

over electricity are brighter light for less money. At the present, the best incandescent lamp is not very efficient, using only about five per cent. of the energy it dissipates. Scientists are experimenting all the time, with a great probability that in the near future incandescent lamps will have an efficiency of double what they have now. That means either same light for half the money, or double the light for the same cost. Anyone who prefers the rather ghastly light of acetylene to the clear, cheerful glow of electric lamps is entitled to his preference, but he must take the risk of unpleasant smells, and quite possible explosions. (3) Underwriters accept 220 and 240 volt lamps in Europe and the United States when special precautions against leaks, etc., are taken. The only reason why such voltage is not more generally used is that the lamps are rather less efficient than those of lower voltage; and there seems to be some little doubt of the manufacturers being able to produce a really good and durable lamp. No doubt, however, both these points will before long be satisfactorily settled.

"INDUCTION" writes: (1) What would be the resistance and line loss on a two-phase system carrying a load of 40 amperes (17 amperes and 23 amperes on each phase) at a pressure of 2,000 volts? The station voltmeter connected to a transformer of 20 to 1 ratio requires to register 118 volts to overcome loss, resistance and induction. The distance from power house to center of distribution is 25,300 feet, and the wires used are No. 3 B. & S. (2) How can I color incandescent lamps for decorative purposes that they may be cleaned at any time? (3) What does each division on an S.K.C. static ground detector denote when connected to a 2,000 volt primary?

ANSWER.—(1) The resistance of 25,300 feet of No. 3 circuit under the described conditions with 23 amperes is 97.3 ohms. As, however, the circuit contains joints, etc., it will be somewhat higher. The loss on such a circuit carrying 23 amperes (for copper resistance) will be 238 volts. The "inductive" drop will somewhat increase this loss, but unless some other data are given, such as distance apart of wires, it is not possible to accurately calculate it. The dynamo voltage, to overcome the above resistance, and leave 104 volts at the lamps, should be 2,318 volts—the indication on a 20-1 volt meter should be 116. No doubt the other two volts are required for joints, etc. (2) A very weak solution of shellac with the color added can be cleaned off by alcohol. (3) This information can best be furnished by the Royal Electric Company.

### ELECTRIC LIGHT INSPECTION IN CANADA.

The report of the Commissioner of Inland Revenue for the Dominion, for the year ending June 30th, 1898, gives particulars regarding the inspection of electric light. The total revenue derived therefrom was \$9,472, made up as follows: Fees for inspection, \$5,388.25; registration of companies, \$3,970; penalties, \$114. The expenses of inspection were \$3,236, and there were expended on standard instruments, \$3,768.80, leaving a net revenue of \$2,467.35. There were inspected during the year 3,754 meters. Of these 3,496 were found correct, 141 fast, 48 slow, and 10 unsound. A number were accepted after first rejection.

### PERSONAL.

Mr. S. W. Jenckes, of the Jenckes Machine Company, has been elected a member of the town council of Sherbrooke, Que.

Mr. W. P. Cooke, of Port Arthur, was, at the municipal elections in January, elected as Railway and Light Commissioner for the town. He was also chosen as a councillor.

Mr. John C. Gardner, formerly secretary and manager of the Canadian Manufacturer Publishing Co., Limited, has been appointed president and managing director of the Might Directory Co., of Toronto, Limited, vice Mr. J. M. Might, retired. No doubt the energy and success which marked Mr. Gardner's career in his former capacity will be brought to bear upon the duties of his new position.

Many Canadian friends of Mr. F. C. Armstrong, who in May last accepted a responsible position in connection with the electrical department of Dick, Kerr & Company, of London, England, were pleased to have the opportunity within the past month of again meeting him. The purpose of his visit, however, was matrimonial in character. On January 12th he took as a life partner one of Cobourg's society favorites, in the person of Miss Helen McCallum. Before their departure for England, Mr. and Mrs. Armstrong visited some of the principal cities in the United States.

### MOONLIGHT SCHEDULE FOR FEBRUARY.

Day of Month.	Light.	Extinguish.	No. of Hours.
	H.M.	H.M.	H.M.
1....	P.M. 5.50	A.M. 12.20	6.30
2....	" 5.50	" 1.00	7.10
3....	" 5.50	" 1.30	7.40
4....	" 5.50	" 2.40	8.50
5....	" 5.50	" 3.40	9.50
6....	" 5.50	" 4.50	11.00
7....	" 5.50	" 5.50	12.00
8....	" 5.50	" 6.00	12.10
9....	" 5.50	" 6.00	12.10
10....	" 6.00	" 6.00	12.00
11....	" 6.00	" 6.00	12.00
12....	" 6.30	" 6.00	11.30
13....	" 7.30	" 6.00	10.30
14....	" 9.00	" 6.00	9.00
15....	" 10.30	" 6.00	7.30
16....	" 11.10	" 5.50	6.40
17....	" .....	" 5.50	.....
18....	A.M. 12.10	" .....	5.40
19....	" 1.10	" 5.50	4.40
20....	" 2.00	" 5.50	3.50
21....	" 2.40	" 5.50	3.10
22....	No Light.	No Light.	.....
23....	No Light.	No Light.	.....
24....	No Light.	No Light.	.....
25....	No Light.	No Light.	.....
26....	P.M. 6.20	P.M. 9.00	2.40
27....	" 6.20	" 9.20	3.00
28....	" 6.20	" 10.20	4.00
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Total..... 183.30

Mr. J. R. Rayden, master mechanic at the Trail smelter, was killed by a shock received while repairing the switchboard in connection with the electric plant.

The town of Goderich, Ont., will seek authority from the provincial legislature to raise \$5,000 for the purpose of improving the electric light and waterworks plants.

The Laurention Water and Power Company, of Lachute, Que., have requested extensive powers from the provincial legislature. The company propose to operate in the northern counties of Quebec, supplying electric light, gas, heat, power, etc., and constructing telephone lines. Mayor Prefontaine, of Montreal, and Mr. Pierre Laforest, of Joliette, are interested in the company.

The Canadian Marine Engineers' Association, Toronto, have elected officers for the ensuing year as follows: Hon. president, O. P. St. John; president, Harry Parker; first vice-president, A. J. Woodward; second vice-president, D. F. Campbell; secretary, S. A. Mills; treasurer, H. Brownley; inside guard, H. Bowler; auditors, D. L. Foley, E. J. O'Dell, Owen Sound; council, Thos. Good, Wm. Harwood, Ree Bench, Toronto; P. J. Carr, Port Dalhousie, and J. E. Kane, Kingston.