

## MISCELLANEOUS.

## Mandrakes.

"A fruit called mandrake grows wild on a farm in Buckland, Mass., near Shelbourne Falls, and grows not elsewhere in the vicinity. It has grown there time out of mind. Some three or four are borne upon each stalk. The stalks are annual and grow to the height of twelve or eighteen inches. The owner of the farm said that the seeds would not grow. The fruit is soft, juicy, and very delicious. It is strongly fragrant, of a very pleasant, agreeable odor. It grows in a moist place of a few feet in circumference, near the house."

Mandrakes are quite common in various parts of our country, and we have known them successfully used as a medicine by those skilled in the diseases of cattle. We have known mandrake tea prescribed by an old farmer for the cow of a widow, which every body supposed to be dying, but to the astonishment of all, it recovered rapidly after the mandrake tea was given. Mandrakes have been known from very ancient times as a soporific of considerable virtue; small doses of its bark have done good in cases of hysteric disorders; but if used in large doses it has caused convulsions. It is recorded in some works, that there is in the province of Pekin, in China, a kind of mandrake so valuable that a pound of its root is worth three pounds of silver. It so powerfully affects sinking spirits as to restore to vivacity and health those whose condition was otherwise considered desperate. We find mandrakes mentioned in old Biblical history.

## Rapidly of Thought in Dreaming.

A very remarkable circumstance, and important point of analogy, is to be found in the extreme rapidity with which the mental operations are performed, or rather with which the material changes on which the ideas depend are excited in the hemispherical ganglia. It would appear as if a whole series of acts, that would really occupy a long lapse of time, pass ideally through the mind in one instant. We have in dreams no true perception of the lapse of time—a strange property of mind! for if such be also its property when entered into the eternal disembodied state, time will appear to us eternity. The relations of space as well as of time are also annihilated, so that while almost an eternity is compressed into a moment, infinite space is traversed more swiftly than by real thought. There are numerous illustrations of this on record. A gentleman dreamt that he had enlisted as a soldier, joined his regiment, deserted, was apprehended, carried back, tried, condemned to be shot, and at last led out for execution. After all the usual preparations he awoke with the report, and found that a noise in an adjoining room had, at the same moment, produced the dream and awakened him. A friend of Dr. Abercrombie's dreamt that he crossed the Atlantic, and spent a fortnight in America. In embarking on his return, he fell into the sea, and awaking in the fright, found that he had not been asleep ten minutes.

(For the Scientific American.)

## Stone Ware.

This place has sprung into notoriety, from obscurity, within the last six years from the manufacture of Rockingham and Yellow Queen's ware, and promises, ere long, to successfully rival the English manufacture of some classes of goods; already is there an amount of business being done in the manufacture of this ware, and the consequent cultivation of the arts and sciences, that, to those who have viewed Ohio as a wilderness of wood, would be astonishing. There are now eight factories in successful operation, and two others starting, all commenced by workmen, practical potters themselves. The amount of ware already shipped from this point is about \$200,000 worth per annum; the number of men employed is some four or five hundred; one factory is engaged exclusively in the manufacture of door knobs. The neighborhood abounds with good clay and coal—the location is extremely healthy, and being situated immediately on the Ohio river, is approachable, at all times, from the west, south, or east some; of the manufacturers (Harker, Thompson & Co., and Woodward, Blakely &

Co.), do a large business in New York, Boston, and Philadelphia, and their goods are appreciated, as the medals lately awarded by the institutions in those places, bear ample testimony. J. T. East Liverpool, Ohio.

