

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 807a

Port of *Christiania* Date of First Survey *2/7-08* Date of Last Survey *6/8* No. of Visits *6*
 No. in Reg. Book on the ~~Iron~~ Steel *Steamer Ottar* Port belonging to *Borsgrund*
 Built at *Fevig* By whom *Fevigs Jernskibsbyggeri* When built *1908*
 Owners *Aktieselskabet Ottar (J. Knudsen)* Owners' Address *Borsgrund*
 Yard No. *66* Electric Light Installation fitted by *Elektrisk Kompagni, Kristiania, Norway* When fitted *1908*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Compound Dynamo, direct-coupled with steam engine

Capacity of Dynamo *20* Amperes at *110* Volts, whether continuous or alternating current *continuous*
 Where is Dynamo fixed *Engine room* Whether single or double wire system is used *double wire system*
 Position of Main Switch Board *— — —* having switches to groups *A. B. C. D.* of lights, &c., as below
 Positions of auxiliary switch boards and numbers of switches on each

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 *54* 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 *no wire fuses are used*
 Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *52* arranged in the following groups:—

| | | | | |
|---|-----------|---|--|-----------|
| A | <i>21</i> | lights each of <i>16 x 16</i> | candle power requiring a total current of <i>9</i> | Amperes |
| B | <i>12</i> | lights each of <i>10 x 16</i> | candle power requiring a total current of <i>5</i> | Amperes |
| C | <i>11</i> | lights each of <i>10 x 16</i> | candle power requiring a total current of <i>5</i> | Amperes |
| D | <i>8</i> | lights each of <i>10 x 16</i> | candle power requiring a total current of <i>3</i> | Amperes |
| E | | lights each of | candle power requiring a total current of | Amperes |
| ✓ | | Mast head light with <i>✓</i> lamps each of | ✓ candle power requiring a total current of | ✓ Amperes |
| ✓ | | Side light with <i>✓</i> lamps each of | ✓ candle power requiring a total current of | ✓ Amperes |
| ✓ | | Cargo lights of | ✓ candle power, whether incandescent or arc lights | ✓ |

If arc lights, what protection is provided against fire, sparks, &c. *no arc lights*

Where are the switches controlling the masthead and side lights placed *✓*

DESCRIPTION OF CABLES.

Main cable carrying *26* Amperes, comprised of *19* wires, each *19* L.S.G. diameter, *0.0238* square inches total sectional area
 Branch cables carrying *9* Amperes, comprised of *7* wires, each *21* L.S.G. diameter, *0.0563* square inches total sectional area
 Branch cables carrying *5* Amperes, comprised of *7* wires, each *23* L.S.G. diameter, *0.00385* square inches total sectional area
 Leads to lamps carrying *13* Amperes, comprised of *3* wires, each *21* L.S.G. diameter, *0.02325* square inches total sectional area
 Cargo light cables carrying *✓* Amperes, comprised of *2* wires, each *✓* L.S.G. diameter, *✓* square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

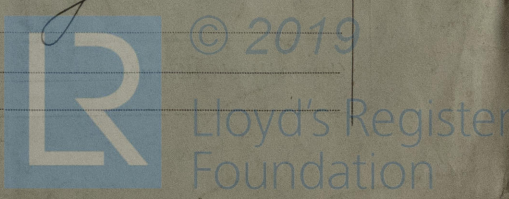
Vulcanized cables in steel pipes. In saloon and cabins wood battens.

Joints in cables, how made, insulated, and protected *soldered with tin, insulated with gum and chattron compound*

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 *steel pipes*



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 *steel pipes in wood casings*

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

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

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

How are cables carried through beams *steel pipes* through bulkheads, &c. *water tight glands*

How are cables carried through decks *---*

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 *steel pipes*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *yes*

If so, how are the lamp fittings and cable terminals specially protected *lamp fittings in iron casings*

Where are the main switches and cut outs for these lights fitted *in engine room*

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 and perm* How fixed *iron casings*

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 *✓*

The installation is *double wire* supplied with a voltmeter and an *insulation* or amperemeter, fixed *on the main switch board*

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 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.

Per Per Elektrisk Kompagni
Sunnan Penn Electrical Engineers Date *9 July 1908*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Dynamo in engine room platform*

Distance between dynamo or electric motors and steering compass *---*

The nearest cables to the compasses are as follows:—

| | | | | | | |
|------------------|----------|---------|----------|----------------------------|----------|----------------------------|
| A cable carrying | <i>✓</i> | Amperes | <i>✓</i> | feet from standard compass | <i>✓</i> | feet from steering compass |
| A cable carrying | <i>✓</i> | Amperes | <i>✓</i> | feet from standard compass | <i>✓</i> | feet from steering compass |
| A cable carrying | <i>✓</i> | Amperes | <i>✓</i> | feet from standard compass | <i>✓</i> | feet from steering compass |

Have the compasses been adjusted with and without the electric installation at work at full power *Dynamo double wire system*

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.

Frøskabet
Fregts Jernskibsbyggeri
Sandvænning Builder's Signature. Date *29/7/08*
adm. Direktør

GENERAL REMARKS.

The installation has been examined when being put up and when completed and found materials and workmanship good

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

Committee's Minute

It is submitted that the
Dec. Light be noted in the
 Lloyd's Register Foundation

REPORT FORM No. 1, 1908.