

Chemistry in its Relation to Modern Thought.

The above was the title of a paper read by Mr. H. B. Baildon before a meeting of the North British branch of the Pharmaceutical Society, held in Edinburgh recently.

Vegetable Fiber for Plastering.

Notwithstanding it is well known that the animal hair used in mortar for plastering is soon destroyed by the caustic action of the quicklime, its use for keeping plaster together has been persisted in from time immemorial.

At last the idea was conceived of substituting a vegetable fiber for the hair, which was so successful that the invention was patented, and after experimenting with various kinds of vegetable fibers, it is now prepared and furnished to builders, masons, plasterers, architects, and contractors.

Every one knows that the animal hair, as sold to the trade, is very impure, containing some 30 per cent. of its weight of impurities, as lime and scrapings of hides, while the hair itself, by the caustic action of the quicklime in the process of removing it from the hides, has been greatly damaged and lost some 50 per cent. of its original strength.

This new material is sold in New York city under the name of the patent vegetable plastering fiber. The advantages claimed for it are: 1st. Being of a woody nature, instead of being destroyed when put in the lime, it is preserved—lime being a preserver of wood.

Formation of Ultramarine During the Incineration of Bread.

I do not find any note of the fact that, at a certain stage in the incineration (burning) of bread, the beautiful ultramarine blue is formed.

Combined Steel and Iron.

In addition to the advantages alluded to last week as derivable from Wheeler's new mode of welding steel to iron, we may mention, as of great importance, its application to the manufacture of fire arms—both small arms and cannon of the largest caliber.

Hitherto the great problem has been to discover a gun that would be light and economical and at the same time capable of great endurance. The best known cannon now in use is the Armstrong gun in England.

It is curious that copper should appear in all the text books as one of the agents ordinarily used for adulterating bread, and the question arises whether the supposed use of copper may not sometimes have been erroneously inferred from the occurrence in bread ash of these beautiful colors.

Application of Solar Heat to Industrial Uses.

A Mr. Monchot has just invented a machine composed of three principal parts, to-wit: a metallic mirror with a linear focus, a blackened boiler whose axis coincides with this focus, and a casing of glass permitting the solar rays to come to the boiler but opposing their egress until they have been transformed into obscure rays by the latter.

The boiler, which is of the same height as the mirror, rises from the center of the disc, and is of copper, blackened on the outside. It is composed of a double casing, between the inner and outer of which is the feed water.

The following is one of the results obtained with this apparatus under ordinary circumstances, to-wit: 20 liters (1,200 inches) of water were introduced at 20° (68° Fahrenheit); in 40 minutes they produced steam of two atmospheres, and a few minutes later of five atmospheres.

THE CONSTRUCTION OF REVOLVING DRAW BRIDGES.—Mr. Clemens Herschell has presented to the American Society of Civil Engineers a paper on the principles of the construction and calculation of the strains in revolving draw-bridges, and his work has an important value as one of practical interest to the profession of engineers.

The scientific report of the Austro-Hungarian Arctic expedition represents the effect of extreme cold upon the human body in high northern latitudes as usually exaggerated. Among the sailors there were some who did not wear fur coats at all, and even in the coldest weather they smoked their cigars outdoors.

ORGANIC ELEMENTS AS ELECTRO-MOTORS.—It appears, from the author's researches, that the interior of a muscle is negative, which indicates that there is oxidation in the interior and reduction at the exterior, and that all organized bodies appear formed of—so to say—an infinite number of electro-motors, which intervene probably in the phenomena of nutrition.

S. F. MARKET REPORT.

GENERAL COMMODITIES.

Table listing various commodities such as Flour, Sugar, Coffee, Tea, and other goods with their respective prices and market status.

DOMESTIC PRODUCE.

Table listing domestic agricultural products including Beans, Corn, Potatoes, and various oils, with their current market prices.

FRUITS AND VEGETABLES.

Table listing fresh produce such as Apples, Peaches, and other fruits, along with their market prices.

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