

YACHT.

THUR, APL 9 1896

Received at London Office

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 8093

Port of Leith Date of First Survey 21st Jan. 96 Date of Last Survey 25th March 96 No. of Visits 7
 No. in Reg. Book on the Iron or Steel S.S. Yacht "Solaine" Port belonging to London
 Built at Leith By whom Ramage, Ferguson (Lim) When built 1895 & 96
 Owners Sir Donald Currie K. C. M. C. Owners Address 4, Hyde Park Place, London W.
 Yard No. 141 Electric Light Installation fitted by Messrs. Siemens Bros. & Co. (Lim) When fitted 1896

DESCRIPTION OF DYNAMO, ENGINE, ETC.

Consisting of a Siemens H.B. 9/18 Dynamo coupled to a Reunsted-Clauder vertical engine running at 400 revolutions per minute.

Capacity of Dynamo 66 Amperes at 105 Volts, whether continuous or alternating current. Continuous

Where is Dynamo fixed In Main Engine Room

Position of Main Switch Board ditto having switches to groups A. B. C. of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each

If cut outs are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch boards 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 cut outs fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the cut outs of non-oxidizable metal Yes and constructed to fuse at an excess of 100 per cent over the normal current

Are all cut outs 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 cut-outs constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for 128 arranged in the following groups :-

A	<u>107</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>64</u>	Amperes
B	<u>18</u>	lights each of	<u>16</u>	candle power requiring a total current of	<u>11</u>	Amperes
C	<u>3</u>	lights each of	<u>1-16 2-32</u>	candle power requiring a total current of	<u>3</u>	Amperes
D		lights each of		candle power requiring a total current of		Amperes
E		lights each of		candle power requiring a total current of		Amperes
	<u>1</u>	Mast head light with	<u>1</u> lamp each of <u>32</u>	candle power requiring a total current of		Amperes
	<u>2</u>	Side lights with	<u>1</u> lamp each of <u>16 & 32</u> c.p. <u>respectively</u>	power requiring a total current of	<u>3</u>	Amperes
	<u>2</u>	Cargo lights of	<u>96</u>	candle power, whether incandescent or arc lights.		<u>Incandescent</u>

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

Where are the switches controlling the masthead and side lights placed Under Bridge and at Mast.

DESCRIPTION OF CABLES.

Main cable carrying 66 Amperes, comprised of 14 wires, each No 14 L.S.G. diameter, .0704 square inches total sectional area

Branch cables carrying 52 Amperes, comprised of 19 wires, each . 14 L.S.G. diameter, .0467 square inches total sectional area

Branch cables carrying Amperes, comprised of wires, each L.S.G. diameter, square inches total sectional area

Leads to lamps carrying 6 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0015 square inches total sectional area

Cargo light cables carrying 4 Amperes, comprised of 4 wires, each . 20 L.S.G. diameter, .0071 square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

Insulated with pure and vulcanized India Rubber Tapes and Braided, then laid in well seasoned pine and teak wood casing and Iron pipes in Engine Room.

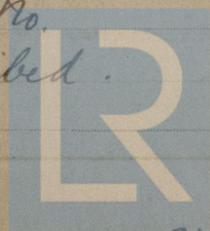
Joints in cables, how made, insulated, and protected

Generally jointless system

Are all the joints of cables thoroughly soldered, resin only having been used as a flux Yes, where joints are necessary 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 and No.

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 As above described.



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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

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

Iron pipes

How are cables carried through beams *Through hard wood bushes* through bulkheads, &c. *Special watertight glands*

How are cables carried through decks *Through specially designed Deck sockets.*

Are any cables run through coal bunkers *No.* or cargo spaces *No.* or spaces which may be used for carrying cargo, stores, or baggage *No.*

If so, how are they protected

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *Not as far as we can tell.*

If so, how are the lamp fittings and cable terminals specially protected

Where are the main switches and cut outs for these lights fitted

If in the spaces, how are they specially protected

Are any switches or cut outs 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

VESSELS BUILT FOR CARRYING PETROLEUM.

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

Are any switches, cut outs, 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 installation is supplied with a voltmeter and an amperemeter, fixed on *Main switch board*

The copper used is guaranteed to have 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.

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.

FOR SIEMENS BROTHERS & CO. LIMITED.

H. Schurina

Electrical Engineers

Date *April 6th 1896*

COMPASSES.

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

Distance between dynamo or electric motors and steering compass *ditto*

The nearest cables to the compasses are as follows:—

A cable carrying *about 36* Amperes *some 10* feet from standard compass *10* 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,

Alex. J. Ferguson Builder's Signature Date *8th April 1896*

SECRETARY.

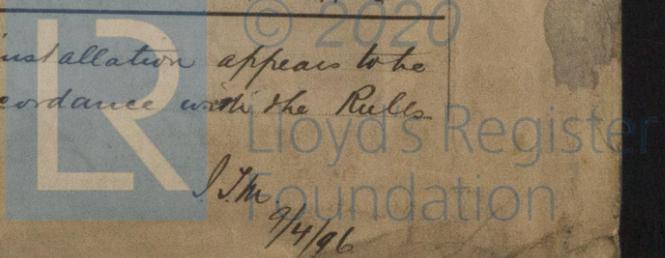
GENERAL REMARKS. *The fittings of this installation were examined while in progress and appear to be in accordance with the Committee's requirements as set forth in Notice N: 924.*

H. Paulsen

Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

This installation appears to be in accordance with the Rules



THE SURVEYOR IS REQUESTED NOT TO WRITE ACROSS THIS MARGIN.

REPORT FORM No. 13.