

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 203

Port of *Philadelphia*. Date of First Survey *July 10*. Date of Last Survey *Oct 18.99*. No. of Visits *Twenty*
 No. in Reg. Book *595-* on the *Iron or Steel* *Shanty* *Ponce* Port belonging to *New York*
 Built at *Wilmington. Del.* By whom *The Dealer - Hollingsworth* When built *1899*
 Owners *N. Y. & Porto Rico S.S. Co.* Owners' Address *30 Broadway, New York City*
 Yard No. *Electric Light Installation fitted by The Dealer - Hollingsworth Co.* When fitted *1899*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

2 Crocker Wheeler Dynamo coupled direct to two Sturtevant engines

Capacity of Dynamo *125* Amperes at *110* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *in Lower Engine room*

Position of Main Switch Board *Lower Engine Room* having switches to groups of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each
No 1 Promenade deck Yenta 21. 6 - 7
No 2 Spar Deck Yenta 21. 6 - 7
No 3 Spar Deck. Officers mess
5. Second class Spar Deck - 2. Engine room 4

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 *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 *not used*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases

Total number of lights provided for *250* arranged in the following groups :-

A	<i>70</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>35-</i>	Amperes
B	<i>70</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>35-</i>	Amperes
C	<i>50</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>25-</i>	Amperes
D	<i>20</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>10</i>	Amperes
E	<i>40</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>20</i>	Amperes
<i>1</i>	<i>Mast head light with 2 lamps each of</i>		<i>16</i>	candle power requiring a total current of	<i>1</i>	Amperes
<i>2</i>	<i>Side light with 2 lamps each of</i>		<i>16</i>	candle power requiring a total current, of	<i>2</i>	Amperes
<i>1-20</i>	<i>Cargo lights of</i>		<i>16</i>	candle power, whether incandescent or are lights	<i>incandescent</i>	

If arc lights, what protection is provided against fire, sparks, &c. *No Arc lights used*

Where are the switches controlling the masthead and side lights placed *in Pilot House*

DESCRIPTION OF CABLES.

Main cable carrying *125* Amperes, comprised of *12* wires, each *12* B.S. gauge L.S.G. diameter, *0.06036* square inches total sectional area
 Branch cables carrying *35* Amperes, comprised of *7* wires, each *14* L.S.G. diameter, *0.0225* square inches total sectional area
 Branch cables carrying *35* Amperes, comprised of *7* wires, each *14* L.S.G. diameter, *0.0225* square inches total sectional area
 Leads to lamps carrying *5* Amperes, comprised of *1* wires, each *12* L.S.G. diameter, *0.00503* square inches total sectional area
 Cargo light cables carrying *10* Amperes, comprised of *7* wires, each *18* L.S.G. diameter, *0.0088* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

The Wire is *Extra heavy India rubber Navy standard* with braided cover and protected, in all cases, with *hard rubber tubing Fire & Weatherproof tubing and*
 Joints in cables, how made, insulated, and protected *No joints in large cables from armored conduit leads are soldered with a flux of resin & 2 layers of Obonite rubber tape and two layers of Grimshaw tape*

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 *With heavy wall hard rubber tubing and iron armored conduit*



DESCRIPTION OF

-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 wire and iron armored conduit

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

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

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

How are cables carried through beams Hard rubber tubing through bulkheads, &c. insulated Watertight tubes

How are cables carried through decks With General Electric standard Deck tubes

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

If so, how are they protected _____

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 Two Wire system

How are the returns from the lamps connected to the hull _____

Are all the joints with the hull in accessible positions _____

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 _____ an amperemeter, fixed on Main Switch board

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.

William R. Shaw Electrical Engineers

Date Oct 9th 1899

COMPASSES.

Distance between dynamo or electric motors and standard compass 200 Feet

Distance between dynamo or electric motors and steering compass 190 "

The nearest cables to the compasses are as follows:—

A cable carrying	<u>2</u>	Amperes	<u>15</u>	feet from standard compass	<u>25</u>	feet from steering compass
A cable carrying	<u>1/2</u>	Amperes	<u>5</u>	feet from standard compass	<u>35</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 no degrees on all course in the case of standard compass and 20 degrees on all course in the case of the steering compass.

The Harland & Wolffs South Coast Company Builder's Signature. Date Oct 9th 1899
W. R. Shaw President

GENERAL REMARKS.

While Surveying this vessel, I have inspected the fitting of the Electric Plant, and found it in conformity with above description. On trial it worked very satisfactory.

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

Committee's Minute _____

It is submitted that this installation appears to meet the requirements of the Rules.
L.S.
19.10.99

ESTED TO WRITE ACROSS THIS MARGIN. THE SURVEY

REPORT FORM No. 13.