

MON. 19 NOV 1900

Received at London Office

18

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 965.

Port of Philadelphia Date of First Survey June 4 Date of Last Survey Oct 11 No. of Visits 20
 No. in Reg. Book 747 on the Iron or Steel Twin Screw Steamer Sierra Port belonging to San Francisco
 Built at Philadelphia By whom The M. Camp & Sons S. E. B. When built 1900
 Owners Oceanic Steam Ship Co. Owners' Address 327 Market St. San Francisco, Cal.
 Yard No. 304 Electric Light Installation fitted by The M. Camp & Sons S. E. B. When fitted 1900

DESCRIPTION OF DYNAMO, ENGINE, ETC. Two Dynamo Direct current, compound wound, multipolar type,
Directly coupled to Engine. Engines, single cylinder, vertical marine type, with balanced
fly wheel, and automatic governor for regulation, speed 325 per min.
 Capacity of Dynamo 250 Amperes at 110 Volts, whether continuous or alternating current Direct or continuous
 Where is Dynamo fixed on orlop Deck aft of frame #135 Port Side.

Position of Main Switch Board at frame #143 orlop Deck Port Side having switches to groups 8 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each Main Deck fr. #23-6 switches, Tour Deck fr. #57-6 switches,
Main Deck fr. #89-9 switches, Tour Deck fr. #110-8 switches, Main Deck frame #133-8 switches, Tour Deck
fr. #150-7 switches, Main Deck fr. #155-5 switches, Main Deck fr. #180-5 switches, Eng room fr. #135-5 switches
Boiler room fr. #118-4 switches.

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 25% 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 yes

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 757 arranged in the following groups:—

A	<u>545</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>37.9</u>	Amperes
B	<u>184</u>	lights each of	<u>10</u>	candle power requiring a total current of	<u>66.9</u>	Amperes
C	<u>8</u>	lights each of	<u>2</u>	candle power requiring a total current of	<u>.58</u>	Amperes
D	<u>Search Light</u>	lights each of		candle power requiring a total current of	<u>60</u>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	<u>Mast head light with 2 lamps each of</u>	<u>32</u>	candle power requiring a total current of	<u>1.2</u>	Amperes	
2	<u>Side light with 2 lamps each of</u>	<u>32</u>	candle power requiring a total current of	<u>2.4</u>	Amperes	
	<u>18 (4 Lt.) Cargo lights</u>	<u>16</u>	candle power, whether incandescent or arc lights <u>Incandescent</u>			

If arc lights, what protection is provided against fire, sparks, &c. Ventilation System 2-1/4 H.P. Blower Motor, 1-1/2 H.P. Blower Motor, 17-18 H.P. Fan Motors.

Where are the switches controlling the masthead and side lights placed On Tell tale Device Pilot House

DESCRIPTION OF CABLES.

Main cable carrying	<u>250</u>	Amperes, comprised of	<u>61</u>	wires, each	<u>.06408</u>	L.S.G. diameter,	<u>.19672</u>	square inches total sectional area
Branch cables carrying	<u>50.9</u>	Amperes, comprised of	<u>19, 19, 19</u>	wires, each	<u>.06408</u>	L.S.G. diameter,	<u>.06127</u>	square inches total sectional area
Branch cables carrying	<u>24.3</u>	Amperes, comprised of	<u>7</u>	wires, each	<u>.06408</u>	L.S.G. diameter,	<u>.03548</u>	square inches total sectional area
Leads to lamps carrying	<u>57</u>	Amperes, comprised of	<u>1</u>	wires, each	<u>.06408</u>	L.S.G. diameter,	<u>.03222</u>	square inches total sectional area
VENTILATION CABLE	<u>6.4</u>	" " " "	<u>11</u>	" " "	<u>.06408</u>	" " "	<u>.03548</u>	" " "
Cargo light cables carrying	<u>2.4</u>	Amperes, comprised of	<u>19</u>	wires, each	<u>.01419</u>	L.S.G. diameter,	<u>.003005</u>	square inches total sectional area
SEARCH LIGHT CABLE	<u>60</u>	" " " "	<u>11</u>	" " "	<u>.06408</u>	" " "	<u>.03548</u>	" " "

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Consist of pure Para Rubber, Vulcanized Rubber, Braid & Fire proof compound.

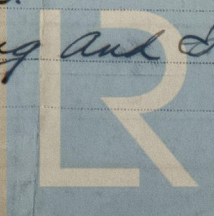
Joints in cables, how made, insulated, and protected Spliced & soldered wound with splicing compound and Black Tape

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 in wood moulding and Iron Armour

Conduit



Lloyd's Register Foundation

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 *Carried in Iron Armored Conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Carried in Conduit*

What special protection has been provided for the cables near boiler casings *Carried in conduit all connections in H.T. Box*

What special protection has been provided for the cables in engine room *Carried in conduit all connections made in H.T. Box*

How are cables carried through beams *Hard rubber bushing* through bulkheads, &c. *Hard rubber bushing & B.B.*

How are cables carried through decks *in Deck Stuffing tubes with water tight Gaskets.*

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 *Carried in Conduit*

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 *With H.T. Plug Switch & Rec*

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 *Double Wire System*

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 *3* amperemeter, fixed *in 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.

Chas. J. Dougherty

Electrical Engineers

Date *Oct 27th 1900.*

COMPASSES.

Distance between dynamo or electric motors and standard compass *216 ft. to Dynamo 30 ft. to Motor*

Distance between dynamo or electric motors and steering compass *88 ft. " " 68 ft. " "*

The nearest cables to the compasses are as follows:—

A cable carrying	<i>60</i>	Ampères	<i>15</i>	feet from standard compass	<i>30</i>	feet from steering compass
A cable carrying	<i>58</i>	Ampères	<i>3</i>	feet from standard compass	<i>30</i>	feet from steering compass
A cable carrying	<i>5</i>	Ampères	<i>15</i>	feet from standard compass	<i>30</i>	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *at about half Power*

The maximum deviation due to electric currents, etc., was found to be *no* degrees on *any* course in the case of the standard compass and *no* degrees on *any* course in the case of the steering compass.

THE WM. CRAMP & SONS SHIP & ENGINE BUILDING CO.

Mass. Rybr

Builder's Signature.

Date *Oct 26. 1900.*

GENERAL REMARKS.

The Fitting up of the above Installation has been occasionally inspected by me, and I found it in agreement with above description; on the Trial Trip it was run at full Power, and all noted satisfactorily —

John Haug.

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

Committee's Minute *23 NOV 1900*

It is submitted that this installation appears to meet the Rule requirements.