

THE EDITOR'S COMMENTS.

MYSTERIOUS RAYS.

A New York paper has a description of a recent scientific discovery which seems to surpass even the X-ray wonder. A Calcutta scientist is said to be in England at present exhibiting before the learned world an apparatus by which he is enabled to send electric signals from one point to another through intervening walls, human bodies or even mountains, without any other conductor than the atmosphere, or rather the ether. His name is Dr. Jagadis Chunder Bose, professor of physical science at the Presidency College at Calcutta, and he is said to have been sent by the Indian government to Europe for the purpose of making the learned lights of the Occident acquainted with his discoveries.

The oriental scholar started from the generally recognized fact that the human power of perception is very limited. We hear little, he says, and see still less. Our range of perception of sound extends through eleven octaves. Notes below or above these we cannot hear. Our range of vision is still more limited. A single octave of ethereal notes is all that is visible to us. The invisible lights are many.

The problem the Calcutta professor undertook to solve was, therefore, to construct an apparatus by which the vibrations, imperceptible to the human senses, would be rendered perceptible. With this end in view he constructed what may be called an electric eye, consisting of a sensitive layer on which the rays fall, producing a twirling motion in another part of the apparatus connected with the "eye" by an electric contrivance, corresponding to the optic nerve. The result is a magnified vibration of a spot of light reflected from the moving part of the apparatus—a light which is said to penetrate opaque objects almost without loss of intensity.

It is evident that the discovery, if further tests prove all that is claimed for it, it will be of immense practical value. By it, signals can be transmitted from ship to ship or from the shore to vessels, even through a dense fog, and there are numerous other practical uses to which the apparatus can be put. Possibly the mystery of the X-ray is cleared up by the Indian savant.

THE IRRIGATION CONGRESS.

The fifth session of the National Irrigation Association congress came to a close on Friday evening at Phoenix, Arizona. Like its predecessors, this meeting will have an extensively beneficial effect on irrigation matters generally. To these congresses there has been offered the criticism that they have had no definite plan of campaign to secure specific legislative action. The reply to the criticism is that in the present state of the irrigation problem what was most needed was the attracting of public attention to the subject and the dissemination of information concerning it. Then necessary legislation must follow as a matter of course.

When the people know just what they want, their representatives quickly recognize the necessity of granting it. These congresses have attained the great end of being important factors in making irrigation a national question of which the public insists on acquiring knowledge. The result thus far has been some valuable legislation, and a thorough study of the question that will bring a still greater development in the near future.

It is gratifying to note that in these congresses Utah maintains her leading position both in reports of work accomplished and in the attention her representatives receive. In the telegraphed account of the congress proceedings it is stated that in official reports "Utah showed wonderful progress in irrigation matters," and the United Associated Press dispatches gave the following concerning a speech of a prominent representative from this State:

Brigham Young of Utah, a son of the great Mormon leader, addressed the congress by special request. He spoke eloquently of the advantages that have been derived from the former sessions of the congress, and prophesied a bright future for the great West, when its arid wastes shall have been transformed into prosperous farming communities. He described, in a graphic manner, the early struggles of the Mormons in Utah; the construction of their homes, and the first attempts at irrigation under most adverse conditions; and compared the arid wastes of territory of those days with the beautiful State of Utah today, abounding in immense irrigation canals constructed on the most scientific principles, and at an expense of millions of dollars. His speech was one of the best delivered at this session of the congress.

The next meeting will be held at Lincoln, Nebraska; and it is anticipated that before the time arrives for it to convene the results of the Phoenix meeting will have become manifest in legislation and in still stronger recognition of the necessities connected with reclaiming the arid region, so that more advanced plans than have been yet adopted may be readily comprehended and put into operation.

EMPLOYEES AS STOCKHOLDERS IN CORPORATIONS.

The scheme of the Illinois Central railroad officials to make the employee shareholders in the corporation appears to be attracting much favorable attention from large corporate interests in different parts of the country. The president of the Illinois Central, Stuyvesant Fish, is credited with originating the idea of applying this co-operative method to the road, the primal object being to solve the strike problem by making the employee financially interested with the executives in operating the road. Under the plan adopted, on the first day of each month the railway quotes to its employees, through the heads of their departments, a price at which their applications will be accepted for stock during that month. An employee is

offered the privilege of subscribing for one share at a time, payable by installments in sums of \$5, or any multiple of \$5, on the completion of which the company will deliver to him a certificate of the share registered in his name on the books of the company. He can then, if he wishes, begin the purchase of another share on the installment plan. The certificate of stock is transferable on the company's books, and entitles the owner to such dividends as may be declared by the board of directors and to a vote in the election of the members of the board.

Thus far, the employee have manifested a strong disposition to accept the company's offer to become shareholders. More than one-fourth of the employees now hold stock, and it is believed that before long fully one-half of the 22,000 workmen on the road will be in the position of shareholders. The installment plan of payment also is an encouragement to economy, as it offers an incentive to saving which does not exist where large payments of money only are effective in attaining membership in the corporation. By the men becoming financially interested in the road it is believed that a better service will be insured, and that the condition of the men themselves will be greatly enhanced in a few years by their holdings in every case where they show a disposition to thriftiness.

The scheme of making employee shareholders in business has been tried in very many cases, and usually with most satisfactory results. The Illinois Central is the first great railway to incorporate it into its methods, but there appears no reason to believe that it will be other than successful. In this part of the country there have been very many instances of this general co-operation among employee, and with good effect. There might be a broader application of the system with profit.

NO SUCCESS IN STRIKES.

The Springfield Republican commenting upon the record of strikes in the United States for the years 1881-94, as reported by the United States bureau of labor statistics, observes that the strikers, if the number of establishments involved is considered, decreased after 1886, the year of the Haymarket massacre in Chicago. In 1890 there was again a sudden increase which culminated in the Chicago railway riots. The two years 1881 and 1894 stand out prominently, both as regards the number of establishments involved and laborers out of employment, but in the former year there was a great revival of business activity and workmen struck for higher wages; in the latter year there were hard times, and strikes were tried as a means of preventing reduction of wages.

Another fact noticed in the tabulated record is rather startling. It is shown that since 1881 there has been a gradual increase in the number of failures of strikes to accomplish the object in view. In the year mentioned about two-thirds of the strikes were successful. The following years failures became more numerous, and in