## The Patent Office.

MESSRS. EDITORS—As the columns of the Scientific American have ever been prominent in advocating the interests of patentees and inventors at large, and as the subject is one fraught with no small importance to the rights of this rapidly increasing section of the community (demanding their immediate and energetic co-operation in self-defence), I presume to solicit your aid in the support of a Memorial, which has been framed for presentation to Congress, praying for the formation of a committee to investigate into the present condition and requirements of the Patent Office, the deficiency of room and want of facilities which now exist, requisite provisions and extensions for the future, also directing attention to the assault made on public right, by the Secretary of the Interior, in his recent proposition illegitimately to appropriate a portion of the much-needed building to purposes foreign to the branch to which it belongs, and, as a precedent which it involves, is of a more serious character than the supineness of those whose interests it invades, would appear to convey. This latter theme of the petition has already, in a prompt and praiseworthy manner, engaged your consideration. A large amount of the room is occupied by curiosities of art, which are more appropriately the contents of a Museum, while (for want of space) the provisions of the law have been grossly disregarded; in proof of which abuse, I would particularly call your attention to the 20th section of the law of the 4th of July, 1836, wherein is enacted, that room shall be provided for a classified arrangement and "favorable display" of Models and Specimens, "patented or unpatented." Now what do we find to be the compliance with this provision? Patented cases alone have any pretension to such arrangement, and that in a very defective manner, while models, &c., pertaining to rejected applications, are promiscuously inhumed, as if their obscurity and decay had been the desire of their unfortunate contributors. It has, upon good authority, been estimated that, within by a means a large space of time, the entire building, as originally designed by the Architect, will—every inch of its available space—be found necessary for the transaction of Patent Office business, and when we regard the daily increasing number of inventors, it is far from problematical that such will be the case. It is the duty, therefore, of every patentee and inventor, justly to protest against the present and proposed misappropriation of the building; and, secondly, to advance the just and lawful claim which exists, upon the public funds, for the necessary extension and amendment of that Department.

In matters of private right, it is seldom, if ever, found necessary to urge or agitate the demand; why it should be so where public interests are involved, is a mystery, and particularly so when the parties more immediately concerned compose a distinct and separate body; but present silence is corroborative of the fact. Let not any man rely upon his neighbor performing that which it is equally his own interest and duty to do, and then, but not till then, the work will be done. An example, not mere talk, has been set. Inventors! rouse yourselves without loss of time, and follow it.

A PATENTEE.

[We hope our inventors and patentees will take the advice of our correspondent, who is a gentleman well qualified to speak on the subject, both from feeling and experience. We hope the Committee on Patents will probe this matter to the bottom; and we also hope that they will make a special investigation into the way business is conducted at the Patent Office. From what we know about the Committee on Patents, we think and hope that the members of it will give Patent Office matters a great deal of attention. In Congress, we regret to say, party animosities and interests occupy too much attention to the neglect of real useful measures. There is not a more important institution in America than the Patent Office, and upon its proper management

much of our country's prosperity depends. If any one turns his thoughts and eyes for a moment to the mechanical interests of our country, he will immediately be impressed with the fact that these interests are not only the sheet-anchor, but the main-sail, also, of our country—of every country. Those who improve machinery add wealth and honor to the whole people; for what would agriculture, or any other art, be without machinery? and the great advancement made in every art is greatly indebted to mechanical invention. What would our farmers do without improved plows? And what would astronomy be without the telescope? We hope the present Congress will make the Patent Office, in all its interests and workings, a special object of attention. We believe this will be done.

## Circular Saws.

D. T. L., of Monument Isle, N. Y., writes us that he has had much trouble and perplexity in learning to keep saws in good order, his business has principally been cutting soft timber—pine and hemlock. He has run a 24 inch saw from 1,500 to 2,000 revolutions per minute, in timber from 4 to 10 inches in thickness without heating or irregularity of line, and without water. He has seen saws vibrate, because of being too much set. His plan is to have the teeth of equal length, and jointed to a circle just set enough to clear well and carry away the cut dust. If the saw plate is imperfect and requires more set than its thickness will bear, he uses a sledge to make the points of the teeth thicker than the plate.—For a slitting saw he leaves the back of the tooth as full as will clear its circle; it is thus stronger and holds its set better.

Mr. Norman Allen, of Unionville, Conn., informs us that a friend of his was much troubled with the heating of the circular saw, when he thought he would try the experiment of drilling a 3/4 inch hole through it at 1 1/2 inches from the point of the teeth and then filed down to it. He was astonished at the result, and thinks he can saw twice as much as he could do before, without heating the saw.

Mr. Geo. W. Cunningham of Athens, Fayette Co., Ky., discovered a plan of like nature to that stated by Mr. Allen, to prevent the saw from heating. He has used large saws for a number of years, but never found much difficulty in running them himself, but has found it difficult to get others competent to run them. He determined to find out the reason of the saws heating and cutting out of line. He says "the saw always heats near the teeth, causing it to expand on the outer edge, consequently it gets slightly twisted and thereby incapable of sawing straight. The cause of the heating is the saw-dust getting between the saw and the timber." He has found a remedy. He cuts slits about 1-16th of an inch wide and eight or nine inches towards the centre, from the root of the teeth; about six slits cut in the saw at equal distances apart answers. This gives room for the expansion of the metal and keeps the saw from winding.

