SCIENCE NOTES.

WIRELESS telegraphy seems to be the department of science most in public view. The past few months have proved its value in many ways. One of the most striking was the signalling by Marconi's system from the Needles to the "St. Paul" as it was passing sixty-six miles away. What is now required is that some use may be made of this system not only in our fleet as a means of communication, but that it may be applied to warning vessels of a perhaps dangerous proximity to the shore.

The application of science to sport is not always a success, but when an engineer turns his attention to a method of propulsion he usually accomplishes something. A very interesting paper was lately read at Birmingham by Messrs. R. E. and C. Crompton on the fitting of the cycle to its rider. The authors divide the energy used in riding into three parts, brain waste, nerve waste, that which energizes the muscles, and muscle waste. Hitherto the third only has been considered, but the authors hold that the second is the larger and more important. Any means of reducing the number of muscle contractions economizes this energy. They therefore recommend a high gear. To escape the strain on the muscles thus produced they recommend long cranks—the length recommended being half that of the thigh bone.

Some interesting records of the distance at which explosions are felt and heard were obtained after the explosion of some 80 tons of chlorate of potash at St. Helens. The sound was heard over an area of 850 square miles, 28 miles in one direction and 10 in the other. The Erith explosion was felt over 30 miles away, and the Regent's Canal some 23 miles.

With regard to the International Catalogue of Scientific Literature, we learn that an International Conference, to arrive at a final decision on all matters concerning the catalogue, will be held at Easter.

Professor Dewar has been studying the effect of low temperatures on living organisms. The results are sufficiently startling. Hitherto life has always been supposed to be accompanied by the combination of oxygen with the substance of the cell. But at temperatures where oxygen is solid this combination must cease. Yet seeds and living organisms have been exposed to this temperature and have afterwards germinated when carefully thawed.

A very interesting paper on the manufacture of artificial silk was recently read at the Society of Arts. We learn that one of the minor uses of the new material is for mantles for the incandescent gas light—the collodion being readily miscible with the salts of the rare earths to which the mantle owes its properties.

The great telescope for the Paris Exhibition is nearly ready. Its constructors hope for such a magnification that the moon may be seen as if it were at 67 kilometres distance. Under these conditions an object of one metre square might be seen. During the exhibition images of the various celestial bodies are to be thrown on a screen by its means—that of the moon being 16 metres in diameter and of Mars 3·7.

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