's Signature. Date _____

GENERAL REMARKS.

This Electric Light Installation has been fitted in accordance with the Rules and tried under full working conditions with satisfactory results.

J. H. S.

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

Committee's Minute _____ It is submitted that the Record Elec. Light be noted in the Reg. Book.

REPORT FORM No. 13.—2m.34.

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

