The Mineralogist.---The description and locality of every important Mineral in the United States.

(Continued.)

SULPHATE OF MAGNESIA. (EPSOM SALTS.)

Occurs in crystalline fibres, of a grayish white color; silky lustre; translucent; dissolves in water; boils when heated; brittle. Found at Coeymans, N. Y.; Monroe and Greenbriar Cos. Va.; Mammoth Cave, Ky.; Corydon, Ind.

COMPACT MALACHITE.

Occurs massive, of a greenish color; fibrous radiating structure; silky lustre. Found at Greenfield, Mass.; Boundbrook, N. J.; Nicholas Gap, Pa.; Blue Hills, Md.

FIBROUS MALACHITE.

Occurs in fibres, of a green color; silky lustre; translucent; soft; brittle. Found at Cheshire, Ct.; Schuyler's mine, N. J.; Perkiomen lead mine, Pa.

BLACK OXIDE OF MANGANESE.

Occurs compact, radiated, fibrous and earthy; specific gravity of 4.14 to 4.80. Soils the fingers; infusible alone; when fused with borax it gives a purple color, and chlorine is evolved by the action of muriatic acid. Localities: Bennington, Monkton, Vt.; Milton, Dorchester, Lynn, Deerfield, Leverett, Richmond, Adams, Plainfield, Mass.; Lebanon, Ct.; Troy, Ancram, Manhattan Island, N. Y.; Hamburgh, N. J.; Wilkesbarre, Northumberland Co., Lancaster, Pa.; Albemarle, Shenandoah Cos. Va.; Greenburg, Big Sandy River, Ky.; Lawrence Co. As.

SILICIOUS OXIDE OF MANGANESE. (FOWLERITE.)

Occurs in masses made up of granular concretions, of a reddish or yellowish white color; specific gravity of 3.20; scratches glass; in small or thin pieces; fusible. Found at Middlebury, Vt.; Cummington, Mass.; Cumberland, R. I.; Hamburgh, and Franklin furnace, N. J.

CONCHITIC OR SECONDARY MARBLE.

Occurs compact, sometimes granular, of a white, reddish, yellowish, brownish, blackish or bluish color; sometimes spotted or striped; yields to the knife; specific gravity of 2.5; burns to quicklime; effervesces with acids; contains shells, which are interspersed Found near the Hudson, and Seneca Lake, N. Y.; Northumberland Co. Pa.

MELANITE.

Is a black variety of Garnet. Occurs in crystals of a shining lustre; Specific gravity of 3.70; fusible. Found at Germantown, and Morris' Hill, near the Philadelphia Water Works, Pa.

SULPHATE OF MERCURY. (CINNABAR.)

Occurs massive, often fibrous or slaty, and crystallized, having a lead or red gray color; adamantine lustre; specific gravity of 8; volatizes before the blow pipe, emitting the odor of sulphur; ussually occurs in the form of a dark red sand. It is found on the borders of Huron, Michigan, St. Clair and Erie lakes, and the mouth of Vermillion River; also in California, in the Coast Range which separates San Juan valley from the ocean, and in about lat 37 N., long. 121½ W., and about 50 miles south of San Francisco.

MICA.

Usually occurs in thinly foliated masses; colors, from white through green, yellowish and brownish shades to black; sometimes crystallized; glittering lustre; translucent. plates flexible and elastic; yields to the knife; fusible; specific gravity of 2.70; plumose, laminated or prismatic. Found at Brunswick, Unity and Bath, Me.; Bellows Falls, Vt; Acworth, Alstead, and Grafton, N. H.; Chesterfield, Brimfield, Russel, Barre, Goshen, South Royalton, Mass.; Middletown, Haddam, Watertown, Woodbury, Hartford, Ct.; Muno-Iron Works in the Highlands, Greenfield, Greenwood, Henderson, Orange Co., Warwick, and Edenville, St. Lawrence Co. N Y.; Germantown, Chesnut Hill, Pa.; Newton ane Franklin, N. J.; Jones' Falls, Baltimore, Md.

Convict Library.

The library of the Ohio State Prison contains 7300 volumes. The gas apparatus lights up brilliantly every part of the prison, thus enabling the prisoners to spend the long evenings in reading the books of the library, rather than as was formerly the custom, remaining in the darkness and solitude.

Preparation of a Solid Varnish for Preserving Iron from Rust.

Oxidation is one of the greatest inconveniences to which certain metals are liable. Wrought iron, for instance, corrodes in a short time when exposed to damp or two acid vapours, and a substitute has therefore been sought for it, for various purposes, in cast iron, which is not so easily oxidated but which has not the ductility of the other. Expedients, more or less efficacious, have been proposed for preserving iron from rust. It is generally covered with a varnish capable of withstanding the influence of the atmosphere. In order that this varnish may fulfil the conditions required, it ought to be so elastic as not to scale off, and so adhesive as not to leave any spot uncovered.

