

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 1928

Port of *✓* Date of First Survey *5th Nov* Date of Last Survey *20th Nov* No. of Visits *five*
 No. in Reg. Book on the Iron or Steel *S.S. "Gunhild"* Port belonging to *Malmö*
 Built at *Atterhustrough* By whom *R. Craggston.* When built *1896.*
 Owners *Redaktörstolaget Sigurd (C. S. Hedberg)* Owners Address *Malmö*
 Yard No. *126.* Electric Light Installation fitted by *J. H. Holmes & Co.* When fitted *1896.*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

5½ x 5" open engine. auto:- expansion governor coupled direct to "Castle" dynamo. to run at 350 revs:-
 Capacity of Dynamo *60* Amperes at *60* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *engine room*
 Position of Main Switch Board *by dynamo* having switches to groups *A.B. & C* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each *1 in engine room with 3 sws:-*
1 in Pantry with 3 sws:- *1 in Saloon Entrance with 3 sws:-*
3 D.P. fuses to each switch.
 If cut outs are fitted on main switch board to the cables of main circuit *yes* and on each auxiliary switch boards 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 *51* arranged in the following groups:-

A	<i>14</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>14</i>	Amperes
B	<i>16</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>16</i>	Amperes
C	<i>17</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>17</i>	Amperes
D	<i>1 Pilot</i>	lights each of	<i>32</i>	candle power requiring a total current of	<i>6</i>	Amperes
E		lights each of	<i>16</i>	candle power requiring a total current of	<i>1</i>	Amperes
	<i>1 Mast head light with 1 lamp</i>	each of	<i>32</i>	candle power requiring a total current of		Amperes
	<i>2 Side lights with 1 lamp</i>	each of	<i>32</i>	candle power requiring a total current of		Amperes
	<i>4 Cargo lights of 4 lamps each of 16</i>	candle power, whether incandescent or arc lights				<i>Incandescent.</i>

 If arc lights, what protection is provided against fire, sparks, &c. *✓*

Where are the switches controlling the masthead and side lights placed *at Saloon Entrance, near Chart Room.*

DESCRIPTION OF CABLES.

Main cable carrying	<i>50</i>	Amperes, comprised of	<i>19</i>	wires, each	<i>No. 16</i>	L.S.G. diameter, <i>.061</i>	square inches total sectional area
Branch cables carrying	<i>12</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>18</i>	L.S.G. diameter, <i>.0127</i>	square inches total sectional area
Branch cables carrying	<i>4</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>21½</i>	L.S.G. diameter, <i>.0045</i>	square inches total sectional area
Leads to lamps carrying	<i>17</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>17</i>	L.S.G. diameter, <i>.0172</i>	square inches total sectional area
Cargo light cables carrying	<i>16</i>	Amperes, comprised of	<i>7</i>	wires, each	<i>20</i>	L.S.G. diameter, <i>.007</i>	square inches total sectional area
			<i>7</i>	wires, each	<i>17</i>	L.S.G. diameter, <i>.0772</i>	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Final Test all cables, (Lead & Return) to "earth" 300,000 ohms.
Pure & vulc:- rubber. Taped & braided & lead covered where exposed to weather. etc:-
 Joints in cables, how made, insulated, and protected *Soldered (with resin) Taped, compounded etc:- in approved manner*
 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 *galv:- iron pipes in holds etc etc & wood casing in cabins.*



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *yes. (when cargo is out)*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Lead covering*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *wire in pipes on deck casing*

What special protection has been provided for the cables near boiler casings *iron pipes.*

What special protection has been provided for the cables in engine room *iron pipes.*

How are cables carried through beams *in Teak wood casing*

How are cables carried through decks *through bulkheads, &c. fibre pencils*

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 *Galvanized Iron Pipes.*

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 *Double wire Installation*

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 *not* supplied with a voltmeter and *an amperemeter, fixed on main switchboard*

The copper used is guaranteed to have a conductivity of *100* 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.

COMPASSES.

Distance between dynamo or electric motors and standard compass *120 feet.*

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

The nearest cables to the compasses are as follows:—

Cables	Amperes	Feet from standard compass	Feet from steering compass
2 cables carrying (flow and return) 2	12	feet from standard compass and inside	feet from steering compass
2 cables carrying " 6	25	feet from standard compass	feet from steering compass
2 cables carrying " 17	40	feet from standard compass	feet from steering compass

Have the compasses been adjusted with and without the electric installation at work at full power *No.*

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

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

R. Corry & Sons Builder's Signature Date *28 Nov 1906*

GENERAL REMARKS. *The various parts of the installation were examined when being fitted in place; and the materials and workmanship are good. When completed it was tried and worked satisfactorily.*

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

Committee's Minute

This installation appears to be in accordance with the Rules