

No 7225

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of *Leith*

Received at London Office **THURS 29 JUN 1893**

No. **7221** *

No. in Reg. Book. _____ Name of Ship *S.S. "Saturnus"* Built at *Greenock* When built *1893*
Electric Light Installation fitted by *J. H. Holmes & Coy.* when fitted *1893.*

DESCRIPTION OF DYNAMO AND ENGINE.—

7x6 Open Ault Engine coupled direct to No 13 Dynamo Cast type

Capacity of Dynamo *110* Amperes at *55* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Working Platform*

LAMPS.—

Is vessel wired on single or double wire system *single* Total number of lights *952* arranged in the following groups:—

A	<i>44 Saloon 32</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>52 28</i>	Amperes
B	<i>Middleships 17</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>17 27 16</i>	Amperes
C	<i>Forward 17</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>17 27 16</i>	Amperes
D	<i>Engine room 29</i>	lights each of	<i>16</i>	candle power requiring a total current of	<i>29 27</i>	Amperes
E		lights each of		candle power requiring a total current of		Amperes
	Mast head light with	lamps each of		candle power requiring a total current of		Amperes
	Side light with	lamps each of		candle power requiring a total current of		Amperes
	<i>2</i> Cargo lights of		<i>80</i>	candle power, whether incandescent or arc lights	<i>incandescent</i>	

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

SWITCHES AND CUT-OUTS—

Position of Main Switch Board *Near dynamo* having switches to groups *A, B, C, D* of lights as above

Positions of other switch boards and numbers of switches on each

<i>1</i>	<i>aux. board in Saloon Pantry</i>	<i>8</i>	<i>switches</i>
<i>1</i>	<i>" " " Mess room</i>	<i>6</i>	<i>"</i>
<i>1</i>	<i>" " " Pantry</i>	<i>5</i>	<i>"</i>
<i>1</i>	<i>" " " Engine room</i>	<i>6</i>	<i>"</i>

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 *yes*

If vessel is wired on the double wire system are cut outs fitted on each wire _____

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*

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 _____ Amperes, comprised of _____ wires, each _____ legal standard wire gauge diameter

Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ legal standard wire gauge diameter

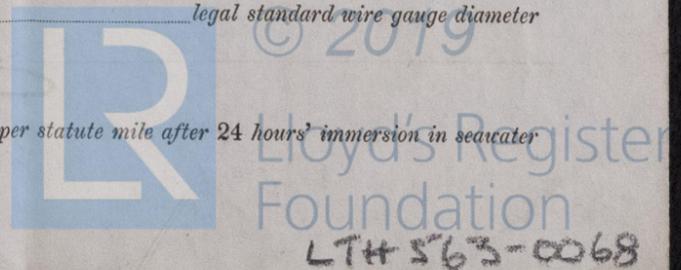
Branch cables carrying _____ Amperes, comprised of _____ wires, each _____ legal standard wire gauge diameter

Leads to lamps _____ Amperes, comprised of _____ wires, each _____ legal standard wire gauge diameter

Cargo light cables carrying _____ Amperes, comprised of _____ wires, each _____ 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* megohms per statute mile after 24 hours' immersion in sea water



DESCRIPTION OF INSULATION, PROTECTION, &c.—

Pure para tape rubber two coats of vulcanising rubber J. B. proofed tape to thickness specified. The whole vulcanised together braided & compounded.

Joints in cables, how made, insulated, and protected The wires are first bared & carefully cleaned then twisted or woven together & soldered so as to make a solid metallic joint (resin only being used) the joint is then lapped with Rubber tape &c. & varnished with shellac varnish.

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

What special protection has been provided for the cables in open alleyways Armoured

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

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

How are cables carried through decks Iron or lead deck tubes and through bulkheads stuffing boxes

Are any cables run through coal bunkers No or cargo spaces Yes If so, how are they protected placed in iron pipes

Are any lamps fitted in coal bunkers or spaces which may be used for cargo Yes

If so, how are they specially protected Can be closed & secured with clamp when not in use

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 The return wire is soldered in a socket which is then bolted to the hull

How are the returns from the lamps connected to the hull The wire is twisted round a brass screw, between two washers which is then screwed tightly to the hull

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 5 hours' duration Yes

The insulation resistance of the whole installation was not less than 125,000 ohms

The installation is not supplied with a voltmeter and not an amperemeter, fixed on Main Inboard

General Remarks.—

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.

J. K. Holmes & Co Electrical Engineers

Date June 23/93

COMPASSES.—

Distance between dynamo and standard compass 73 ft

Distance between dynamo and steering compass 70 ft

The nearest cables to the compasses are as follows:—

A cable carrying 15 Amperes 12 ft feet from standard compass 12 ft 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 at full power

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

and _____ degrees on _____ course in the case of the steering compass.

John Scott & Co Builder's Signature

Date 24 June 1893

H. Paulin Surveyor's Signature

Date 24th June 1893



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