

REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 21832

Port of *Hull* Date of First Survey *Oct. 12 1900* Date of Last Survey *Oct 18th 1900* No. of Visits *5*
 No. in *on the Iron or Steel* *Hand* *ALBATROZ* Port belonging to *Portm*
 Reg. Book *32* Built at *Selby* By whom *Bocheane & Son* When built *1909*
 Owners *Empresa de Pesca Marit Limitada* Owners' Address *Lisbon*
 Yard No. *456* Electric Light Installation fitted by *Campbell & Sherwood* When fitted *1909*

DESCRIPTION OF DYNAMO, ENGINE, ETC.

A Campbell & Sherwood standard four pole compound wound dynamo direct coupled to a Robey engine.

Capacity of Dynamo *35* Amperes at *100* Volts, whether continuous or alternating current *continuous*

Where is Dynamo fixed *Starboard side of Engine room* Whether single or double wire system is used *single*

Position of Main Switch Board *on fore bulkhead* having switches to groups *3* of lights, &c., as below

Positions of auxiliary switch boards and numbers of switches on each *Engine room 3 Wheelhouse 5 Camp-
room 5 & a switch in a convenient position to each light*

If cut outs are fitted on main switch board to the cables of main circuit *yes* and on each auxiliary switch board 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

Are the cut outs of non-oxidisable metal *yes* and constructed to fuse at an excess of *75%* 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 *yes*

Are all switches and cut-outs constructed of incombustible materials and fitted on incombustible bases *yes*

Total number of lights provided for *30 of 16 & 6 of 32* arranged in the following groups:—

A	Engine room	lights each of	6 of 16	candle power requiring a total current of	3.38	Amperes
B	Aft	lights each of	7 of 16 10 of 32	candle power requiring a total current of	4.95	Amperes
C	Cargo	lights each of	13 of 16	candle power requiring a total current of	7.15	Amperes
D	Navigation	lights each of	4 of 16 5 of 32	candle power requiring a total current of	7.7	Amperes
E		lights each of		candle power requiring a total current of		Amperes
1	Mast head light with	1	lamps each of 32	candle power requiring a total current of	included in D	Amperes
2	Side light with	1	lamps each of 32	candle power requiring a total current of	" D	Amperes
2	Cargo lights of	4 of 16 in each		candle power, whether incandescent or arc lights	incandescent	

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

Where are the switches controlling the masthead and side lights placed *Wheelhouse*

DESCRIPTION OF CABLES.

Main cable carrying	23.0	Amperes, comprised of	19	wires, each	18	L.S.G. diameter,	.034	square inches total sectional area
Branch cables carrying	8.7	Amperes, comprised of	7	wires, each	19	L.S.G. diameter,	.0087	square inches total sectional area
Branch cables carrying	7.15	Amperes, comprised of	7	wires, each	30	L.S.G. diameter,	.0071	square inches total sectional area
Leads to lamps carrying	.55	Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	.0018	square inches total sectional area
Cargo light cables carrying	2.2	Amperes, comprised of	.108	wires, each	38	L.S.G. diameter,	.0031	square inches total sectional area

DESCRIPTION OF INSULATION, PROTECTION, ETC.

*Engine room lead covered & armoured fishroom
bunkers & exposed positions vulcanised in heavy gauge screwed steel
tubing cabins vulcanised in wood casings*
 Joints in cables, how made, insulated, and protected *soldered & insulated with rubber tape protected
with preservative tape & compound*

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

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 *Engine room lead covered & armoured
fishroom bunkers & exposed positions screwed steel tubing cabins
wood casings.*

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 *screwed steel tubing galvanised*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *lead covered & armoured*

What special protection has been provided for the cables near boiler casings *lead covered & armoured*

What special protection has been provided for the cables in engine room *lead covered & armoured*

How are cables carried through beams *filin ferrules* through bulkheads, &c. *waterlight glands*

How are cables carried through decks *flanged deck pipes*

Are any cables run through coal bunkers *yes* or cargo spaces *yes* or spaces which may be used for carrying cargo, stores, or baggage *yes*

If so, how are they protected *screwed steel tubing galvanised lead covered - armoured in the bunkers*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *no*

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 *special watertight connection*

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel *screw of ample area into frame of dynamo*

How are the returns from the lamps connected to the hull *trans lap screw of ample area*

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

The installation is *also* supplied with a voltmeter and *also* an amperemeter, fixed *on main board*

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 copper used is guaranteed to have a conductivity of *100* per cent. that of pure copper.

Insulation of cables is guaranteed to have a resistance of not less than *2500* 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.

Campbell & Shurwood Electrical Engineers.

Date *Oct. 25th 1909*

COMPASSES.

Distance between dynamo or electric motors and standard compass *70 ft*

Distance between dynamo or electric motors and steering compass *75 ft*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>5.5</i>	<i>3</i>	<i>3</i>	
<i>4.40</i>	<i>10</i>	<i>6</i>	
<i>8.7</i>	<i>15</i>	<i>11</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.

Bochmane & Sons

Builder's Signature.

Date *24th Oct 1909*

GENERAL REMARKS.

This installation of electric light has been well fitted. The materials & workmanship are good. It has been tried under working conditions & found satisfactory.

this vessel is eligible for THE RECORD. Elec. light.

JWR 29/10/09

John W. Gwynne

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

Committee's Minute



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