

The work particularly recommends itself by its accurate although necessarily very concise descriptions, the clearness of its explanations, and the simplicity of its arrangements, and is exceedingly well adapted for the use of students, serving as an introduction to the more comprehensive works of Gregory, Graham and Gmelin.

The last edition was published in 1849, and consequently the remarkable progress of chemistry during the last few years, especially as regards the history of the compound ammonias and vegetable alkaloids, as well as in many other departments, has rendered the publication of an amended edition a great desideratum among teachers. The fact of the present edition having been superintended by Bence Jones & Hoffmann, will be a sufficient guarantee for the completeness of the work, and the notes of the talented American editor, Dr. Bridges, will be found of very considerable value, as bringing the work still more nearly up to the present period.

Having used the former edition, as text book for our Students for several years past, we can most cordially recommend the present one as giving a very excellent digest of the present state of chemical science, and as especially adapted to the wants of the Student.

### Correspondence.

#### To the Editor of the Canadian Journal.

Sir,—In the summer of 1851, I took a beautiful species of bat, about 11 A. M., in the forest north of this city. It was suspended by the claws or forefeet, from a twig of a young maple tree. Knowing the animal to be rare in this locality, I took great care in preserving and stuffing it. On the 3rd instant, I sent it to Professor L. Agassiz of Cambridge, Mass., for the purpose of ascertaining whether it was a new species. From the learned Zoölogist, I received the following answer:—"The bat is a species not uncommon in the middle States, but I had supposed its farthest northernmost limit to be Massachusetts, which your specimen proves to be a mistake. It is *Vesperugo Noctuloraensis*—you will find a description and figure of it in 'DeKay's Natural History of New York.' I am very much obliged for the specimen, which is beautifully preserved, and very interesting to me, as indicating the Geographical range of the animal." Linnaeus in his "Systema Naturæ," says that the same animal inhabits New Zealand. There are reckoned upwards of thirty genera of this strange animal, and more than three hundred species. Eight indigenous species has been taken by myself. I have been told that a bat with a white body was seen last summer, flying about willow trees near the bay.

WM. COUPER.

Toronto, January, 1854.

### Scientific Intelligence.

#### An Improved Material applicable for many purposes for which Papier Mache and Gutta Percha have been or may be used.

Patented by Peter Warren. October, 12, 1852.\*

This invention consists in manufacturing a new material or composition of a character analogous to papier maché, which is capable of being employed either as a substitute for papier maché or gutta percha, and its compounds, in forming or manufacturing various articles for which these substances are now used, such as panels and mouldings for railway carriages, trays, picture and other frames, door knobs, buttons, &c., by treating the straw of any fibrous vegetable material in the manner hereby described. In order to carry out this invention, straw of any fibrous vegetable substances, such as wheat, barley, oats, rye, and other similar straws are cut into short lengths, by means of any suitable cutting machine. When those straws have any knots, it is necessary to open out and divide the same, which is effected by passing the straw through a pair of millstones, or between crushing rollers; or they may be submitted to the action of any other equivalent apparatus, so that the knots and fibres may be

thoroughly and effectually separated and divided. In some cases, either hot or cold water or other liquid is applied to the materials under operation, in order to facilitate the process. The cut and divided straw is then boiled in a strong alkaline ley, or solution of caustic alkali, such as soda, potash, &c., until a pulpy mass is produced,—which effect will, however, greatly depend on the nature of straw operated on, and the strength of the alkaline ley, or solution which is employed. The mass is then transferred to the machine known in the paper making trade as the rag engine, where it is reduced to pulp in the manner usually practised when operating on rags, &c., in the manufacture of paper. The pulp is then partially dried; in which state it may be pressed or rolled into sheets, or moulded into other forms. These sheets or moulded articles are then dipped into oleaginous or gummy matter, or oil, and are afterwards baked in an oven similar to that employed when manufacturing sheets or moulded articles of papier maché. The sheets or moulded articles, thus formed or manufactured, may be ornamented in any desired manner, either by japanning, or painting and varnishing, or by inlaying the surface with shell, or other analogous material, as is commonly practised in the ornamenting of articles composed of papier maché and gutta percha. When the sheets or moulded articles are required to be colored pigments or coloring matter might be introduced in the pulp while in the rag engine; the subsequent processes of drying, rolling, pressing, or moulding, being performed as previously described.

The patentee claims the manufacture of a material which may be used as a substitute for papier maché, and for many purposes to which papier maché and gutta percha have been or may be employed, from straw pulp submitted to pressure and then oiled and baked as hereinbefore described.

### Rolled Sheets of Bitumen.

MR. Anneteyer believe that they have made a valuable improvement in the use of bitumens, by submitting them to rolling. The bitumens, say they, have been proved as to their qualities and endurance; their water-repelling properties and impermeability cause them to be more and more sought for every day; but up to the present time, no one had thought of rolling them out, and reducing them to thin sheets, easily to be laid when cold, like zinc and lead. This new mode of treatment does away, in the first place, with the inconvenience of melting on the spot, which is so disagreeable: and it gives to the bitumens, besides, a density and solidity which they have not yet attained; it assures them an indefinite durability.

Thus prepared, bitumen will very advantageously replace slate, zinc, hatch, &c., as coverings for terraces, buildings, &c. It melts, but does not inflame; and would rather extinguish than nourish combustion. They are incomparably lighter even than slates, and are non-conductors both of heat and electricity; they cost less even than hatch, require no attention, and are in no way affected by atmospheric influences; they are impermeable to water, &c., &c. They will be of great service in rendering damp places healthy; they are applied without difficulty to walls, and adhere strongly; a cellar whose walls were covered with rolled bitumen or asphalt, would be as healthy and as habitable as the upper story, provided light finds access, and the air is sufficiently renewed. In water conduits, reservoirs, basins, baths, washing establishments, and silos for the preservation of grains and vegetables, these sheets of bitumen, so thin, yet as unalterable as metals, will be of immense service. Easily painted, they may be employed either for wall-hanging or for floors.—*Journal Franklin Institute.*

ADDITIONAL EXPERIMENTS ON THE INTERNAL DISPERSION OF LIGHT.—In a lecture delivered before the Royal Institution in London, Prof. Stokes has communicated some new observations on internal dispersion, which are of much interest. In accordance with an observation of Faraday, Stokes has found that the blue flame of sulphur burning in oxygen is a source of rays which exhibit the phenomena extremely well. Letters written upon white paper with a solution of chinin, immediately become visible when illuminated with this light, particularly when it has passed through a blue glass, although they are invisible in gas light. The letters remain visible when observed through a glass containing a thin layer of a solution of chromate of potash, but they instantly vanish when this glass is interpolated between the flame and the paper, the solution being impervious to the rays which occasion the color. The author points out in the next place the advantages which prisms and lenses of rock-crystal possess over those of glass, in experiments of this

\* From the London Repository of Patent Inventions, Sept. 1853.