In France a patent for fifteen years was granted on the 26th of September 1791, to Madame Leroi de Jancourt, for a metallic varnish for preserving metals from rust. It is composed of five pounds of tin, eight ounces of zinc, eight ounces of bismuth, eight ounces of copper, and eight ounces of salpetre. These metals mix in such a manner that the metal resulting from them is hard, white and sonorous. The small proportion of copper introduced in the composition produces no verdigris.

The articles to be covered with this coating are to be heated only in the matter itself, melted in pans of plate iron. When sufficiently heated they are taken out, and sal ammonia is strewed over them: covered with this salt, they are quickly plunged into the composition; they are then wiped with tow or cotton as is done in common tinning, and the part coated is immediately dipped in water.

Iron nails and pins were formerly used to fasten the sheets of copper upon the bottom of ships; but since it has been ascertained that the galvanic action produced by the union of those two metals is a cause of destruction, copper nails and pins, which, though not so strong, are not attended with the same inconveniences, have been employed in their stead. A method has, however, been devised for covering iron nails with a varnish so adhesive that they might be used without danger for lining ships. Cast iron nails were proposed for the same purpose, but soon given up, because they were found very liable to break if care be not taken to strike them exactly in a perpendicular direction.

A method equally simple and advantageous for preserving iron from rust is to heat the metal red hot and to rub it in that state with wax. After it is grown cold, you remark that all the pores of the iron are completely filled, and that this kind of coating is extremely uniform; but as it is applicable only to articles of small dimensions, it still remained a desideratum to discover a varnish which might be used cold, and which would resist the combined action of the air and of acid vapours.

M. Lampadius, professor of chemistry at Freyberg in Saxony, resolved this interesting problem. Having remarked that the sulphurous and acid vapours which rise from the furnaces for grilling ores, destroy in a short time the ordinary varnishes, and attack metals used in the construction of buildings, he studied to discover a coating which would preserve them from rust.

As it was necessary to oppose to the acids a matter which they could not dissolve, he tried two metallic oxides, already saturated with acids, and which by their desicative qualities are well adapted for the composition of varnish. Success crowned his attempts, and an experience of 30 years has sufficiently demonstrated the utility of the menstruum

M. Lampadius employed for this purpose sulphated lead and sulphated zinc, or vitriol of zinc. The former is prepared by mixing a solution of four ounces of acetate of lead in twelve ounces of water, with a solution of seven ounces of sulphate of soda in fourteen ounces of water. The precipitate obtained by this mixture is sulphated lead, which is filtered, edulcorated, and dried.

Sulphated zinc is sold by all the chemists and druggists by the name of white vitriol or zinc.

The method of preparing the varnish is as follows:—Reduce to an impalpable powder one ounce of plumbago, or anthracite, with which mix four ounces of sulphated zinc, and add to it, by degrees, one pound of varnish, prepared with linseed oil, previously heated to ebullition. This varnish dries quickly, and perfectly preserves from oxidation the metals upon which it is laid. It has been employed with success to cover lightning-conductors, and answers equally well for roofs covered with lead, iron, copper, or zinc, which are continually exposed to the action of damp and of acid vapours.

Inventive Genius of America.

BY WALTER R. JOHNSON.

This is a condensed review of a lecture by Mr. Johnson delivered before the Maryland Institue for promoting the Mechanic Arts.

The author traces the history of the guelds or trade corporations which existed in the feudal ages, and is still luxuriant in Germany, where they first originated, and were famous in the days of Jacob Von Arteveld, the Brewer of Ghent. He points out the evils of those trade corporations—and the clogs they have been to inventive genius, although we must exempt Germany from the charge. Under the French King, the system was odious and oppressive in the highest degree.

James the 1st, of England, in 1623, was the first monarch in that Island who struck the first blow against the corporate monopolies which had been introduced into that country, principally by the Flemings. It was good that James did so, for the old trades set their face against all improvements, and the same spirit is not yet dead.

"The mode of encouraging inventive genius and rewarding those who introduce new branches of industry founded on discoveries and inventions, it may be said that Europe and America have alike adopted that national and efficient system which was introduced into England in 1623. The system of exclusive rights for limited periods, as a general law it first found footing in the United States, in 1790. The system as established in the United States deals liberally with the inventor, both as to the amount of tax or fee imposed and as to the benefit conferred upon him by the action of the public authorities. By instituting examinations prior to the granting of letters patent, to decide upon the novelty of the invention, much legal controversy is saved, and although a few instances of injustice may have resulted from withholding the right for which application was made, yet in a far greater proportion of cases positive benefit has been done."

