

REC'D NEW YORK MAR 31 1921

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REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 4138

of Philadelphia Date of First Survey 17 Feb 1920 Date of Last Survey 18 March 1921 No. of Visits 91
 on the ~~Iron~~ Steel SS MOUNT CARROLL Port belonging to New York
 Built at Chester By whom Merchant Ship Bldg Corp When built 1921
Shawmut Steamship Company Owners' Address New York
379 Electric Light Installation fitted by Merchant Shipbuilding Corp When fitted 1921

DESCRIPTION OF DYNAMO, ENGINE, ETC.

(3) 4 C. 25-KW. Compound wound Generators direct connected to reciprocating engines. One (1) 15 KW Generator direct connected to gasoline engine
 Capacity of Dynamo 420 Amperes at 125 Volts, whether continuous or alternating current Continuous
 is Dynamo fixed 2nd Deck Main Engine Room Whether single or double wire system is used Double
 Location of Main Switch Board Generator Room having switches to groups 18 of lights, &c., as below
 Location of auxiliary switch boards and numbers of switches on each See Continuation Sheet #1

Are switches 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
 Are fuses fitted on the double wire system are fuses fitted to both flow and return wires of cables of all circuits including lamp circuits Yes
 Are fuses of non-oxidizable metal Yes and constructed to fuse at an excess of 100% per cent over the normal current
 Are 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 Yes
 Are switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Number of lights provided for 643 arranged in the following groups:-

lights each of		candle power requiring a total current of	Amperes
lights each of		candle power requiring a total current of	Amperes
lights each of		candle power requiring a total current of	Amperes
lights each of		candle power requiring a total current of	Amperes
lights each of		candle power requiring a total current of	Amperes
Must head light with	<u>2</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>2</u> Amperes
Side light with	<u>2</u> lamps each of <u>32</u>	candle power requiring a total current of	<u>4</u> Amperes
Cargo lights of	<u>80</u>	candle power, whether incandescent or arc lights	<u>Incandescent.</u>

What protection is provided against fire, sparks, &c.

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

DESCRIPTION OF CABLES.

Cable carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Cables carrying	Amperes, comprised of	wires, each	S.W.G. diameter,	square inches total sectional area
Lamps carrying	<u>263</u> Amperes, comprised of <u>1</u> wires, each <u>1/16</u>		S.W.G. diameter, <u>10032</u>	square inches total sectional area
Light cables carrying	<u>2</u> Amperes, comprised of <u>40</u> wires, each <u>29</u>		S.W.G. diameter, <u>003215</u>	square inches total sectional area

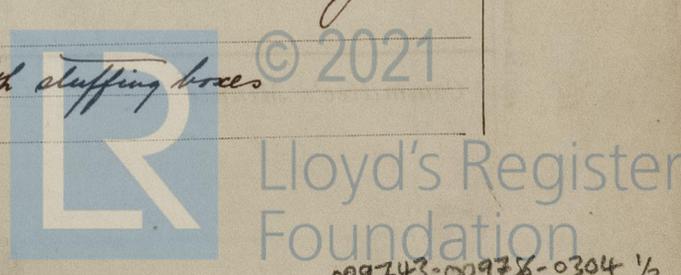
DESCRIPTION OF INSULATION, PROTECTION, ETC.

Is the braided rubber covered (30% Pure Para) wire galvanized and sheathed in conduit water tight and steam tight junction boxes

How are cables, how made, insulated, and protected Twist splices, soldered and covered with rubber and iron tape

Are 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 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 Galvanized conduit with stuffing boxes



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 *Galvanized conduit with water tight and steam tight junction boxes*

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

What special protection has been provided for the cables near boiler casings *Galvanized conduit steam vapor proof*

What special protection has been provided for the cables in engine room *Galvanized conduit steam vapor proof*

How are cables carried through beams *Galvanized Conduit through bulkheads, &c. Galvanized Conduit*

How are cables carried through decks *Galvanized Conduit*

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

If so, how are they protected *Galvanized Conduit*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No* or cargo only

If so, how are the lamp fittings and cable terminals specially protected *Vapor proof fittings with steel fusible tube Panel Pilot House*

Where are the main switches and fuses for these lights fitted *in panel boxes*

If in the spaces, how are they specially protected *Yes*

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Yes*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *Yes*

How are the returns from the lamps connected to the hull *Yes*

Are all the joints with the hull in accessible positions *Yes*

Is the installation supplied with a voltmeter *Yes* and with an amperemeter *Yes*, fixed *Train switch*

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 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 50 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 that it is at this date in good order and safe working condition.

