

REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Newcastle Received at London Office 21 AUG 91
 No. 26204* Name of Ship Francisco Crispin Built at Newcastle When built 1891
 Reg. Book. _____
 Electric Light Installation fitted by Messrs Howard Pyle & Co when fitted 1891

DESCRIPTION OF DYNAMO AND ENGINE.—

Simple engine working direct on dynamo

Capacity of Dynamo 90 Amperes at 65 Volts, whether continuous or alternating current continuous

Where is Dynamo fixed Working platform in Engine Room

LAMPS.—

Is vessel wired on single or double wire system double Total number of lights 89 arranged in the following groups:—

A	<u>37</u> lights each of	<u>16</u> candle power requiring a total current of	<u>35</u> Amperes
B	<u>38</u> lights each of	<u>16</u> candle power requiring a total current of	<u>37</u> Amperes
C	<u>14</u> lights each of	<u>16</u> candle power requiring a total current of	<u>13</u> Amperes
D	<u>✓</u> lights each of	candle power requiring a total current of	Amperes
E	<u>✓</u> lights each of	candle power requiring a total current of	Amperes

Not fitted

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

4 Cargo lights in groups of 8 of 16 candle power, whether incandescent or arc lights incandescent, included in above list
 If arc lights, what protection is provided against fire, sparks, &c. _____

SWITCHES AND CUT-OUTS—

Position of Main Switch Board in Engine Room having switches to groups each main circuit of lights as above

Positions of other switch boards and numbers of switches on each Saloon pantry, officer's mess room, engineer's cabin, quartermaster's cabin, other boards 1 switch each. on board in officer's mess room 2 switches

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 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

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 no

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 86 Amperes, comprised of 19 wires, each 14 legal standard wire gauge diameter

main Branch cables carrying 37 + 35 Amperes, comprised of 19 wires, each 18 legal standard wire gauge diameter

Branch cables carrying 8 Amperes, comprised of 7 wires, each 18 legal standard wire gauge diameter

Leads to lamps 1 Amperes, comprised of 3 wires, each 22 legal standard wire gauge diameter

Cargo light cables carrying 8 Amperes, comprised of small wires, each equivalent to 7 strands of 18 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 600 megohms per statute mile after 24 hours' immersion in seawater

DESCRIPTION OF INSULATION, PROTECTION, &c.—

All cables and wires insulated with pure and vulcanised india rubber taped and braided. In cargo spaces, bunkers, engine room, stockhole tunnel and gally, all cables and wires lead sheathed, the latter wrapped with tarred tape in addition to the above insulation.

Joints in cables, how made, insulated, and protected

No joints exist in main cables. In branches joints made with pure rubber strips, rubber solution, double prof. tape with Chatterton's compound.

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 strong galvanised iron tubing secured with galvanised iron clips and bolts.

What special protection has been provided for the cables in open alleyways String gal^d iron pipe and special lead casing

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat Lead covered wire in gal^d iron pipe

What special protection has been provided for the cables near boiler casings Lead covered wire in gal^d iron tube

What special protection has been provided for the cables in engine room Lead covered wire in gal^d iron tube

How are cables carried through decks In gal^d iron pipe with double ^{nuts} and through bulkheads In gal^d iron pipe with double nuts

Are any cables run through coal bunkers Yes or cargo spaces Yes If so, how are they protected Lead covered cable in strong galvanised iron pipe.

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 ✓

How are the returns from the lamps connected to the hull ✓

Are all the joints with the hull in accessible positions ✓

TESTING, &c.—

Has the installation been thoroughly tested to its full capacity during a trial of 8 hours' duration again with full load.

The insulation resistance of the whole installation was not less than 150,000 ohms

The installation is supplied with a voltmeter and also with an amperemeter, fixed in engine room

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.

Hayward & Pyle & Co. Electrical Engineers

Date Aug 15th 1891

COMPASSES.—

Distance between dynamo and standard compass 80 feet

Distance between dynamo and steering compass do

The nearest cables to the compasses are as follows:— double wire throughout

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>

Have the compasses been adjusted with and without the electric installation at work at full power 75

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.

Wm. H. Waller Builder's Signature
Wm. H. Waller Surveyor's Signature

Date August 18th 1891
Date August 17th 1891

