

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 10581

Port of **WEST HART** Date of First Survey **27<sup>th</sup> May** Date of Last Survey **23<sup>rd</sup> June 1893** of Visits **5**  
 No. in **12** on the **Iron or Steel** **Rapidan** Port belonging to **West Hart Pool**  
 Reg. Book **supp. 41** Built at **W. Hart Pool** By whom **J. Furness, Withyole (Lincs.)** When built **1898**  
 Owners **W. Hart Pool** Owners Address **London**  
 Installation fitted by **Paterson Cooper & Co Paisley** When fitted **June 1898**

## DESCRIPTION OF THE INSTALLATION, ETC.

**6 1/2 x 6** engines developing **18 HP** with **80 lbs steam @ 350 revs per min** Coupled  
 direct to **Paterson Cooper & Co dynamo**

Amperes at **60** Volts, whether continuous or alternating current **Continuous**

Board side of Engine Room.

as **Dynamo** having switches to groups **A B C D E F** of lights, &c., as below

and numbers of switches on each **Two inside Engine Casing, 3 outside Engine & Boiler Casing**  
**1 in pantry with 4, 3, & 2 switches on each respectively**

If main switch board to the cables of main circuit **Yes** and on each auxiliary switch boards to the cables of auxiliary

cables **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 **50** 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 **154** arranged in the following groups:—

A	28	lights each of	16	candle power requiring a total current of	28	Amperes
B	25	lights each of	16	candle power requiring a total current of	25	Amperes
C	18	lights each of	16	candle power requiring a total current of	18	Amperes
D	18	lights each of	16	candle power requiring a total current of	18	Amperes
E	31	lights each of	16	candle power requiring a total current of	31	Amperes
F	34	lights each of	16	candle power requiring a total current of	34	Amperes
on		Mast head light with <b>2</b> "A" lamps each of	32	candle power requiring a total current of	2.4	Amperes
Two		Side light with <b>2</b> "A" lamps each of	32	candle power requiring a total current of	4.8	Amperes
Six		Cargo lights of	96	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

**Wheel house**

## DESCRIPTION OF CABLES.

Main cable carrying	160	Amperes, comprised of	19	wires, each	12	L.S.G. diameter,	.161	square inches total sectional area
Branch cables carrying	31	Amperes, comprised of	19	wires, each	18	L.S.G. diameter,	.034	square inches total sectional area
Branch cables carrying	18	Amperes, comprised of	4	wires, each	16	L.S.G. diameter,	.022	square inches total sectional area
Leads to lamps carrying	1	Amperes, comprised of	1	wires, each	18	L.S.G. diameter,	.0078	square inches total sectional area
Cargo light cables carrying	Six	Amperes, comprised of	4	wires, each	20	L.S.G. diameter,	.007	square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

**Pure para rubber & two coats vulcanizing rubber. India rubber proofed**  
**tape the whole vulcanized together braided & compounded**

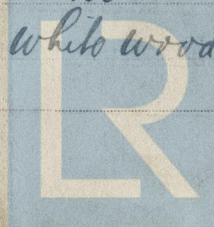
Joints in cables, how made, insulated, and protected

**None**

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 **Cables run in strong white wood casing**



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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

Pipes

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

Run in Galv Iron

What special protection has been provided for the cables near boiler casings

from sources

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

String white wood

How are cables carried through beams

Leak wood plugs

through bulkheads, &

clays

How are cables carried through decks

Galv Iron deck tubes

Are any cables run through coal bunkers or cargo spaces or spaces which may be used for carrying

No

Yes

If so, how are they protected

Strong wood casing and iron piping

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage

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

Call connect box from a run to bluster

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 Switchboard

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.

Patterson, Cooper & Co. Electrical Engineers

Date 30/6/98

COMPASSES.

Distance between dynamo or electric motors and standard compass

94 feet

Distance between dynamo or electric motors and steering compass

93 feet

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
A cable carrying			
A cable carrying			
A cable carrying			

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.

For FURNESS, WITBY & CO., LIMITED,

Builder's Signature

Date July 5th 1898

GENERAL REMARKS.

Cables protected by wood casing fitted under deck between the beams; made W.I. at deck bulkheads by passing through galvanneal-iron pipes, with lead p. p., no cables pass thro' the bulkhead. C.B. Burney, Surveyor to Lloyd's Register of British and Foreign Shipping.

Committee's Minute

This installation appears to be fitted in accordance with the Rules

NYM 6/7/98

THE FACTORS ARE NOT TO WRITE ACROSS THE MARGIN.