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Notes and Queries.

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(8546) L. L. P. writes: We have an angle iron tower 100 feet high on which is a 50,000-gallon tank. Miscreants annoy us by climbing to tank. Electric light and trolley lines are near; how best connect them to tower to give a good stiff shock, and what size wire should we use? A. You can connect your tank to the electric lines you mention, but you will render yourself liable for the injury or death of anyone who may be connected to the circuit through your act. A man does not render himself liable to be murdered by climbing a neighbor's tower. It is simply a trespass, which has no so severe a penalty in the law. There are other ways of meeting the case.

(8547) E. S. D., Jr., writes: 1. I would like to know if you could give me the formula for a solution for bichromate cells, with a good ampere output, in the right proportions, and how to mix it, etc? A. A good solution may be made after the method described in SUPPLEMENT No. 792, price ten cents. 2. Which is the best form of bichromate to use for making electropion fluid—the sodium or the potassium? A. The sodium salt is easier of use. 3. What is the best way of amalgamating a zinc? A. The usual method is to clean the plate with dilute sulphuric acid, and then rub mercury over the plate, dipping it into the dilute acid if necessary to make the mercury take to the surface. 4. I would like to know if I could have a battery rheostat made for these batteries, steady current, etc? A. Yes; though there is little need of one. The amount of current can be regulated by immersing the zincs to a greater or less depth in the liquid.

(8548) W. G. S. asks: 1. What is the output in amperes of the common telephone battery called sal-ammoniac battery? A. The Leclanche cell gives probably 3 amperes as a maximum discharge rate. 2. Also of the dry battery called the 1900, and does the size of the battery govern the number of amperes? A. A dry battery has a small discharge rate. The amperes of discharge of any cell are greater with a large than with a small plate. 3. Also give output in amperes of the common Crowfoot gravity battery, 6x8 size. A. You will not be far wrong to take the discharge of the gravity cell at two amperes. 4. Where can I get a table giving the above information? A. Most cells are rated in Carhart's "Primary Batteries," price \$1.50 by mail.

(8549) M. P. C. asks: 1. What metal is next in quality to platinum for contact pieces in a bell, induction coil and a telegraph key? A. There is no metal which can take the place of platinum for this use. There are several which have higher melting points, but they cost from five to ten times as much as platinum and the price prohibits their use. Most metals oxidize too easily to enable them to be used for contact points. 2. Does carbon or graphite make a good contact? A. No. They are too brittle, and would soon be broken in pieces. 3. How many pounds of wire should be wound on the armature and field magnet of the hand power dynamo described in SUPPLEMENT No. 161? A. The winding calls for so many turns, not so many pounds. 4. Is this dynamo suitable for running a motor? A. Yes, a small one.

(8550) L. & G. asks: We have a small motor wound for 25 to 30 volts, which we would like to utilize in running a small job press which we are at present running by foot. Would it be advisable to use a battery of the Grenet cells; or would the cost of maintaining them be too high? A. The voltage is only one element in determining the output of a battery, and in rating the power required to run a motor. To furnish the voltage for your motor will require 16 bichromate cells. The type described in the SCIENTIFIC AMERICAN SUPPLEMENT, No. 792, price ten cents, is best adapted to this purpose. The size of cell therein described will doubtless be large enough to run motor. One charge will last six hours. You can determine the cost from the price of bichromate of soda or potash and sulphuric acid at your place.

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