

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 2187

Port of Osaka Date of First Survey 20 Dec. Date of Last Survey 28 Jan. 1918 No. of Visits 8
 on the ~~Iron~~ or Steel S. S. Kifunozan Maru No 2 Port belonging to Nagasaki
 Built at Osaka By whom The Osaka Iron Works, Ltd When built 1918
 Owners' Address Hakimoto K. Kaisha When fitted 1918
 Electric Light Installation fitted by The Osaka Iron Works Ltd

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Engine: Single cylinder vertical enclosed self lubrication type
 Dynamo: Direct current, compound wound open type.
 Capacity of Dynamo 7 H.P. 70 Amperes at 100 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Eng. room, Starboard Whether single or double wire system is used Double wire
 Position of Main Switch Board Eng. room, Starboard having switches to groups A, B, C, D of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each One in engine room having 5 switches; one in crew space
having 3 switches; one in mess room having 4 switches; one in pantry having 4 switches; one in
steward's room having 9 switches for signal & compass lights.
 Are fuses 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 no and to each lamp circuit Yes
 Are fuses wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes
 of non-oxidisable metal Yes and constructed to fuse at an excess of 20 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 instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit Yes
 and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Lights provided for 96 lamps arranged in the following groups:—

| | | | | |
|---|---------------------------|--|---------------------|---------|
| lights each of | <u>16</u> | candle power requiring a total current of | <u>12</u> | Amperes |
| lights each of | <u>16</u> | candle power requiring a total current of | <u>5.5</u> | Amperes |
| lights each of | <u>16</u> | candle power requiring a total current of | <u>10</u> | Amperes |
| lights each of | <u>16</u> | candle power requiring a total current of | <u>8.5</u> | Amperes |
| lights each of | | candle power requiring a total current of | | Amperes |
| mast head light with | <u>2 lamps each of 32</u> | candle power requiring a total current of | <u>2.12</u> | Amperes |
| Side light with | <u>2 lamps each of 32</u> | candle power requiring a total current of | <u>2.12</u> | Amperes |
| <u>4</u> Cargo lights of <u>4 clustered</u> | <u>16</u> | candle power, whether incandescent or arc lights | <u>incandescent</u> | |

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

Where the switches controlling the masthead and side lights placed Chart room

DESCRIPTION OF CABLES.

| | | | | |
|--------------------------|---------------------------------|-----------------------|-----------|--|
| Cable carrying | <u>70</u> Amperes, comprised of | <u>80</u> wires, each | <u>20</u> | S.W.G. diameter, <u>0.0816</u> square inches total sectional area |
| Cables carrying | <u>12</u> Amperes, comprised of | <u>7</u> wires, each | <u>18</u> | S.W.G. diameter, <u>0.01269</u> square inches total sectional area |
| Cables carrying | <u>24</u> Amperes, comprised of | <u>15</u> wires, each | <u>18</u> | S.W.G. diameter, <u>0.02715</u> square inches total sectional area |
| Cables to lamps carrying | <u>53</u> Amperes, comprised of | <u>1</u> wires, each | <u>18</u> | S.W.G. diameter, <u>0.00181</u> square inches total sectional area |
| Light cables carrying | <u>9</u> Amperes, comprised of | <u>7</u> wires, each | <u>18</u> | S.W.G. diameter, <u>0.01267</u> square inches total sectional area |

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Lead covered wire filled on wooden island for living quarters & public room.
Armoured wire through cargo space. Armoured wire or lead covered
wire in galvanized iron pipe through machinery space or space exposed to weather.
 Joints in cables, how made, insulated, and protected In porcelain box & protected by porcelain or cast
iron coat.

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 Accessible
 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 To be led along the house wall and under the deck
and protected as described above.

DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible No

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture Carried through galvanized iron pipes

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Armoured wire or pipes

What special protection has been provided for the cables near boiler casings Armoured wire

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

How are cables carried through beams Through lead sheet protectors through bulkheads, &c. W.T. glands with rubber!

How are cables carried through decks Through iron tubes & vulcanized rubber!

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 Armoured wire

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 Plug & socket

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 Main switch board

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.

G. Yemma Electrical Engineers Date

COMPASSES.

Distance between dynamo or electric motors and standard compass 80 ft

Distance between dynamo or electric motors and steering compass 122 "

The nearest cables to the compasses are as follows:—

| A cable carrying | Amperes | feet from standard compass | feet from steering compass |
|------------------|----------|----------------------------|----------------------------|
| <u>7.5</u> | <u>7</u> | | |
| <u>53</u> | | <u>13</u> | |
| | | | |

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

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.

PER [Signature] Builder's Signature. Date

GENERAL REMARKS.

This installation has been fitted in accordance with the requirements of the Rules & worked satisfactorily on trial.

It is submitted that this vessel's REFRIGERATING INSTALLATION is eligible to remain as classed. Elec. light.

A. L. Jones
Surveyor to Lloyd's Register of Shipping.

Committee's Minute TUE. 11 JUN. 1913

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

Fig. 7, 17.—Transfer.

