

July 9 1917

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 97

Port of CLEVELAND, OHIO Date of First Survey 1 June 1917 Date of Last Survey 30 June 1917 No. of Visits 5  
 No. in Reg. Book on the Iron on Steel S.S. CARMEN Port belonging to Bergen  
 Built at Cleveland, O. By whom The American Shipley Co When built 1917  
 Owners Bergen and Hageman Owners' Address Bergen  
 Yard No. 465 Electric Light Installation fitted by The American Shipley Co When fitted 1917

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

One 7. K.W. 4. Pole, compound wound dynamo, connected to reciprocating engine at 525 R.P.M.  
 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 with having switches to groups - of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each One in after Cabin, Two in midship Cabin, 5 Circuits each.

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 touched 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 50 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 fuses for each circuit Yes  
 Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 125 arranged in the following groups:—

A Foremast	9 lights each of	32	candle power requiring a total current of	3.5	Amperes
B Main Mast	33 lights each of	32	candle power requiring a total current of	10	Amperes
C Midship Cabin	43 lights each of	32	candle power requiring a total current of	16	Amperes
D After Cabin	20 lights each of	16	candle power requiring a total current of	10	Amperes
E Cargo Lights	16 lights each of	16	candle power requiring a total current of	8	Amperes
2 Mast head light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
2 Side light with	1 lamps each of	32	candle power requiring a total current of	2	Amperes
Also	16 Cargo lights of	16	candle power, whether incandescent or arc lights	Incandescent	

If arc lights, what protection is provided against fire, sparks, &c. None used.

Where are the switches controlling the masthead and side lights placed Chart Room.

### DESCRIPTION OF CABLES.

Main cable carrying	68 Amperes, comprised of	7 wires, each	4	S.W.G. diameter, 292/95	57,995 square inches total sectional area
Branch cables carrying	24 Amperes, comprised of	7 wires, each	10	S.W.G. diameter, 72667	8913 square inches total sectional area
Branch cables carrying	24 Amperes, comprised of	7 wires, each	10	S.W.G. diameter, 72667	8913 square inches total sectional area
Leads to lamps carrying	12 Amperes, comprised of	1 wires, each	14	S.W.G. diameter, 4107	8819 square inches total sectional area
Cargo light cables carrying	13 Amperes, comprised of	17 wires, each	30	S.W.G. diameter, 37157	square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

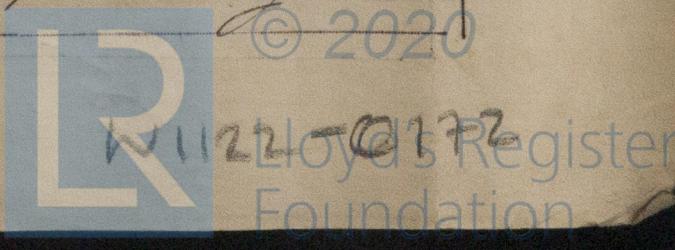
Rubber covered, double braided, to specification and test of National Board of Fire Underwriters.

Joints in cables, how made, insulated, and protected In case in junction boxes soldered, rubbered and taped.

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 bunks, 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 conduit, used except in cabin only



**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 Conduits and watertight fittings

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 ditto

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

How are cables carried through beams Steel Conduits through bulkheads, &c. Watertight fittings

How are cables carried through decks Watertight fittings

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 Steel conduits through or bolted to deck beams

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 Engine Room

**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.

The American Ship Bldg Co. Electrical Engineers Date \_\_\_\_\_

**COMPASSES.**

Distance between dynamo or electric motors and standard compass about 50 feet

Distance between dynamo or electric motors and steering compass ditto

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>25</u>	<u>5</u>	<u>5</u>	<u>5</u>
<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>
<u>✓</u>	<u>✓</u>	<u>✓</u>	<u>✓</u>

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 all course in the case of the standard compass and Nil degrees on all course in the case of the steering compass.

The American Ship Bldg Co. Builder's Signature. Date \_\_\_\_\_

**GENERAL REMARKS.**

The above installation has been fitted in a satisfactory manner. The material and workmanship employed being of the best.

It is submitted that this vessel is eligible to

THE RECORD. Elec. Light.

W. Lane  
Surveyor to Lloyd's Register of Shipping.

New York JUL 10 1917.

16.116-Register

Committee's Minute

Elec. Light



THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.