

## SCIENTIFIC AND INDUSTRIAL JOTTINGS.

A NEW YORK firm are making a pump for acids and chemicals of hard rubber in all its parts, mounted with iron, and worked by steam.

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THE PROPOSED Pan-American railroad from New York to Buenos Ayres, would be about 10,000 miles long, but nearly half is in existence. The cost of the rest would be about 30 millions sterling. The line would run from New York to Mexico, through Columbia, Ecuador, Peru, and Bolivia to Buenos Ayres, but a branch would go to Brazil.

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"CERULLINE" is a new pigment discovered by Signor Ceruli, an Italian workman, which gives beautiful tints without oil or varnish, and is, perhaps, a long-lost secret of the ancient masters. The manufacture of it is kept a secret as yet. It was recently brought before the French artists by M. Girard, Preparator to the Faculty of Sciences, Paris.

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A CASE of hysterical hemiplegia in a married woman of 28, which arose from a quarrel with her husband, was recently cured by hypnotic suggestion, and studied by the chronophotograph. The movements of her arms, hands, and legs were crippled. A full account of the case, with illustrations of the halting walk of the patient, while the cure was in progress, are given in the *Comptes Rendus*.

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MR R. W. WOOD, of the University of Wisconsin, thinks that the action of an intense light, such as a flash of lighting on a photographic plate for a very brief space of time, decreases its sensitiveness to light. On the other hand, exposure of a plate to a dim light for a moment or two appears to increase the sensibility by doing the small amount of work necessary before any change can be effected that will respond to the developer.

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EFFECTS OF ANTARCTIC NIGHT.—Dr. F. A. Cook, describing the effects of the long Antarctic night on the human body and mind, says that on the exploring ship *Belgica*, as the cold night lengthened, all became pale "with a kind of greenish hue." The heart grew

feeble in its action. The men were incapable of concentrated attention, or of prolonged thought. One sailor was driven to the verge of insanity, but when the returning sun began to appear above the horizon he recovered.

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IT IS WORTHY OF remark that China, Japan, Russia, and Siberia are supplying the material for building the bridges required on the Eastern Railway of China; 200,000 Chinese are engaged in the work, which is being carried out at four different points. Two tunnels have still to be built. At this moment 460 miles of the line have been laid, and 60 locomotives and 1,200 ballast wagons are at work on the completed portion. It is announced that the railway will be thrown open for traffic throughout its entire length during the summer of 1902.

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ANTI-TYPHOID INOCULATIONS.—Professor A. E. Wright describes in the "*Lancet*" the statistical results of the anti-typhoid inoculations made by him among British troops at a series of military stations in India. It appears that altogether 11,295 men were under observation, of whom 2,835 had been inoculated and 8,460 had not. The percentage of cases of typhoid fever amongst the uninoculated was 2.5, and amongst the inoculated 0.95, a difference sufficiently great to warrant further extensive trials taking place. With regard to the mortality the results are not so marked. Amongst the uninoculated the percentage of deaths was 0.34, and amongst the inoculated 0.2. A certain measure of protection seems thus to have been conferred by the inoculation of the quantities of dead typhoid culture, and when Prof. Wright's remarks on the conditions under which the inoculations were carried out are considered this conviction becomes intensified. For instance, the inoculated men were, taken as a whole, men who were much more liable to contract typhoid fever than the uninoculated men, for the inoculated consisted to a large extent of young men who had only recently arrived in India, while the uninoculated consisted mainly of older and more seasoned—in other words, of less susceptible—individuals.