## An Ancient Sword.

The sabre worn by Count Pulzsky, at the Bar Festival, on Friday evening, December 19, was made in 1592. It originally belonged to Sultan Mahomoud, was once owned by Napoleon, and finally passed into possession of the family of Count Pulzsky. The blade, which is of formidable dimensions and of the finest temper, bears the date of its manufacture, and is covered with Arabic inscriptions. The mountings are of massive gold, and the scabbard of black cloth. It looks as if, in trusty hands, it might yet do good service.

## Fire at the Capitol.

On Wednesday last week, the main Library at the Capitol, Washington, took fire and 35,000 volumes were consumed. The great majority of these were in MSS., and, it is stated, they cannot be replaced. We always regret to hear of the burning of books and manuscripts, and we greatly regret this one. It is to be hoped that more care will be exercised for the future in protecting the works which escaped the conflagration.

Besides the books, a number of superior paintings, hanging around the library walls and between the alcoves, were included in the destruction. Of these we can call to mind

Stuart's paintings of the first five Presidents; an original portrait of Columbus; an original portrait of Peyton Randolph; a portrait of Baron Steuben, by Pyne, an English artist of merit; one of Baron de Kalb; one of Cortez; and one of Judge Hanson, of Maryland, presented to the library by his family. Between eleven and twelve hundred bronze medals of the Vattmare exchange, some of them more than ten centuries old, and exceedingly perfect, are amongst the valuables destroyed.

## Nickel.

Nickel is a silver-like metal, sp. gr. 8.9. It is magnetic, and is greedy of oxygen, forming gray protoxide and black peroxide. Heat will not oxidate it because it drives off oxygen as fast as it fixes; but the oxides are formed by solution in nitric acid, precipitating by potash, and then heating to redness. It is usually associated with cobalt; it is always present in meteoric stones; in the Harz Mountains it is associated with copper, as kupfernickel ore; with arsenic and iron, as arsenic-nickel. It also exists as an oxide, a sulphuret, and an arseniate, in gneiss, mica slate, and sienite.

The chief of these ores, and that from which most of the nickel of Conemera is obtained, is the copper-colored ore above described as kupfernickel—nickel being a term of detraction used by German miners, who expected from the color of the ore to find that it contained copper. The salifiable oxide of nickel consists of 30 nickel+8 oxygen. Its salts are mostly of a grass-green color, and the ammoniacal solution of its oxide is deep blue, like that of copper. Ferrocyanate of potassa precipitates it of a white or very pale green color.

Since the manufacture of German silver, or argentine, became an object of commercial importance, the extraction of nickel has been undertaken upon a considerable scale. The cobalt ores are its most fruitful sources, and they are now treated by the method of Wohler to effect the separation of the two metals. The arsenic is expelled by roasting the powdered speiss first by itself, next with the addition of charcoal powder, till the garlic smell be no longer perceived. The residuum is to be mixed with three parts of sulphur and one of potash, melted in a crucible with a gentle heat, and the product beingedulcorated with water, leaves a powder of metallic lustre, which is a sulphuret of nickel free from arsenic; while the arsenic associated with the sulphur, and combined with the resulting sulphuret of potassium, remains dissolved.—Should any arsenic still be found in the sulphuret, as may happen if the first roasting heat was too great, the above process must be repeated. The sulphuret must be finally washed, dissolved in concentrated sulphuric acid, with the addition of a little nitric; the metal must be precipitated by a carbonated alkali, and the carbonate reduced with charcoal.

In operating kupfernickel, or speiss, in which nickel predominates, after the arsenic, iron and copper have been separated, ammonia is to be digested upon the mixed oxides of cobalt and nickel, which will dissolve them into a blue liquor. This being diluted with distilled water deprived of its air by boiling, is to be decomposed by caustic potash till the blue color disappears, when the whole is to be put into a bottle tightly stoppered, and set aside to settle. The green precipitate of oxide of nickel, which slowly forms, being free by decantation from the supernatant red solution of oxide of cobalt, is to beedulcorated and reduced to the metallic state in a crucible containing crown glass. Pure nickel, in the form of a metallic powder, is readily obtained by exposing its oxalate to moderate ignition.

Since the application of Liebig's cyanide of potassium to the separation of metals in a mixed solution, the foregoing mode is generally given up for the use of cyanide. A solution of cyanide of potassium is added to the mixed oxide, and heat applied. The cyanide must be quite free from cyanite. The solution is boiled to drive off excess of acid. Peroxide of mercury is then added to the solution, when the nickel is precipitated, partly as oxide, partly as pure metal; it is then collected, dried, and being calcined at a red heat, leaves the oxide perfectly free from cobalt.