

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 17

Port of Cleveland, O. Date of First Survey Oct 5 Date of Last Survey Nov 7 No. of Visits 6  
 No. in 35 on the Iron or Steel S/S GEORGE HAWLEY Port belonging to New York  
 Reg. Book 35 Supp. Built at Ashtabula, O. By whom Great Lakes Engineering Works When built 1912  
 Owners Boston Virginia Transportation Co. Owners' Address New York.  
 Yard No. 105 Electric Light Installation fitted by Great Lakes Engineering Works When fitted 1912.

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

Cracker  
 One  $7\frac{1}{2}$  K.W. Wheeler 4 pole compound wound continuous current generator  
 direct driven by vertical engine of American Blower Co make  
 Capacity of Dynamo 68 Amperes at 110 Volts, whether continuous or alternating current continuous  
 Where is Dynamo fixed engine room Whether single or double wire system is used double  
 Position of Main Switch Board engine room having switches to groups ABCDE etc (13 in all) of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each One in Upper Deck Cabin with 4 switches, One  
in Port (Lower) Deck Cabin with 4 switches, One tall tale board in Pilot house  
for Navigation Lights with 6 switches, One in Forecastle with 2 single pole switches  
 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 none and to each lamp circuit no  
 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 but  
 Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of not more than 100 per cent over the normal current  
 Are all fuses fitted in easily accessible positions yes Are the fuses of standard dimensions Enclosed type 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 on fuse cases  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases yes.  
 Total number of lights provided for 121 arranged in the following groups:— Also see attached statement  
 A 28 lights each of 16 candle power requiring a total current of 14 Amperes  
 B 22 lights each of 16 candle power requiring a total current of 11 Amperes  
 C 9 lights each of 16 candle power requiring a total current of 4½ Amperes  
 D 2 circuits with 10 in all lights each of 16 candle power requiring a total current of 5 Amperes  
 E 6 " " 40 lights each of 16 candle power requiring a total current of 20 Amperes  
4 Mast head light with 4 lamps each of 32 candle power requiring a total current of 4 Amperes  
2 Side light with 2 lamps each of 32 candle power requiring a total current of 2 Amperes  
6 Cargo lights of 16 candle power, whether incandescent or arc lights incandescent  
 If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed engine room + pilot house

## DESCRIPTION OF CABLES.

Also see attached statement.  
 Main cable carrying 68 Amperes, comprised of 19 wires, each 13- No 12 B+S diameter, .104 square inches total sectional area  
 Branch cables carrying 14 Amperes, comprised of 7 wires, each No 16 B+S diameter, .013 square inches total sectional area  
 Branch cables carrying 11 Amperes, comprised of 7 wires, each No 16 B+S diameter, .013 square inches total sectional area  
 Leads to lamps carrying 5 Amperes, comprised of 1 wires, each No 14 B+S diameter, .003 square inches total sectional area  
 Cargo light cables carrying ½ Amperes, comprised of 32 wires, each No 30 B+S diameter, .0025 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Heavy rubber insulation covered with waterproof  
braided fibre + carried in steel conduit throughout except in cabins. In  
cabins 3/32 rubber insulation + carried in wooden mouldings.  
 Joints in cables, how made, insulated, and protected Soldered heavily taped + made in metal  
junction boxes. In cabins made in moulding  
 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 steel conduits.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible Yes. Cables can be drawn out of conduits.

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Steel conduits

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

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

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

How are cables carried through beams steel conduits through bulkheads, &c. Steel conduits

How are cables carried through decks steel conduits made watertight

Are any cables run through coal bunkers yes or cargo spaces yes or spaces which may be used for carrying cargo, stores, or baggage yes

If so, how are they protected Steel conduits run high up under decks

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 Metal plug boxes

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 on main switchboard

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 600 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.

Great Lakes Engineering Works,

Carl J. Hunter

Electrical Engineers

Date 12/23/12

COMPASSES.

Distance between dynamo or electric motors and standard compass about 105 ft

Distance between dynamo or electric motors and steering compass about 100 ft

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	close to	feet from standard compass	close to	feet from steering compass
<u>1/8</u>	<u>Amperes</u>	<u>close to</u>	<u>feet from standard compass</u>	<u>close to</u>	<u>feet from steering compass</u>
<u>6</u>	<u>Amperes</u>	<u>about 10</u>	<u>feet from standard compass</u>	<u>about 6</u>	<u>feet from steering compass</u>
<u>14</u>	<u>Amperes</u>	<u>about 85</u>	<u>feet from standard compass</u>	<u>about 80</u>	<u>feet from steering compass</u>

Have the compasses been adjusted with and without the electric installation at work at full power

The maximum deviation due to electric currents, etc., was found to be degrees on course in the case of the  
standard compass and degrees on course in the case of the steering compass.

Great Lakes Engineering Works,

Paulsdell

Builder's Signature.

Date

GENERAL REMARKS. This Electric Light Installation has been examined under Special Survey & has been satisfactorily tried under full load. The workmanship & material, as far as can be seen, are good & the vessel is eligible in my opinion to receive the notation 'ELEC. LIGHT' in the Register Book.

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

JWD  
7/1/13.

John S. Heck

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

Committee's Minute

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



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