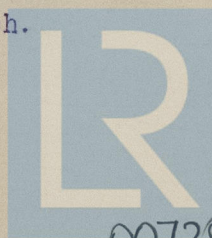


CIRCUITS.	LIGHTS.				Current Ampere.	POSITION & NUMBER of FUSES.
	16.	32.	50	C.P.		
Saloon.	38:	4.	-	"	27 . 6	First class accomodation, 1 at 6, 20 16, Wheelhouse 1 @ 8, and 1 Indicator.
Staterooms.	38	-	2		26 . 4	First class accomodation 1 @ 6, 2 @ 16.
Amidships Port.	40.	-	2	"	27 . 6	Engineers Lavatory 1 at 6, 1 at 12. Messroom 1 at 12. Ladies Lavatory 1 at 12.
Amidships Starboard.	55	-	-	"	33 .	Starboard alleyway 1 at 6, 1 at 12. Gents Lavatory 1 at 12, 1st Class Pantry 1 at 12.
Poop.	56	-	9	"	49 . 8	Pantry 1 at 12, Upper lobby 1 at 16, Port Saloon entrance 1 at 12. Starboard Saloon entrance 1 at 12 Starboard alleyway 1 at 12.
Forecastle	22	-	7	"	25 . 8	Passage 1 at 8, 1 at 16.
Tweendecks.	31	-	-	"	18 . 6	Switchboard 1 at 4. First class accomodation 1 at 8 Port Alleyway in Poop 1 at 12.
Cargo Clusters.	-	25	"		45 .	First class accomodation 1 at 10.
Cargo Clusters.	25	15	"		27 .	Engineers Mess room 1 at 6.
Engine Room.	49	-	-	"	29 . 4	Middle Platform 1 at 4, 1 at 16, Top Platform 1 at 12.
	329	4	60	"	310 . 2	

- 1 Ventilating Motor 15 - 20 amperes.  
 2 Ventilating Motor 1 - 2 do. each.  
 2 Ventilating Mors 15 - 20 amperes each.  
 1 Ventilating Motor 15 - 20 amperes.  
 2 Ventilating Motors 1 - 2 do. each.



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# REPORT ON ELECTRIC LIGHTING

Port of *Glasgow* Date of First Survey *✓* Date of *✓*  
No. in on the ~~Iron~~ or Steel *S/S. "Kumano Maru"* Port of *✓*  
Reg. Book Built at *Glasgow* By whom *Fairfield* *near* *and* *built*  
Owners *Nippon Yusen Kaisha* Owners' Address *London*  
Yard No. *418* Electric Light Installation fitted by *W. C. Martin & Co. Glasgow* When fitted

### DESCRIPTION OF DYNAMO, ENGINE, ETC.

Two compound wound Dynamos each direct coupled to compound vertical  
Engine fitted with shaft governor and automatic lubrication  
Capacity of Dynamos <sup>each</sup> 300 Amperes at 100 Volts, whether continuous or alternating current continuous

Where <sup>are</sup> ~~is~~ Dynamos fixed *Slaking Platform*

Position of Main Switch Board near Dynamos having switches to groups A, B, C, D, E, F, G, H, I, J, K, of lights, &c., as below  
L. M.

*Positions of auxiliary switch boards and numbers of switches on each*

As per sheet attached

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 *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 393 arranged in the following groups:—

A As per sheet attached. lights each of " candle power requiring a total current of — Amperes

B ..... lights each of ..... candle power requiring a total current of ..... Amperes

C " lights each of " candle power requiring a total current of \_\_\_\_\_ Amperes

D. " lights each of " candle power requiring a total current of \_\_\_\_\_ Amperes

E " lights each of candle power requiring a total current of Amp

2 Mast head lights with 2 lamps each of 32 candle power requiring a total current of 1.2 Amp

2 Side lights with 2 lamps each of 32 candle power requiring a total current of 1.2 Am

10 Cargo lights of 5 lights each 50 candle power, whether incandescent or arc lights Incandescent

If arc lights, what protection is provided against fire, sparks, &c. *N<sup>o</sup> Arc Lights*

Where are the switches controlling the masthead and side lights placed? *On Indicator in Wheelhouse*

