## THE ELECTRIC LIGHT.

able. A general comparison could then be made which would, in a measure, settle the ever-recurring question in regard to the superiority of this or that machine. Undoubtedly, this information exists for many of the machines, as numerous measurements of them have been made by different experimenters, but the results have in most cases never been made public, and are, therefore, to be found only in the hands of the individual experimenters themselves. It may be stated, however, from such information as we have found available, that the amount of energy obtainable as electricity from the best machines probably does not exceed, or if so, only in a slight degree, two thirds that of the mechanical force required to drive them.

The expense of maintaining the electric light is much less than that incurred by the employment of any of the ordinary methods of illumination. Mr. Farmer states that where a large amount of light, say from five thousand to ten thousand candle light, is required, it can be produced from a suitable machine at the rate of one thousand candle light per horse power; but, smaller amounts—say two hundred to three hundred candle light—are relatively more expensive, probably about one half horse power for two hundred to two hundred and tifty candle light.

This is much more economical than when produced from any of the ordinary forms of galvanie battery. One horse power may be reckoned as costing from two to six cents per hour, which would give the cost of ten thousand candle light as sixty cents per hour, simply for power. Of course some other items, such as oil, attendance, interest and depreciation, also cost of carbons consumed, would increase this amount somewhat, but even at twice or three times this cost it is still much less expensive than gas light at three candle light to the cubic foot per hour, at \$2.50 per thousand for gas.

The difficulty of procuring earbons that would burn uniformly has been a source of a great deal of annoyance. If the carbon is taken just as it comes from the gas retorts and sawed into shape, it is found to contain many impurities, and, when

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