



DEPARTMENTAL NEWS

Electrical Sparks

ROTARY STATION EQUIPMENT ARTICLE No. 2

The Generation of Electricity

What we learn today, if properly applied tomorrow, will help pay the grocery bill.—PATRICK GOLDBERG.

Years ago, while working in the iron mines at Kastoria, in northern Greece, John Galvani found a peculiar piece of stone that would attract small pieces of iron.

Now, at this time, John was very much in love with the only woman in the world—Maggie Magnet, by name; and he noticed that the stone that he found attracted iron just like Maggie attracted him. So he called the stone a magnet.

Several years later, it was discovered that lines of Force or Magnetism flowed from one end of a magnet to the other, and this was called a Magnetic Field. Now, if you will take a conductor (not a street car conductor, but a metal conductor), and move it back and forth so as to cut the lines of Force around a magnet, it will generate a current of electricity. By mounting several conductors or coils of wire on a shaft, and rotating it in a Magnetic Field, you will generate a fairly good current, and you will have a Magneto or Generator.

Now there was no practical use for a magneto until the advent of the tele-

phone. The telephone companies strung wires all over the country. On the end of each pair of wires, and sometimes in the middle, they put a telephone. Now it stands to reason that if the wires were broken, you could not talk over the telephone. This was the proposition the telephone companies were up against—how to get the wires fixed in a hurry when they were broken.

At each central office they kept men with mules and buggies to go out and shoot trouble, as it was called. Naturally, the mule wasn't in a hurry to get there, so the man would whip the mule to make her go faster, and this wore out the whip, and the whip expense of the companies kept rising until someone thought of putting a magneto in each buggy, and connecting one wire to the mule's bit and the other to his tail. It worked out about like this. The man would get in the buggy and tell the mule to get up. The mule wouldn't do it, so the man would twist the handle of the magneto, which would shock the mule, and the mule would twist his tail and wiggle his nose and outrun a Ford automobile.

But this was only a little use for the magneto. Some wise guy built a big magneto, and made it do really useful work; and then several big ones were built.

Tom Edison discovered that he could light up our homes and cities with the current from a magneto. Someone else made a motor, and still another man built a street car, and so on, until Mr.

Tallasse found out that he could make aluminum with electricity.

So he built himself a powerhouse over at the Narrows, with several big generators in it, and started an Aluminum Plant at Badin.

Now the current generated at the Narrows is an Alternating current (that is, sometimes we have it, and sometimes we don't), and it takes a Direct current to run the Pot Rooms. So they generate the alternating current at the Narrows, and send it to the Rotary Station, where it is run through Rotary Convertors and changed to a direct current. The principle of this operation is as follows:

The generators at the power house run counter clockwise, or in the opposite direction to the hands of a clock. In doing this, they wind up the current, and send it to the Rotary Station. Now the Rotaries run clockwise, or opposite to the direction of the Generators, so they unwind the current, and send it direct to the Pot Rooms, where the Pot Punchers punch it, and make aluminum out of it.

The aluminum is shipped to different parts of the country, where it is made into tin pans, spaghetti strainers, and other articles too numerous to mention.

NOTE:—This is the second of a series of articles on Rotary Station Equipment. The next will appear in an early issue.

THE SHOP

Some of the boys think Maynard should take a few lessons in singing,