### DESCRIPTION OF CABLES.

Main cable carrying 300 Amperes, comprised of 37 wires, each 12 L.S.G. diameter, .3217 square inches total sectional area

Branch cables carrying 60.6 Amperes, comprised of 19 wires, each 16 L.S.G. diameter, .0624 square inches total sectional area

Branch cables carrying **33** Amperes, comprised of 19 wires, each 18 L.S.G. diameter, .0349 square inches total sectional area

Leads to lamps carrying 1.8 Amperes, comprised of 1 wires, each 18 L.S.G. diameter, .0018 square inches total sectional area

Cargo light cables carrying 9 Amperes, comprised of 100 wires, each 32 L.S.G. diameter,        square inches total sectional area

### DESCRIPTION OF INSULATION, PROTECTION, ETC.

H.C. Copper wire tinned, insulated with pure and vulcanised India rubber and tape the whole vulcanised together, braided and compounded. Sheathed in lead or steel armour as required to suit surroundings or encased in special mouldings

Joints in cables, how made, insulated, and protected..... *no joints*

Are all the joints of cables thoroughly soldered, resin only having been used as a flux *no joints* 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 *no joints*

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 *Twin lead covered or steel armoured cables clipped direct to the wood or iron work or vulcanised wires protected by mouldings.*

continued.

**DONKEY BOILER—** No. \_\_\_\_\_ Descrip/ \_\_\_\_\_

Made at \_\_\_\_\_ By whom made \_\_\_\_\_ in alleyways or where exposed to weather or moisture *Metal tubes*

Working pressure \_\_\_\_\_ tested by hydrostatic pressure to \_\_\_\_\_

No. of safety \_\_\_\_\_ Area of each \_\_\_\_\_ Pressure to \_\_\_\_\_

enter the donkey boiler \_\_\_\_\_ for galleys or oil lamps or other sources of heat *Steel Armour*

strength \_\_\_\_\_ protection \_\_\_\_\_ been provided for the cables near boiler casings *Steel armour and Iron tubes*

Lap of plating \_\_\_\_\_ protection has been provided for the cables in engine room *Steel armour and Iron tubes*

Dia. of stays \_\_\_\_\_ s carried through beams *Insulated bushes where unarmoured through bulkheads, &c. Watertight glands*

joint \_\_\_\_\_ les carried through decks *Metal tubes fitted watertight to decks.*

Working \_\_\_\_\_ 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 *In coal Bunkers Iron tubes, in cargo spaces Steel armour*

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

If so, how are the lamp fittings and cable terminals specially protected *Strong guards over lamps Iron covers over cable terminals*

Where are the main switches and cut outs for these lights fitted *Poop entrance & 1st Alleyway*

If in the spaces, how are they specially protected \_\_\_\_\_

Are any switches or cut outs fitted in bunkers *no*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed *Fibre Forks*

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 *apparent* supplied with a voltmeter and *also with two* ~~ampere~~ *ampere* meters 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 *2000* megohms per statute mile after 24 hours' immersion in seawater.

non-c \_\_\_\_\_

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.

*W. C. Martin & Co*

Electrical Engineers

Date

*24th Sept 1901*

#### COMPASSES.

Distance between dynamo or electric motors and standard compass *53 feet to nearest Motor*

Distance between dynamo or electric motors and steering compass *52 feet to nearest Motor*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>4.8</i>	<i>12</i>	<i>9</i>	<i>9</i>
<i>9</i>	<i>11</i>	<i>8</i>	<i>8</i>
<i>6</i>	<i>4</i>	<i>5</i>	<i>5</i>

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

The maximum deviation due to electric currents, etc., was found to be *nil* degrees on *nil* course in the case of the standard compass and *nil* degrees on *nil* course in the case of the steering compass.

THE FAIRFIELD SHIPBUILDING CO., LIMITED.

Builder's Signature.

Date

*27th Sep. 01.*

#### GENERAL REMARKS.

*The materials and workmanship are good. When completed the installation worked satisfactorily.*

*Wm. Austin.*

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

Committee's Minute

*Glasgow. 30 SEP. 1901*

*Receives Electric Light*

*It is submitted that this installation appears to be satisfactory.*



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THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.