

The production of such alloys, suited for a variety of special uses, has been the subject of extended investigation by the manufacturers of the metal, and they have been conspicuously successful. W.

MORE ABOUT "RUBBER FROM CORN."

The brief notices in the technical papers referring to the possibility of utilizing the refuse material of the glucose factories, amounting to about 5 per cent. of the raw material, have recently been supplemented by an interesting communication on the subject in the *Chicago Times*, purporting to give an account of experiments that have been secretly conducted in that city for the past year by the chemists of a large glucose company.

According to the writer of the article in question, the process of manufacture is now so far perfected that the product may, within a few months, be ready for the market.

The following details will be of interest :

"Corn rubber has almost exactly the appearance of the ordinary reddish brown india-rubber. The process of manufacturing is not perfect enough, however, to make it resist heat as well as india-rubber. This has offered the greatest difficulties to the chemists, who are now working to remedy this defect. The oil of corn, from which principally the rubber is made by some secret process, does not oxidize readily, and those who are working on the corn rubber declare this will be an enormous advantage for the new product. Articles manufactured from it will always remain pliable and not crack. Contrary to reports, this new product has not yet been put on the market. It is intended to go on with its experiments till the success of the new substance is assured, and then to go into its manufacture on an immense scale.

"The corn-oil from which the rubber is made, comes from the germ of the corn and not from the hull. The starchy and glutinous portions of the kernel are used in making glucose and starch, while the corn-oil, heretofore, according to the refiners, has been practically useless. The five refineries of the trust have used 21,000,000 bushels of corn in the last ten months, of which about 5 per cent. was refuse. Though forty different products are made by the company, still 5 per cent. was practically waste. By utilizing this waste material in making the new product it is calculated that corn rubber can be sold at 6 cents a pound, 2 cents of which will be clear profit. The corn rubber, it is said, will be adapted to nearly all the uses that ordinary rubber is capable of—from bicycle tires to linoleum. The more refined uses to which the rubber is put, however, will still be a closed field, for the composition of corn rubber will prevent its substitution for india-rubber for scientific uses."

The article proceeds to state that the new product may be advantageously mixed with Para rubber, producing a cheaper article of substantially the same quality for ordinary service, as the genuine rubber. W.

SEEING AT A DISTANCE BY ELECTRICITY.

Much interest has lately been aroused over the alleged discovery by Szczepanik, a Polish inventor, of a method by which vision at a distance is rendered

practicable. The apparatus by which this is to be accomplished, is called the "Telectroscope." The complete details of this invention have thus far not been disclosed, but the *Scientific American* supplement has lately published an article giving the present state of knowledge on the subject of electrical vision, from which the following statements are taken :

As may have been anticipated, the fundamental principle involved in all the devices that have been proposed for this purpose is the variation in the electrical conductivity of selenium under the influence of light of varying intensity. To demonstrate this property of selenium, the simplest plan is to include a selenium cell in a telephone circuit, when a sharp click will occur in the receiver every time that a bright beam of light is allowed to fall upon the selenium.

Coming to the alleged discovery of the expert above named, it is said to consist in brief "in allowing the rays emanating from the object to fall upon a cell of selenium. Electric impulses will be produced in the selenium, whose intensity depends upon the brightness of the rays falling upon the cell. These impulses, being conducted to a distant receiving station, are there transformed again into light. The rays falling upon the selenium are first separated into points of light by oscillating mirrors in the transmitting station. Similar mirrors in the receiving station vibrate synchronously with the mirrors of the transmitting station, and reproduce the image of the object."

"The circumstance that the retina of the eye is sensitive to a light impression for a very minute, though definite, interval of time after the light has ceased to affect it, a peculiarity called by physicists the 'persistence of vision,' explains the fact that the rapid vibrations of the mirrors are perceived simultaneously.

"A spark on the end of a stick, when swung around in a circle, produces the impression of a ring of light. In an exactly similar manner, the rapidly succeeding points of light falling from the object upon the mirrors, produces, apparently, the image of the original object.

"The question then naturally arises: Is it possible to oscillate the mirrors with sufficient rapidity to produce a series of points, which, following one another with great rapidity, will cause a picture of the object to be produced?

"The mirrors are arranged in pairs at right angles, as regards their vibrations, and hence the number of points projected on the selenium in the transmitter will be equal to the product of the number of oscillations performed by each of them. If, for example, each mirror swings on its axis only 100 times a second, then 10,000 points of light will, in a like period, fall on the selenium and be transmitted. As a matter of fact, these may number hundreds of thousands, or even millions. So rapid are the oscillations of the mirrors that the tenth part of a second is sufficient to analyze the image of an object in the transmitter, and to render it visible at the receiving station. It is therefore, possible to transmit a continuous action, such as a theatre performance, over the wires of the telectroscope, since the pictures received follow one another so rapidly as to produce the impression of a moving image, just as the numerous separate pictures of a chromo photographic apparatus reproduce past actions."

It is stated in the article from which the foregoing account has been abstracted, that it is the inventor's intention to withhold full details of his

system and apparatus until the same shall be shown in operation at the World's Fair in Paris to be held in 1900.

'Apropos to this, it is worthy of notice that this inventor has made the same reservation about disclosing the details of another alleged invention, no less remarkable in character than this one, and which also was recently the theme of much discussion in the technical and newspaper press. It would be quite as well, under these peculiar circumstances for the public to await these promised revelations and meantime to do as the gentleman with the unpronounceable name has done, accept his statements with reservation. All that can safely be said of this particular invention is that it is possible in theory, and plausible so far as the details have been disclosed.

W.

NEW USES FOR ALUMINUM.

It is reported that experiments have been carried on at the United States Mint in Philadelphia for nearly a year with the view of ascertaining the fitness of aluminum for minor coins. Some 10,000 blanks of the size of the nickel (5-cent piece) have been delivered at the mint for this purpose. It may be mentioned that Congress some time ago appointed a commission of experts to investigate and report upon this subject, and the experiments above referred to are being carried on under the direction of its members.

In the source from which the foregoing information is taken, no allusion is made to whether the blanks are of pure aluminum or of aluminum alloyed with a hardening metal. The pure metal would in all likelihood prove objectionable in service as a coin metal.

A current item of news relates to the interesting fact that one of the great electric companies, which is engaged in the equipment of a large electric power transmission plant in the State of Washington, has ordered 200,000 pounds of $\frac{1}{4}$ -inch aluminum wire for carrying the current. This is practically a new field for the aluminum industry, and promises a great expansion in the near future.

W.

Franklin Institute.

[*Proceedings of the stated meeting held Wednesday, February 15, 1899.*]

HALL OF THE FRANKLIN INSTITUTE,
PHILADELPHIA, February 15, 1899.

MR. THEO. D. RAND, Vice-President, in the chair.

Present, 92 members and visitors.

Additions to membership since last month, 64.

The report of the Actuary embraced the following important information :

" * * * Upon the recommendation of the Committee on Sectional Arrangements, the Board of Managers has authorized the formation of a 'Physical and Astronomical Section,' of the Institute, upon the petition of the following-named members, whose names have, in accordance with the By-Laws, been recorded as the founders of the Section ; to wit :