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OF GENERAL INTEREST

Electric Power

A Brief History of Its Development for the Manufacture of Aluminum

Many years ago when aluminum was being made chemically and sold for several dollars per pound, Charles M. Hall then a student in Oberlin University conceived the idea that it might be made electrically, or rather electrometallurgically. At that time the electrical industry was confined almost entirely to a few small dynamos for furnishing power for a few street lights. Some may remember the awkward looking contrivances; two great spools of wire wound on two iron bars and a large block of iron on top to hold the spools together or rather to keep a few of the lines of magnetism from going where they ought not, and the small bundle of wire wound on a shaft which revolved between the bottoms of the two iron bars holding the large spools of wire. These dynamos were usually driven from some kind of steam engine. If there were two or more in the plant it was customary to have a long counter shaft belted to the engine, and each of the two or more dynamos driven by a separate belt from this counter shaft. Five to ten K. W. was the usual size, but they were usually rated in lamps capacity such as twenty lamps, thirty lamps, forty lamps, etc.

The style of dynamos built in those days was not well adapted to Mr. Hall's experiments, so he decided to use batteries, not the neat dry cells as we use in our telephone or bell work of today or the highly developed storage batteries used in automobiles, but just plain pieces of zinc and carbon lowered in dilute acid contained in cups, bowls, butter crocks or anything he could find which was an insulator and would hold the acid. He had to have a great many, and worked many days fitting up his power plant.

Professor Richards, then professor of chemistry in Oberlin University said in describing this experiment, that it was the most wonderful collection of jars, crocks, etc., that he had ever seen. When all was ready the bath had to be melted and kept in a molten condition while the electric current was being passed through. This was done by heating the vessel containing the bath over a fire. After the bath was melted and ore dissolved in it the electric current from the batteries was passed through the bath for some time. The current was then shut off and the molten mass allowed to cool. It was then broken open and a few small pieces of aluminum found, the total being only a few ounces. Mr. Hall then sought Professor Richards and with great pride showed his results which proved his ideas to be correct, and demonstrated that if he could only get the necessary amount of direct current electric power aluminum could be produced at a far less cost than it could be by chemical means and could be made in great quantities.

The next step was to get financiers interested in his discovery and get them to advance the necessary money, then to get electrical engineers to build the right kind of electric machines. After further experiments on a small scale the first

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Facing the Sun

"Don't hunt after trouble, but look for success,
You'll find what you look for; don't look for distress.
If you see but your shadow, remember I pray,
That the sun is still shining, but you're in the way.

Don't grumble, don't bluster, don't dream and don't shirk,
Don't think of your worries, but think of your work.
The worries will vanish, the work will be done,
No man sees his shadow who faces the sun."

Health Conditions for Workers

Having lived in Badin for the past four years and being interested in the health of the community, and in rather close contact with many departments of the Badin Works, I am naturally in a position to know something regarding the influence of this place upon the health of the men who come here to work for the Company.

A little over a year ago the superintendent decided to have all those employed by the Company, and all applicants for employment, to stand a physical examination and those who fail to come up the standard or have physical defects or infectious diseases are required to bring themselves to a satisfactory condition of health before they are employed. The wisdom of this rule can readily be seen in reducing the amount of sickness and in raising the standard of health by increasing the number of healthy workers. The extremely small death rate of Badin is to some extent due to this method. The results also show that the same number of men will accomplish 25 per cent. more than those formerly employed without examinations.

I have found that in almost every instance men who have been working in the plant have gained from 5 to 15 pounds after being here from three to six weeks. I arrive at this deduction from the fact that men being transferred from one department to the other have to be examined and the records show this gain.

The management has ever been mindful of its employees, endeavoring to surround them with every means for safety and good working conditions. Abundance of pure water, a perfect system of sanitary sewerage, and the dwellings being so built as to allow a free circulation of fresh air—with these conditions, how can our town be otherwise than healthy?

Among other advantages are its school and splendid corps of teachers, three