

pearance of the stars on the last day of January is: Uranus, Spica, Mars, Jupiter, and Venus. On the 1st of January, it was Mars, Uranus, Spica, Venus, and Jupiter. During the month Venus and Jupiter met and passed each other; Mars overtook and passed Uranus and Spica, thus affording a tangible illustration of planetary wanderings.

PATENT, MAPLE SUGAR.

Among the curious inventions for which a patent has been granted is one to Josiah Daily, of Madison, Indiana, by which anybody who likes maple sugar and maple sirup may readily supply himself at a small cost. If the patentee's statement is correct, it is no longer necessary to go through the tedious and exhausting labors of tree tapping and sirup boiling in order to obtain maple sugar. If it should be found that the patent process will also convert into maple sirup a solution of the newly discovered chemical sweet known as "saccharine," which is said to be three hundred times sweeter than cane sugar, or the more recent artificial sugar of Drs. Fischer and Tafel, then the very acme of transformation will have been reached, and the interposition of Congress will be necessary to save the genuine maple sugar industry from going to destruction. This would only be in keeping with the action of Congress last year, in its effort to suppress the oleomargarine butter industry, because the popular taste preferred it to the rancid and dirty stuff called genuine butter which is found in all the markets. But let us return to our subject.

The patent maple sugar is made by simply mixing an extract of hickory with any ordinary sirup, such as cane sugar sirup or sorghum. The patentee says:

"The extract is to be obtained in any convenient manner, such as making a decoction of the hickory bark or wood, or percolating liquid through the same, or drawing off the sap from the tree. The bark or wood of the hickory tree may be ground to facilitate the extraction of its principle, and the extract may be made more or less strong by increasing or diminishing the quantity of bark or wood, or by boiling the extract for a longer or shorter time.

"In preparing sirups, I ordinarily add about three tablespoonfuls of the decoction to a gallon of heated or boiling sirup. Of course the stronger the extract the less the quantity required for flavoring a given amount of sirup. The sirup may be manufactured from any kind of saccharine matter or mixture of saccharine matters, or the sirups ordinarily found in the market may be used. The effect of the extract or decoction is to give to the sirup the flavor of the maple, producing a sirup which cannot be distinguished from genuine maple sirup.

"The high price of maple sirup, as well as its scarcity throughout the country, renders this improved sirup of great value, since a good substitute for maple sirup is thus produced, which comes within the reach of all.

"It is evident that the flavored sirup may be boiled down and a sugar resembling maple sugar in taste may be produced.

"In defining the limits of my invention, I would state that I do not claim broadly the use of extracts of the wood or bark of trees for flavoring sirups or sugars, as I am aware that a decoction made from the wood of the maple has been used for the same purpose. The maple, however, belongs to a different genus of tree from that of the hickory, and it is well known that extracts of wood, as a rule, differ from each other in taste, according to the nature of the tree. I have discovered that the hickory tree will produce the flavor of the maple, and I therefore claim as my invention the use of the hickory extract wherever it may be employed to impart an agreeable flavor.

"I claim:

1. The method herein described of flavoring saccharine matter, including sirup and sugar, which consists in treating or impregnating the same with the principle or extract of hickory, as specified.

2. An improved sirup or sugar consisting of any suitable saccharine matter flavored with an extract of hickory, substantially as described."

Supreme Court Decisions.

The following are recent decisions in the Supreme Courts of several States indicated on diverse subjects, all of which are important for business men to know:

Riparian Rights.—The owners of land bounded by a stream declared by act of Congress to be navigable do not acquire title extending to the center of the stream upon the repeal of the act. A railroad company having constructed its track along the bank of such river, inside the limits of high water mark, acquires title as against the adjoining owners, and the riparian owners are precluded from acquiring title by accretion. —C. B. & Q. Ry. Co. vs. Porter. Filed Oct. 6, 1887. Iowa.

Patent Needle Machine.—The patentee of a machine, capable of producing needles of a superior quality, subsequently obtained a patent upon the product of such machine. Held, that the patent was void, as an attempt to patent the function of the machine, and thus extend the monopoly of the invention beyond the time

allowed by law, and that an action could not be maintained against one manufacturing the same kind of needles by the use of the machine after the expiration of the patent thereon, when the right to use it had become vested in the public.—Excelsior Needle Co. vs. Union Needle Co., Cir. Ct., S. D. N. Y.