"The Patent Laws of the United States have been in existence 59 years and the number of patents issued previous to 1849 was 16,208."

Agriculture, manufacture of clothing, tools and improvements in stoves, and for such like purposes embrace 5,408 patents.

New York City "says Mr. Johnson is doubtless the focus where inventive genius is concentrated and acting with the greatest intensity."

In 1847-'48 New York City alone secured something more than one sixth of all the patents granted viz. 174 out of 1165. Within the last ten years New York, Pennsylvania and Massachusetts contributed 60 per cent of all the patentable inventions of the country.

Baltimore City contributed a greater per centage to the state of Maryland than any other city to its respective State.

"When the Mechanic Arts and the practical sciences are in the greatest activity, then inventive genius is also in the highest degree stimulated and most successfully applied. Every department of industry has been indebted for its advancement to the inventions of our ingenious American Mechanics. American ingenuity has given us those improved implements of husbandry without which more than three-fourths of the present immense productions of our corn growing states could never have had an existence. Where were all the cotton fabrics of the world without the invention of Whitney."

Mr. Johnson alludes in glowing terms to the inventions of Fitch, Rumsey, Fulton, Evans and Morse. It is very singular that we scarcely ever hear the name of Col. John Stevens, the inventor of the tubular boiler mentioned in any American work. This is one of the most important inventions in the whole history of the Mechanic Arts.

The lecture is an able one, and that part relating to the ancient trade corporations is very valuable. We agree with the lecturer that they retarded mechanical improvements, but then somehow or other we have a liking to those old mechanical republics.

These corporate bodies were strictly democratic each in itself, especially in the free cities of Germany and the boroughs of Britain. It was not then as it is now among employers. The journeyman associated with his employer nearly upon an equal footing, and, it was a common thing for apprentices to become the sons in law of their employers.

There is a kind of aristocracy now in the two relationships, which puts equality out of the question. In the old corporates, the journeyman's vote was equally potent with his employer's and somehow or other the two were almost like brothers.

In this Country, we happily do not need such organizations,

Moss.

The humble and apparently insignificant Moss is an active agent in some of the most important changes of nature, By its great absorption of moisture, its decay and subsequent revival in succession, the hardest rock, upon which not even a blade of grass could grow, becomes covered in the course of years with a stratum of fertile soil, supporting the most luxurient trees. At first a little dust is blown into the interstices of the rock, into which are also driven by the winds some of the seeds of the Moss from a less sterile spot. Here they vegetate, and the hitherto naked rock becomes covered with pretty green tufts; which spreading wider and wider year after year, its whole surface is at length covered with the smiling carpet of Nature.

The continual growth and decay of the Moss and other small plants, gradually increase the thickness of the stratum, larger plants, the seeds of which are borne from all quarters by the weather; the rotting of these plants continue to add to the soil, till at last are seen to flourish noblest trees of the forest.

Thus the hard and barren rock is made to abound in the richest products and the grandest vegetation; and thus are the sandy heaths and desert plains converted into verdant and fruitful fields.

On the tops of the highest hills and mountains the Mosses attract the moisture from the clouds, which trickling through every crevice to find its way to the lowest place, accumulate and form cascades and brooks, which again uniting, swell into the largest rivers.

These waters flowing into the sea are again raised by the influence of the sun's rays, and form clouds, again to be employed in fertilizing and refreshing the earth. Such is the admirable and unceasing process of Nature.

City of Nanking.

This city was formerly the capital of the Chinese Empire, at which time the wall around it measured thirty-five miles. This wall is now in ruins, as well as a great part of the ancient city. Another wall has been built around the present city, which is nearly as large as the former.

Nanking has extensive manufactories of fine satin and crape, and the cotton cloth called Nankeen derives its name from this city; paper and ink of fine quality, and beautiful artificial flowers of pith paper, are produced there. In distant parts of the Empire, any fabric or article, of superior quality, is said to be from Nanking.

One of the most celebrated objects at Nanking is the far-famed Porcelain Tower.

The cloth sold here for Nankin is mostly all a base fabrication, colored with the nitrate of iron, oxidized with the hydrate of lime.—The real Nankin is the natural color of cotton grown in China.

Longevity.

Peter Jackson, a slave to a Kinderhook Dutchman, died at Amherst, Mass., on the 19th inst., having lived over a century. He recollected the old French war perfectly, and the oldest inhabitants who had known him from their youth believe him to have been 122 years of age. He was born on a voyage from Africa.

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