

# REPORT ON ELECTRIC LIGHTING INSTALLATION.

Port of Leith

Received at London Office

27 MAR 1893

No. 7077 \*

No. in Supplement Name of Ship S.S. "Horseman"

Built at Leith

When built 1893

Reg. Book. 18

Electric Light Installation fitted by Mr. Watson Bros

when fitted Feb 1893

## DESCRIPTION OF DYNAMO AND ENGINE.—

Three Cylinder Engine coupled direct to Dynamo

Capacity of Dynamo 75 Amperes at 50 Volts, whether continuous or alternating current continuous

Dynamo fixed in Engineers Workshop Starboard Side of lower deck

S.—

Wired on single or double wire system double Total number of lights 77 arranged in the following groups:—

Saloon { 19 lights each of 16 candle power requiring a total current of 25 Amperes

Engine Room { 6 lights each of 16 candle power requiring a total current of 6 Amperes

Aft { 6 lights each of 16 candle power requiring a total current of 13 Amperes

Forward { 8 lights each of 16 candle power requiring a total current of 14 Amperes

{ 14 lights each of 8 candle power requiring a total current of 14 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

Cargo lights of — candle power, whether incandescent or are lights —

lights, what protection is provided against fire, sparks, &c. —

## SWITCHES AND CUT-OUTS.—

Position of Main Switch Board Near Dynamo having switches to groups four of lights as above

Positions of other switch boards and numbers of switches on each State Rooms one switch in each Room

Tanks one switch to each group of 4 lights (two groups)

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

Wires on the double wire system are cut outs fitted on each wire Yes

The cut outs of non-oxidizable metal yes and constructed to fuse at an excess of 50 per cent over the normal current

All cut outs fitted in easily accessible positions yes

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 the lamps specially protected in places liable to the accumulation of vapour or gas —

All switches and cut-outs constructed of unflammable materials and fitted on unflammable bases —

## DESCRIPTION OF CABLES.—

Main cable carrying 70 Amperes, comprised of 19 wires, each 15 legal standard wire gauge diameter

Branch cables carrying 20 Amperes, comprised of 7 wires, each 16 legal standard wire gauge diameter

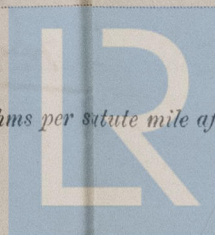
Branch cables carrying 6 Amperes, comprised of 7 wires, each 20 legal standard wire gauge diameter

Leads to lamps — Amperes, comprised of 1 wires, each 16 legal standard wire gauge diameter

Cargo light cables carrying none 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 700 megohms per statute mile after 24 hours' immersion in seawater



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LTH 563-0030



DESCRIPTION OF INSULATION, PROTECTION, &c.—

pure India Rubber than Vulcanising I.R. I.R. coated tape the whole & vulcanised together covers preservation compound

Joints in cables, how made, insulated, and protected One layer I.R. coated tape & layer pure Rubber Strip on small wires & 6 on larger than 2 layers I.R. coated tape with I.R. solution between every layer the whole finished I.R. solution & Gatterton compound

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

How are cables led throughout the ship in pine casing minimum width of centre field  $\frac{1}{2}$  in lapping suitable width  $\frac{1}{4}$  in thick screwed on

What special protection has been provided for the cables in open alleyways Lights in Sarcers protected with thick Glass placed

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

What special protection has been provided for the cables near boiler casings no wire run near Boiler

What special protection has been provided for the cables in engine room run in Teak casing & covered with Capping

How are cables carried through decks in Iron pipes standing 6" above deck through bulkheads through hardwood insulators

Are any cables run through coal bunkers No or cargo spaces Cable Tank If so, how are they protected placed between beams on ceiling of deck

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 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 twelve hours' duration

The insulation resistance of the whole installation was not less than 230,000 ohms

The installation is supplied with a voltmeter and an amperemeter, fixed on Teak Switch Board

General Remarks.—

The whole installation carried out to Lloyd's printed rules & under supervision of Lloyd's inspector Leith whatever suggestions have been made by him have been carried out to his satisfaction

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.

Watson Bros

Electrical Engineers

Date Feb 1893

COMPASSES.—

Distance between dynamo and standard compass Standard Compass 58'-6" Forward from Centre of Dynamo

Distance between dynamo and steering compass Steering Compass 51'-10" Aft from " " "

The nearest cables to the compasses are as follow:—

A cable carrying	Amperes	feet from standard compass	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

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.

Ramage & Ferguson, Limited.

Ramage & Ferguson

Builder's Signature

Date 2<sup>nd</sup> March, 1893

JOINT MANAGING DIRECTOR

Surveyor's Signature

Date 2<sup>nd</sup> March 1893



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