

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Belfast

THURS. 16 JUN 1892

Received at London Office 18

No. 4107 (Continued) Name of Ship Lord Erne Built at Belfast When built 1892
 Reg. Book. _____ when fitted _____
 Electric Light Installation fitted by _____

DESCRIPTION OF DYNAMO AND ENGINE.—

2 Compound wound inserted horseshoe type of field with ring armature direct drive by Allen's single cylinder open double acting class of vertical engine at 250 revs.
 Capacity of Dynamo 1750 90 Amperes at 60 Volts, whether continuous or alternating current Continuous
 Where is Dynamo fixed aft end of starting platform below reer leading to tunnels

LAMPS.—

Is vessel wired on single or double wire system single Total number of lights 139 arranged in the following groups:—
 A Projector 1 lamp for lights each of 100 candle power requiring a total current of about 50 Amperes
 B Forecastle 31 lights each of 1 lb candle power requiring a total current of 31 Amperes
 C Peep 34 lights each of 1 lb candle power requiring a total current of 34 Amperes
 D Bridge 38 lights each of 1 lb candle power requiring a total current of 41 Amperes
 E Engines 36 lights each of _____ candle power requiring a total current of 36 Amperes
Mast head light with 1 lamps each of 32 candle power requiring a total current of 2 Amperes
2 Side light with 1 lamps each of 32 candle power requiring a total current of 4 Amperes
6 Cargo lights of 8 x 1 lb 128 candle power, whether incandescent or arc lights incandescent
 If arc lights, what protection is provided against fire, sparks, &c. glass globe & guard

SWITCHES AND CUT-OUTS—

Position of Main Switch Board Starting platform having switches to groups A, B, C, D, E of lights as above
 Positions of other switch boards and numbers of switches on each 1 sub-board in engine room, 9 1 sub-board in peep forecastle bridge
 If cut outs are fitted to main circuit yes and to each auxiliary circuit yes
 and at each position where cable is branched or reduced in size if sufficiently reduced to require same
 If vessel is wired on the double wire system are cut outs fitted on each wire _____
 Are the cut outs of non-oxidizable metal Tin and constructed to fuse at an excess of about 25% per cent over the normal current
 Are all cut outs fitted in easily accessible positions yes
 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 _____
 How are the lamps specially protected in places liable to the accumulation of vapour or gas _____
 Are all switches and cut-outs constructed of unflammable materials and fitted on unflammable bases yes

DESCRIPTION OF CABLES.—

Main cable carrying 90 Amperes, comprised of 34 wires, each 16 legal standard wire gauge diameter
 Branch cables carrying 30 Amperes, comprised of 29 wires, each 16 legal standard wire gauge diameter
 Branch cables carrying 31 to 38 Amperes, comprised of 4 wires, each 14 legal standard wire gauge diameter
 Leads to lamps 128 1 Amperes, comprised of 1 wires, each 16 18 legal standard wire gauge diameter
 Cargo light cables carrying 8 Amperes, comprised of 225 wires, each 16 legal standard wire gauge diameter

The copper used has a conductivity of 98 per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than 2000 2400 megohms per statute mile after 24 hours' immersion in seawater



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DESCRIPTION OF INSULATION, PROTECTION, &c.—

Finished copper, 1 layer pure, 2 ditto vulcanising black white, 1 do proof tape
The whole vulcanised & finally covered by 4 compounded braids of hemp.

Joints in cables, how made, insulated, and protected *beams soldered, resin being the flux, & reinsulated with one layer
felt tape, 2 layers pure rubber solution, 1 layer prepared tape or of white ditto & final
varnishing.*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *yes.*

How are cables led throughout the ship *in wood casing, except in Engine Room, where armoured cables
are clipped to bulkheads.*

What special protection has been provided for the cables in open alleyways *Strong casings.*

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

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

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

How are cables carried through decks *galv^d iron deckcases* and through bulkheads *feltre ferrules.*

Are any cables run through coal bunkers *no* or cargo spaces *yes* If so, how are they protected *run in channel iron
where possible, elsewhere between beams, with strong wood covers to casing.*

Are any lamps fitted in coal bunkers or spaces which may be used for cargo *no*

If so, how are they specially protected

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 *through hold-down bolts & similar entree*

How are the returns from the lamps connected to the hull *sweater to 3/8 brass white screw*

Are all the joints with the hull in accessible positions *yes.*

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of _____ hours' duration

The insulation resistance of the whole installation was not less than _____ ohms

The installation is *yes* supplied with a voltmeter and *no* an amperemeter, fixed *switchboard.*

General Remarks.—

*The wiring was substantially similar to the
S.S. Pindar & the S.S. Maharashtra.*

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.

*A. H. Allen & Co. York & North
London* Electrical Engineers

Date *June 1892*

COMPASSES.—

Distance between dynamo and standard compass }
Distance between dynamo and steering compass } *about 80 feet.*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>4</i>	<i>17'</i>	<i>17'</i>	
<i>25"</i>	<i>36'</i>	<i>36'</i>	

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

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.

Builder's Signature _____ Date _____

Surveyor's Signature *A. L. Jones* Date *15th June 1892*



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