

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 30159

Port of Glasgow Date of First Survey 3. 4. 11 Date of Last Survey May 12<sup>th</sup> No. of Visits 13  
 No. in on the Iron or Steel "Elephanta" Port belonging to Glasgow  
 Reg. Book Built at Glasgow By whom Burley Gull & Co. When built 1911  
 Owners The British India Steam Nav. Co. Owners' Address London  
 Yard No. 487 Electric Light Installation fitted by Siemens Bros. Dynamo Works Ltd. When fitted 1911

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Siemens 4 pole compound wound Dynamos each coupled direct to a  
Shaules & Sons single cylinder open type vertical engine 10" x 8".

Capacity of Dynamo 300 Amperes at 100 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Main Engine room Whether single or double wire system is used double

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

Positions of auxiliary switch boards and numbers of switches on each

2 of 5 & 1 of 4 switches in 2<sup>nd</sup> class passage Shade Deck.  
1 of 5 switches in Engine room.

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 none reduced 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 448 arranged in the following groups:—

A	<u>93</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>about 50</u>	Amperes
B	<u>118</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>" 65</u>	Amperes
C	<u>132</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>" 70</u>	Amperes
D	<u>105</u>	lights each of	<u>"</u>	candle power requiring a total current of	<u>" 60</u>	Amperes
E	<u>—</u>	lights each of	<u>—</u>	candle power requiring a total current of	<u>—</u>	Amperes
<u>2</u>	Mast head light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>" 2</u>	Amperes
<u>2</u>	Side light with	<u>1</u> lamps each of	<u>32</u>	candle power requiring a total current of	<u>" 2</u>	Amperes
<u>3</u>	Cargo lights of	<u>8-16</u>		candle power, whether incandescent or arc lights	<u>incandescent</u>	

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

Where are the switches controlling the masthead and side lights placed in Chart room

## DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 37 wires, each 12 L.S.G. diameter, .3 square inches total sectional area

Branch cables carrying 70 Amperes, comprised of 19 wires, each 14 L.S.G. diameter, .09372 square inches total sectional area

Branch cables carrying 18 Amperes, comprised of 7 wires, each 16 L.S.G. diameter, .02214 square inches total sectional area

Leads to lamps carrying 3 Amperes, comprised of 7 wires, each 23 L.S.G. diameter, .004238 square inches total sectional area

Cargo light cables carrying 4 Amperes, comprised of 7 wires, each 23 L.S.G. diameter, " square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Conductors of high conductivity tinned copper wire, insulated with pure & vulcanized india rubber, taped, braided & compounded, also as before but in addition taped lead covered & armoured with gal. steel wire & taped over armour. Cables held in place with gal. iron clips.

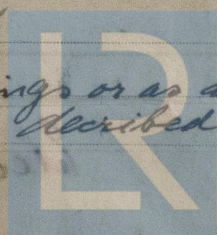
Joints in cables, how made, insulated, and protected

Jointless system

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 teakwood or pine casings or as above



© 2019

Lloyd's Register  
Foundation

W 497-0347



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 covered & armour

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

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

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

How are cables carried through beams

in fibre tubes

through bulkheads, &c.

special glands

How are cables carried through decks

special Deckpipes

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

Lead covered & armour

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

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

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

supplied with 2 voltmeter and

2 amperemeter, fixed on Main 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

98

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.

SIEMENS BROTHERS DYNAMO WORKS LIMITED,

MARINE DEPARTMENT.

Electrical Engineers

Date May 22<sup>nd</sup> 1911

COMPASSES.

McHarina

Distance between dynamo or electric motors and standard compass

over 100 feet.

Distance between dynamo or electric motors and steering compass

over 100 feet.

The nearest cables to the compasses are as follows:—

A cable carrying

18

Amperes

20

feet from standard compass

20

feet from steering compass

A cable carrying

Amperes

feet from standard compass

feet from steering compass

A cable carrying

6

Amperes

3

feet from standard compass

3

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

course in the case of the

standard compass and

FOR BARCLAY, CURLE & CO., LTD.

degrees on

course in the case of the steering compass.

H. S. Cunniff

Secretary.

Builder's Signature.

Date

25<sup>th</sup> May 11

GENERAL REMARKS.

This installation has been fitted in accordance with the rules, tested under full working conditions & found satisfactory.

It is submitted that this vessel is eligible for THE RECORD Elec. light.

APR 24/11

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

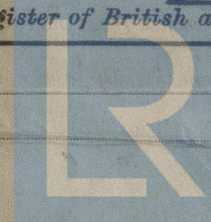
M. B. Forster

Committee's Minute

Glasgow

30 MAY 1911

Elec. Light.



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

29-5-11.