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sal ammoniac battery? A. The action of a Leclanche cell is always accompanied by the formation of a double salt of zinc and ammonium, which crystallizes upon the elements of the bottom and sides of the dish. 3. If the primary coil of the Hopkins induction coil in SUPPLEMENT No. 160 could not be carried to a small magnet that would operate a vibrator, say several inches away from the bundle of wires forming the core of the coil? A. Separate coil may be used for the vibrator in any induction coil. The current used to run this coil will be in addition to that needed for the main coil. When the vibrator is attached to the main coil, the magnetism of the core acts upon the vibrator without requiring any additional current.

(8654) W. A. P. asks: 1. How many 16 candle power 110-volt lamps are required to cut a 110-volt circuit down to about 5 volts and two amperes? It is to be used to light a very small "pea" incandescent lamp. Is there any better substance to accomplish the decrease? Lamps I prefer. A. Connect four 16 candle power lamps in parallel, and complete the circuit with the pea lamp. The four lamps will give the two amperes, and the combined resistance in parallel will very nearly adjust the drop in potential. 2. I should like to know the formula for resistance carbon. I wish to make rods of 1/4 inch diameter, from 6 to 12 inches long. A. For ten cents we can send you a paper giving the details for making carbons.

(8655) L. A. P. asks: 1. I have a small dynamo used for plating. Can I use it for a spark on my gasoline engine? I have taken hold of the wires when running and have not felt any perceptible current. Should I feel any? A. You can find whether your plating dynamo will answer for sparking a gas engine by breaking the circuit suddenly when it is running at full speed. You cannot tell by taking hold of the wires. The voltage used in plating is not sufficient to give a shock. 2. Would it make any difference if I had a coil connected with it? A. The dynamo would probably run an induction coil. 3. If so, will you please instruct me how to make one. A. A coil giving a spark of a half-inch will ignite the charge in a gas engine. Instructions for making a coil may be had in Norrie's "Induction Coils," price \$1 by mail. 4. Which are the best for batteries for motors? A. Four to eight dry cells are commonly used for sparking a gas engine, though any form of sal-ammoniac cell will do the work well.

(8656) D. H. asks for a reliable recipe for preserving eggs. A. Lime, 1 bushel (slaked with water); common salt, 2 or 3 pounds; cream of tartar; 1/2 pound; water q. s. to form a mixture strong enough to float an egg. Used to preserve eggs, which it is said it will do for two years, by simply keeping them in it.

(8657) J. K. L. asks: 1. How the plates are obtained which are used in printing pictures in papers? A. There are many ways of making the plates from which pictures are printed in papers, both electrical and photographic. If you wish to learn any particular process, we could refer you to the sources of information upon that process. 2. Are there any non-metallic substances, such as carbon, selenium, etc., which can be electroplated? A. Any substance not a conductor can be electroplated by coating it with graphite, which is a conductor, before putting it into the plating bath. 3. If two bodies were revolved at the same speed or rate, and one of them was larger than the other, in which would the centrifugal force be the greatest? A. The centrifugal force varies directly as the weight of the rotating body, and as the square of the velocity of its motion. It also varies inversely as the radius of its orbit. 4. At about how many revolutions per second do you think a shaft of iron would fly to pieces? A. There is no definite answer to this question. It is entirely indefinite. 5. Would a bar of iron 4 inches long be attracted to a pole of a bar magnet with as much force as if it were 8 inches long? A. The length of a bar of soft iron has nothing to do with the attraction of a magnet for it. The force of the magnetism is in the magnet, and not in the bar of iron.

(8658) N. S. writes: In your issue of June 21 is an interesting communication relative to the Sault Ste. Marie Canal. Will you please reply to several questions relative to this subject through your Notes and Queries column, as doubtless others are interested in everything that relates to canals? What is the origin of the words Sault Ste. Marie? Then we read, in your article, as follows: "Ground was broken on the canal June 4, 1853, by one Charles T. Harry, under whose supervision was continued the original Soo canal." Then in the last paragraph we read: "The Soo Canal has more than four times the traffic of the Suez Canal. Vessels passing through the Soo canal average one for every 15 minutes during the 24 hours." The query is, Why the Soo Canal? Is that word synonymous with the Sault Ste. Marie Canal? A. Sault Ste. Marie is archaic French for the "Falls of St. Mary." "Sault" is pronounced in modern French "So," and "Soo" is probably a corruption of "So." The canal is popularly referred to as the "Soo" Canal.

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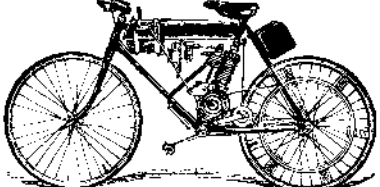
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