

## 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 *395-* on the *Iron or Steel* *Shamshir Ponce*. Port belonging to *New York*.  
 Built at *Wilmington. Del.* By whom *The Healan & Hollingsworth Co.* 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 Healan & Hollingsworth Co.* When fitted *1899*.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

*2 Crocker Wheeler Dynamos coupled direct to two*  
*Sturtevant engines*

Capacity of Dynamos *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 26.6 - 7*  
*No 2 Spar Deck Yenta 26.6 - 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 are lights, what protection is provided against fire, sparks, &c. *No Are lights used*

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

## DESCRIPTION OF CABLES.

*B & S. gauge*

Main cable carrying *125* Amperes, comprised of *12* wires, each *12* 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 armoured conduit*  
*leads are soldered with a flux of resin & layers of Chlorite*  
*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 armoured 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 9<sup>th</sup> 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	<i>2</i>	Amperes	<i>15</i>	feet from standard compass	<i>25</i>	feet from steering compass
A cable carrying	<i>1/2</i>	Amperes	<i>5</i>	feet from standard compass	<i>35</i>	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 *no* degrees on *all* course in the case of the steering compass.

*The Harland & Wolffs of the Company*  
*By H. T. G. [Signature]*

Builder's Signature.

Date

*Oct 9<sup>th</sup> 1899*

## 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.*

*[Signature]*  
*19.10.99*

THE SURVEYOR TO LLOYD'S REGISTER OF SHIPING