Nuisance—Keeping Troublesome Animals.—A party erected a shed on his lot adjoining the lot of another, and kept there horses, poultry, and hogs. In an application by his neighbor for an injunction restraining him from keeping these animals in such close proximity to his dwelling, an injunction was granted as against the continuance of the nuisance. An unsightly building erected near the residence of another is not a nuisance *per se*, and cannot be enjoined.—Trulock vs. Merte. Filed Oct. 10, 1887. Iowa.

Trade Marks.—The use of a trade name, though by a corporation of a company's name, which is a usual name, and having the same sense and a like appearance, is a violation of a trade right as using a trade name. Where an arbitrary name is used for an article, a trade mark may be secured therein, though subsequently the public may give the article the name assumed in description of it. The word "Cellonite" stamped upon goods similar to goods stamped "Celluloid," being the same article, is a violation of the trade mark "Celluloid."—Celluloid Manuf. Co. vs. Cellonite Manuf. Co., U. S. C. C., D. N. J.

Master and Servant—Injury to Employee from Defective Machinery.—An employee of a furniture factory was killed, the knife flying out of a rapidly revolving shaper head. The device for holding the knife was a new one, invented by one of the managers of the factory, and had never before been used. In an action for damages for the killing, the court ordered a verdict for defendant, and on appeal the judgment is reversed on the ground that the question whether or not it was a safe implement should have been submitted to the jury.—Marshall, Admr., vs. Widdicomb Fur. Co. Filed Oct. 13, 1887. Mich.

Salt Water for Cement Mortar in Winter.

The following German experiments designed to ascertain the effect of frost upon hydraulic mortars and cements gauged with and without the addition of salt to the water have been quoted in the *Revue Industrielle*. Cubes of stones 6 c.c. in area were used in these experiments, and were joined together with cement mixed with water ranging from pure rain water to water containing from 2 to 8 per cent of salt. While the cement was yet fresh, the blocks were exposed in air at a temperature of 20° to 32° Fahr., after which they were kept for seven days in a warm room. At the end of this time the specimens were examined. The cement made with pure water was quite crumbled, and had lost all its tenacity. The cement mixed with water containing two per cent of salt was in better condition, but could not be described as good; while that containing 8 per cent of salt had not suffered from its exposure to the lowest temperature available for the purposes of experiment. It is possible that the salt merely had the effect of preventing the water in which it was dissolved from freezing at the temperature named, and so permitted the cement to set in the ordinary way. These results may, however, be usefully cited at this particular season, when outdoor building operations are liable to be suspended on account of frost, and the stability of green work is threatened by the same influence.

Egyptian Porphyry Quarries.

An account of a recent visit to the ancient porphyry quarries of Egypt was given at the last meeting of the British Association, by W. Brindley. Egyptian porphyry has been sought after from the earliest times, as one of the most precious building stones. Ancient writers differed as to the whereabouts of the quarries from which that stone was obtained, and in modern times they were literally rediscovered by Burton and Wilkinson in 1823, and subsequently visited by Lepsius in 1845. The information published by these visitors proving of no immediately practical value, the author determined to follow in the footsteps of Wilkinson, and, accompanied by his wife, he went to Cairo in February last. Having examined the ancient granite quarries at the first cataract, which supplied deep red, rose, and dark gray stone, which was quarried by metal wedges, and not wood (as is generally supposed), the author started from Kenah with a small caravan and supplies calculated to last three weeks. Passing the remains of several Roman stations, the author, on the fifth day, reached an excellent well in the charming Wadi Kitar, hemmed in on three sides by precipitous mountains. Soon after leaving this valley he crossed the watershed (2,400 feet above the Nile), and then traveled along the flank of the immense porphyry mountain of Gebel Dukhan as far as the old Roman station with an old fort. The morning after his arrival the author ascended to the top of a pass (3,100 feet), without having found even a fragment of porphyry; but espying by the aid of a good field glass porphyry coloring on the opposite mountain, he resolved to go there, and his delight knew no bounds when he found

the ground there strewn with pieces of the most sumptuous porphyry, and discovered a pitched way or slide, 16 feet wide, down which the blocks were lowered. Further examination led him to the locality where the Romans had extracted their grandest masses, and he found that these quarries had yielded not only the usual spotted variety, but also the brecciated sorts and green grays.

