

# REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 534

Port of Seattle Wash. Date of First Survey May 17 Date of Last Survey Sept. 21 No. of Visits 8  
 No. in 1 on the Nord Aux. T.S. Sch. H.C. HANSEN Port belonging to Berglund, Norway  
 Reg. Book 1 Built at Tacoma, Wash. By whom Seaborn Shipbuilding Co. When built 1917  
 Owners Capt. H.C. Hansen Owners' Address Berglund, Norway  
 Yard No. 31 Electric Light Installation fitted by Builders When fitted 1917

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

7½ KW belt driven by a 20 HP Semi-Diesel Engine. Edison storage batteries.

Capacity of Dynamo 60 Amperes at 110 Volts, whether continuous or alternating current DC  
 Where is Dynamo fixed Engine Room Whether single or double wire system is used Double  
 Position of Main Switch Board Engine Room having switches to groups A B C D E F of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each Engine Room for Auxiliary pump switch, Forecastle for side and mast head lights & switches.

If fuses 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 fuses fitted to both flow and return wires or cables of all circuits including lamp circuits

Are the fuses of non-oxidizable metal yes and constructed to fuse at an excess of 25 per cent over the normal current

Are all fuses 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 fuses constructed of incombustible materials and fitted on incombustible bases yes

Total number of lights provided for 66 arranged in the following groups:—

A	14	lights each of	15 Watts	candle power requiring a total current of	2	Amperes
B	10	lights each of	15 Watts	candle power requiring a total current of	1.5	Amperes
C	14	lights each of	15 Watts	candle power requiring a total current of	2	Amperes
D	7	lights each of	15 Watts	candle power requiring a total current of	1	Amperes
E	4	lights each of	15 Watts	candle power requiring a total current of	1.5	Amperes
F	10	lights each of	15 Watts	candle power requiring a total current of	1.5	Amperes
1	Mast head light with	1	lamps each of	25 Watts	candle power requiring a total current of	2
2	Side light with	1	lamps each of	25 Watts	candle power requiring a total current of	2
—	Cargo lights of	—	—	—	—	—

— candle power, whether incandescent or arc lights

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

Where are the switches controlling the masthead and side lights placed

## DESCRIPTION OF CABLES.

				BSG	CM
Main cable carrying	50	Amperes, comprised of	7 wires, each # 12	S.W.G. diameter, 4.530	square inches total sectional area
Branch cables carrying	6	Amperes, comprised of	12 wires, each # 2	S.W.G. diameter,	square inches total sectional area
Branch cables carrying	2	Amperes, comprised of	12 wires, each # 2	S.W.G. diameter,	square inches total sectional area
Leads to lamps carrying	9	Amperes, comprised of	6 wires, each # 12	S.W.G. diameter, 18.670	square inches total sectional area
Cargo light cables carrying	—	Amperes, comprised of	— wires, each —	S.W.G. diameter,	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Rubber and double braided

Joints in cables, how made, insulated, and protected Soldered, rubber and friction tape

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 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 Metal Conduits



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**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 *Metal Conduits*

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

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

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

How are cables carried through beams *No* through bulkheads, &c. *Conduits*

How are cables carried through decks *Water tight Conduits*

Are any cables run through coal bunkers — or cargo spaces — or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *Metal Conduits*

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

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 —

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 —

Is the installation supplied with a voltmeter *yes*, and with an amperemeter *yes*, fixed *Switchboard*

**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 *RE standard* 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.

*Huborn Shipyard Co.* Electrical Engineers Date *Sept 11-1911*

**COMPASSES.** *G. P. Miller, Manager*

Distance between dynamo or electric motors and standard compass *about 50 feet*

Distance between dynamo or electric motors and steering compass —

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	Distance from standard compass	Distance from steering compass
1	Amperes	<i>beside</i>	—
2	Amperes	3	—
2	Amperes	4	—

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 *Various* course in the case of

Standard compass and *Huborn Shipyard Co.* degrees on — course in the case of the steering compass.

*G. P. Miller, Manager* Builder's Signature. Date *Sept 11-1911*

**GENERAL REMARKS.**

*The electric lighting installation of good quality and workmanship tested under working conditions and found satisfactory. Eligible, in my opinion, to be noted Electric Light in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD. Elec. light.* *W.D. G.M.* *James Fowler* Surveyor to Lloyd's Register of Shipping.

Committee's Minute *Elec. Light*



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