J.P. Grant, Chief Engineer, Merchant Shipbuilding Co. Electrical Engineers
Chester, Pa.

Date March 28th 1921

COMPASSES.

Distance between dynamo or electric motors and standard compass *100 ft.*

Distance between dynamo or electric motors and steering compass *110 ft.*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>1/4</i>	Amperes	<i>2</i>	feet from standard compass	<i>2</i>	feet from steering compass
A cable carrying	<i>30</i>	Amperes	<i>12</i>	feet from standard compass	<i>15</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

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

J.P. Grant, Chief Eng. Merchant Shipbuilding Co. Builder's Signature. Date March 28th 1921

GENERAL REMARKS.

This installation has been well fitted on board and proved satisfactory under trial

It is submitted that this vessel is eligible for THE RECORD. See Light

J. Adamson
Surveyor to Lloyd's Register of Shipping

Committee's Minute

New York APR -5 1921

tion of auxiliary switch boards and number of switches on each Auxiliary
 liary switch board boat deck bulkhead 115 Port - 11 switches
 Distribution Panel No 146 Upper deck 8 switches

"	"	59	"	8	"
"	"	118	2 nd Deck	8	"
"	"	189	Upper "	10	"
"	"	152	"	12	"
"	"	43	"	12	"
"	"	Office Quarter		14	"
"	"	115 Shellin Deck		14	"
"	"	Panel Pilot House		4	"

Total number of lights provided for 641 arranged in the following groups:—

36	Lights, each of 16 candle power requiring a total current of 9 Amperes
47	" " " 16 " " " " " " " 12 "
43	" " " 16 " " " " " " " 11 "
64	" " " 16 " " " " " " " 16 "
50	" " " 16 " " " " " " " 13 "
86	" " " 16 " " " " " " " 22 "
79	" " " 16 " " " " " " " 20 "
122	" " " 16 " " " " " " " 31 "
14	" " " 16 " " " " " " " 29 "
	Motor Frame # 43 " " " " " " " 21 "
	" " # 105 " " " " " " " 21 "
	" " # 154 " " " " " " " 21 "
	Machine Shop Motor " " " " " " " 50 "
	Gally Motors " " " " " " " 20 "
	" " " " " " " 15 "
	" " " " " " " 10 "
	Wireless " " " " " " " 15 "
	Searchlight " " " " " " " 30 "

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2m.11.19—Transfer.



"S.S. MOUNT. CARROLL"

Philadelphia

Continuation of Report No.

dated

on the

4138

Cable Carrying 366 Amperes comprised of 101 wires each $\frac{1}{16}$ " SWG dia 1.050 sq" total Sec area

"	"	9	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	12	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	11	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	16	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	13	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	29	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	22	"	"	4	"	$\frac{3}{19}$	"	"	.035	✓
"	"	20	"	"	4	"	$\frac{3}{20}$	"	"	.045	✓
"	"	31	"	"	4	"	$\frac{3}{20}$	"	"	.045	✓
"	"	21	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	21	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	21	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓
"	"	50	"	"	4	"	$\frac{3}{20}$	"	"	.045	✓
"	"	15	"	"	4	"	$\frac{3}{25}$	"	"	.0055	✓
"	"	10	"	"	4	"	$\frac{3}{25}$	"	"	.0055	✓
"	"	15	"	"	4	"	$\frac{3}{25}$	"	"	.0055	✓
"	"	15	"	"	4	"	$\frac{1}{16}$	"	"	.019	✓

15 KW Generator direct connected to gasline Engine. installed for emergency not considered as part of the Electric Installation



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