

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2389

PHILADELPHIA

Port of PHILADELPHIA Date of First Survey \_\_\_\_\_ Date of Last Survey \_\_\_\_\_ No. of Visits \_\_\_\_\_  
 No. in 80 on the Iron or Steel S.S. "BRISTOL" Port belonging to Boston  
 Reg. Book 80 Built at Camden N.J. By whom New York S.B. Co. When built 1916.2  
 Owners Longshore Transportation Co. Owners' Address Boston.  
 Card No. 169 Electric Light Installation fitted by New York S.B. Co. When fitted 1916.2

DESCRIPTION OF DYNAMO, ENGINE, ETC. One 30 kw. dynamo steam driven, fitted 5-40 for supplying power for  
two (2) 10 KW direct-current generators coupled direct  
to steam engine, built by General Electric Co

Capacity of Dynamo 90.9 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed superior Whether single or double wire system is used double  
 Position of Main Switch Board \_\_\_\_\_ having switches to groups A, B, C, D, E of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each A main deck amidships port (6), B main  
deck aft (6) Pilot-house (6) all others on main switchboard

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits yes

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 100% per cent over the normal current

Are all fuses 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 no wire fuses

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 170 arranged in the following groups:—

A	<u>7</u>	lights each of	<u>32</u>	candle power requiring a total current of	<u>7</u>	Amperes
B	<u>42</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>21</u>	Amperes
C	<u>8</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>4</u>	Amperes
D	<u>8</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>4</u>	Amperes
E	<u>17</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>8.5</u>	Amperes
	<u>1</u>	Must head light with <u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>1</u>	Amperes
	<u>2</u>	Side light with <u>2</u> lamps each of	<u>16</u>	candle power requiring a total current of	<u>2</u>	Amperes
	<u>6</u>	Cargo lights of	<u>64</u>	candle power, whether incandescent or arc lights <u>incandescent</u>		

If arc lights, what protection is provided against fire, sparks, &c. no arc lamps

Where are the switches controlling the masthead and side lights placed pilot-house

### DESCRIPTION OF CABLES.

Main cable carrying 90.9 Amperes, comprised of 61 wires, each 19 S.W.G. diameter, .0793 square inches total sectional area  
 Branch cables carrying 32 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .075 square inches total sectional area  
 Branch cables carrying 21 Amperes, comprised of 7 wires, each 17 S.W.G. diameter, .075 square inches total sectional area  
 Leads to lamps carrying .5 Amperes, comprised of 7 wires, each 23 S.W.G. diameter, .0031 square inches total sectional area  
 Cargo light cables carrying 2 Amperes, comprised of 7 wires, each 23 S.W.G. diameter, .0031 square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

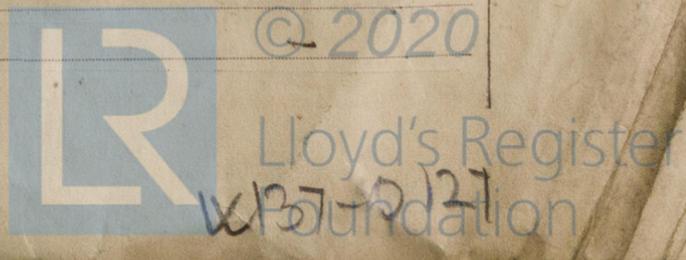
double rubber covered, leaded & armored throughout.

Joints in cables, how made, insulated, and protected mechanical joint soldered taped  
covered with insulating compound.

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances 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 armored



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 none

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

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 armored cables edge of hole in beam channeled. through bulkheads, &c. W.T. fittings.

How are cables carried through decks W.T. fitting & steel conduit.

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

If so, how are they protected armored

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 fuses for these lights fitted ✓

If in the spaces, how are they specially protected ✓

Are any switches or fuses 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 —

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

Are all the joints with the hull in accessible positions ✓

Is the installation supplied with a voltmeter Yes, and with an amperemeter Yes, fixed or switchable —

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas ✓

Are any switches, fuses, 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 not less than that of the Engineering Standards Committee's standard and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than 500 megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

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.

By H. H. Maguire Electrical Engineers Date May 12  
VICE PRESIDENT

COMPASSES.

Distance between dynamo or electric motors and standard compass 250 ft.

Distance between dynamo or electric motors and steering compass 235 ft.

The nearest cables to the compasses are as follows:—

A cable carrying 5 Amperes 3 feet from standard compass 10 feet from steering compass

A cable carrying — Amperes — feet from standard compass — 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 — degrees on — course in the case of standard compass and — degrees on — course in the case of the steering compass.

Robert H. King Builder's Signature. Date —

GENERAL REMARKS.

This installation stated to have been fitted in accordance with the Rules of this Society

It is submitted that this vessel is eligible for THE RECORD Elec. Light. J.W.D. 31/5/16.

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

Committee's Minute TUE. JUN. 18, 1918

