

REPORT ON ELECTRIC LIGHTING INSTALLATION.

No. 17862

Port of Glasgow Date of First Survey Date of Last Survey No. of Visits
 No. in Reg. Book on the Iron SS. Clan MacLachlan Port belonging to Glasgow
 Built at Glasgow By whom A. Stephen & Sons When built 1900
 Owners Bayrer, Annie & Co. Owners' Address 109 Hope Street, Glasgow.
 Yard No. 385 Electric Light Installation fitted by Paterson Cooper & Co. When fitted Mar. 1900

DESCRIPTION OF DYNAMO, ENGINE, ETC.

1 12500 W. Compound wound dynamo @ 65 Volts
Roby & Co. Vertical Engine to run @ 300 revs. per min.
 Capacity of Dynamo 12500 W. 192 Amperes at 65 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed Lower platform of Engine Room.

Position of Main Switch Board Lower platform. having switches to groups 6 of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each 1 Lower platform. 4 switches
2 Top platform Engine room. 5 & 4 switches respectively

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 50% 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

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

Total number of lights provided for 106 & 2 very small outfit for lamp & projector arranged in the following groups:—

A Engine <u>14</u>	lights each of <u>16 Cp.</u>	candle power requiring a total current of <u>14</u>	Amperes
B Salon etc. <u>27</u>	lights each of <u>16 Cp.</u>	candle power requiring a total current of <u>27</u>	Amperes
C Off <u>9</u>	lights each of <u>16 Cp.</u>	candle power requiring a total current of <u>9</u>	Amperes
D 7' d. <u>13</u>	lights each of <u>16 Cp.</u>	candle power requiring a total current of <u>13</u>	Amperes
E Cargo <u>40</u>	lights each of <u>16 Cp.</u>	candle power requiring a total current of <u>40</u>	Amperes
— Mast head light with <u> </u>	lamps each of <u> </u>	candle power requiring a total current of <u> </u>	Amperes
— Side light with <u> </u>	lamps each of <u> </u>	candle power requiring a total current of <u> </u>	Amperes
<u>40</u>	Cargo lights of <u>16 Cp.</u>	candle power, whether incandescent or arc lights <u>incandescent & arc</u>	

If are lights, what protection is provided against fire, sparks, &c. The Carbons are protected by a glass globe surrounded by wire network,

Where are the switches controlling the masthead and side lights placed

DESCRIPTION OF CABLES.

Main cable carrying 153 Amperes, comprised of 35 wires, each 14 L.S.G. diameter, .174 square inches total sectional area
 Branch cables carrying 407 1/2 Amperes, comprised of 197 7/8 wires, each 18 L.S.G. diameter, .034 x .013 square inches total sectional area
 Branch cables carrying 9 + 24 + 4 Amperes, comprised of 7. 19. 7 wires, each 18. 18. 16 L.S.G. diameter, .013. 004. 012 square inches total sectional area
 Leads to lamps carrying 1 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area
 Cargo light cables carrying 7.5 Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Joints in cables, how made, insulated, and protected The joints are all spliced, soldered & thoroughly insulated with rubber & prepared waterproof 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 Galv. iron pipe, protected by the bulkheads protecting the side of the ship.



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *There are no cables*

in open alleyways, & when outside connecting boxes are used, a special watertight fitting is employed.

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *in galley iron pipe.*

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

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

All cables in these positions are in heavy Galv. iron pipe.

How are cables carried through beams

In teakwood planks through bulkheads, &c. Watertight glands below W.L.

How are cables carried through decks

In iron pipe with watertight joints at deck.

Are any cables run through coal bunkers

Yes. or cargo spaces Yes. or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected

By substantial Galv. iron pipe.

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

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

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 an amperemeter, fixed *on Main 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* ~~300~~ 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.

Patterson, Cooper & Co Electrical Engineers

Date *18th Apr 00*

COMPASSES.

Distance between dynamo or electric motors and standard compass *about 90 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 _____ feet from standard compass _____ feet from steering compass

A cable carrying _____ Amperes _____ feet from standard compass _____ 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 *Yes*

The maximum deviation due to electric currents, etc., was found to be *Nil* degrees on *All* courses in the case of the

standard compass and *Nil* degrees on *All* courses in the case of the steering compass.

Ally. Stephens & Sons Builder's Signature.

Date *24th April, 1900*

GENERAL REMARKS.

This installation has been well fitted on board and appears to be in accordance with the rules?

A. McRae

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

Committee's Minute

Already noted

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



Lloyd's Register Foundation

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM NO. 13.