The great quarry was at an altitude of 3,650 feet above the sea, and a road led down from it to an ancient town with workshops. A path led hence to the old town in the valley, further up which are the ruins of a Roman temple. The blocks were formerly carried to the Nile, a distance of 96 miles, but they will in future be conveyed by a gentle incline to the Red Sea, which is about 25 miles distant. On his return to Cairo the author secured a concession to rework the quarries, the terms of which have since been ratified.

PHOTOGRAPHIC NOTES.

Marking Lantern Slides.—It is frequently perplexing to the amateur to tell which side of a lantern slide should go toward the screen. The general guide is to place the slide in the lantern with the film side toward the condenser, and in connection with this subject we take some practical suggestions from *The Camera*, as follows: "We all know what a distressing and common experience it is, during a lantern exhibition, to see an occasional picture placed before the audience upside down. This would be altogether avoided if the operator had a ready means of knowing which side of the glass picture must be placed next to the light, and which was the top of it. The best plan we know of is for each slide to be furnished with a white paper disk, preferably placed beneath the cover glass, so that it cannot be rubbed off. This disk should be placed on the bottom left hand corner of the front of the picture. When the slide is inverted, as of course it must be for insertion in the lantern carrier, this disk will come exactly under the thumb of the operator. It can, moreover, be well seen in the dim light of the exhibition room.

Detecting Leakage in Pipes.

Mr. W. P. Gebhard tells how those who are neither plumbers nor sanitary inspectors may locate the slightest leakage in water pipes by introducing essence of peppermint into them. The best place to do this is outside on the top of the roof, because if the odor is released in a room or around a fixture, even for an instant, it would be impossible to detect a leak afterward. Whoever applies the peppermint should remain on the roof, as he would otherwise carry the odor on his clothes into the house. As to the best means of using the peppermint, some persons pour an ounce or two of pure peppermint into a pail of very hot water, and pour it into the soil pipe, while others pour in the oil and follow it with hot water, taking care while the search is conducted below to cover the top of the soil pipe above the roof. There is thus no chance of escape, unless through leaks in the pipe, and a careful examination of every line of pipe, and around each fixture, will readily enable the investigator to determine where, if any, there is a leak. Care should also be taken that while the examination is being made none of the fixtures shall be discharged, as otherwise the air in the pipes laden with the peppermint odor might find its way into the rooms.

Antipyrin in Seasickness.

In a note presented to the Academy of Sciences (*Compt. Rend.*) M. Dupuy calls attention to the value of antipyrin as a remedy against seasickness. He states that he prescribed to some persons who had previously suffered terribly from seasickness, 3 grms. daily of antipyrin on the three days previous to embarking and the three days following, while some patients continued to take the medicine throughout the voyage, and he has been informed that all these persons crossed the Atlantic without suffering from seasickness. This experience was subsequently confirmed in a communication from M. Ossian-Bonnet (*Compt. Rend.* cv., 1028), who states that in about sixty cases occurring during a voyage to Buenos Ayres and back, he found antipyrin invariably effective in arresting seasickness, though the dose required was variable. In most cases 1.50 gramme was sufficient, the complete effect being produced in about ten minutes. In other cases the dose had to be repeated, but it was never necessary to exceed 3 grammes to produce cessation of the sickness within an hour. In a few cases, where the sickness was so incessant as to prevent absorption by the stomach, the same effect was produced by the hypodermic injection of 1 grain of antipyrin.

Chemical and Allied Industries.

We give in our this week's SUPPLEMENT a report by Professor Watson Smith upon section 3 of the Manchester exhibition, comprising chemical and allied industries. The report is remarkable for the interesting historical information it contains, as well as for the condensed but lucid descriptions of the many substances and apparatuses of which it treats.