from 1 to 150 candles, and recently of 600 to 800 candles. Lamps o such high candle power have not heretofore been made. The economy of such a lamp remains to be established.

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We have to-day another method of electric lighting, termed the alternating system. The method employed is to produce by an improved machine an alternating current of very high pressure, and to reduce or convert it to a low pressure suitable for house-lighting The conversion is for two purposes: on the score of economy, because by running the machine at a high pressure, a much smaller wire is necessary, and the current can be carried great distance at a comparatively small cost for wires, a large item in installing an Electric Light plant; safety, because a low pressure current is comparatively harmless.

In explanation of electric pressure, allow me to repeat a very apt illustration of the action of a dynamo muchine forcing a current into a wire or series of wires.

It is this; the action is analogous to that of a force pump keeping up a pressure upon a line of hose pipe. Every point where leakage of the electric current occurs, and may liken to pin holes in the hose. Water leaking at innumerable pin holes reduces the pressure in the pipe, until perhaps the farthest end of the line of pipe receives no pressure at all. The higher the pump pressure at the source the greater the leakage at a given pin hole. So in handling the electric current we must provide against such leakages by making our conductors as perfect as possible, and to see that in no place does the wire come into contact with the limbs of a tree, or what not, that may convey a portion of the current pressure to the ground. We must, as engineers do, allow for a given loss of pressure due to the friction of the current traversing the conductor, and to reduce this loss of pressure or heat. We make our conductor as large as economy in outlay will permit.

The converter used in the alternating system is a well constructed induction coil. The construction in a simple form is as follows: a bundle of iron wires are wound on one end, with a spool of very fine wire, called the primary. On the reverse end with a spool of compara tively coarse wire tinned the secondary. To the primary wires are connected the wires from the Dynamo machine, and to the secondary, the wires leading to the lamps to be lighted.

The action in the coil is as follows: on every reversal of the chargingcurrent, 200 and upward times per second, a reverse current is induced in the secondary wire by reason of the discharge and reversal of magnetism in the bundle of iron wires. The reversals of the current are so nearly continuous, no perceptible variation is discernable in the lamps.

The alternating current method of generating power has been applied to the electric are light and to electric motors, making it a complete system, leaving nothing else to be lesired. A prediction was made at the last convention of Electric Light men, that the alternating system will eventually displace all other systems, by reason of the safety with which the current can be handled by the consumer. This is admitted of by reason of the conversion from a high to a low pressure entrance

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