

Science and Art.

Pictures on the Retina of the Eye of a Deceased Person.

It was recently asserted, by an English surgeon, that the last scene viewed by a murdered man would remain impressed upon the retina of the eye, as does the impression upon the daguerreotype or the photograph. To test this assertion, the Auburn, N. Y., *Advertiser*, states that Dr. C. P. Sanford, of that place, examined the eye of J. H. Beadle, who was murdered in Auburn. The editor says:

"We were present, during the examination, and have, at least, this testimony to bear: that there is truth in the principle involved. Dr. S. made a skillful dissection of the eye, and succeeded in bringing the retina, one of the most delicate of human organs, being an expansion of the optic nerve, under the view of a microscope. There was nothing on the retina examined which would lead to the detection of the victim's murderer, but there was that impressed upon it which sufficiently establishes the fact that the retina retains the last impression made upon it. What we saw ourselves, we do not feel disposed to make an affidavit of, and therefore prefer not to state; but we will say that an examination of the retina of an eye with a common microscope, reveals a most wonderful as well as a beautiful sight and that in this instance we discovered, as upon a daguerreotype plate, plainly marked impressions at once interesting and startling to behold. We put these facts on record with a view to arouse an interest in the subject that future experiments may be made, and the cause of science advanced."

[We wish the editor had been a little more explicit. We do not believe that any such effect is produced upon the retina of a deceased person's eye as that described. It is stated that the picture is produced like that on a daguerreotype plate; now, how can this be the case, when such pictures are the result of chemical action, whereas, the pictures produced on the retina are simply like those produced on a looking glass.]

Substitute for Hops.—Nitric Acid Compounds.

A. Behler and F. Quartin have secured a patent in England for a composition called "Lupulied," to be used as a substitute for hops in brewing. It is manufactured by adding two parts by weight of nitric acid to one part of some resinous substance, such as pitch, broken into small pieces, and heating the mixture over a slow fire until it begins to distil, into gaseous bubbles, when they move it from the fire and allow it to bubble over into a receiver. The heating is repeated, until the acid ceases to work the resin and throws it over. After cooling the product is washed to remove all traces of acid; it is then dried, and is fit for use as a substitute for hops. This substance is the distilled product of nitric acid and resin.

The wonderful chemical results produced within the past few years with nitric acid and hydro-carbons, such as oils and resins, has excited astonishment. Nitric acid and a little alcohol mixed with the most fetid oils, and then distilled, changes them into agreeable perfumed oils.

Artificial tannin can be manufactured from nitric acid, charcoal and water. Take 1 part of charcoal by weight, 5 of nitric acid—of specific gravity 1.40—and 10 of water. Mix the charcoal with the water in a flask, then pour in a part of the nitric acid, and heat up until lively effervescence and the escape of nitrous fumes ensue. In about two days the remainder of the acid is poured in, until the entire charcoal is digested. The liquor that is thus produced is of a dark brown color, and clear. The water is now driven off by evaporation, and the result is a brown mass, having a slight excess of acid. It is then washed several times, to remove the acid, after which it is evaporated to dryness by a gentle heat, and forms an artificial tannin product. M. Hatchett discovered this tannin, and he remarks that all kinds of carbon will yield it by the action of nitric acid. Resins treated in the same manner will also produce artificial tannin.

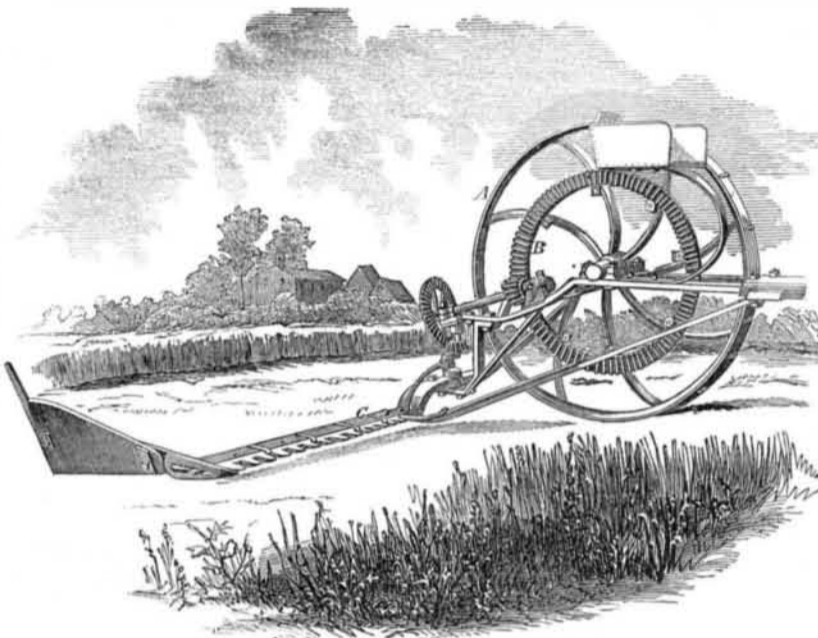
Syrup from the Chinese Sugar Millet.

The Calhoun (Ga.) *Statesman* states that Mr. J. Peters, of that place, has made about 320 gallons of good syrup this season from the juice of the Chinese sugar millet. Sixteen stalks yield a gallon of juice, and five gallons one of thick syrup, by evaporation. The stalks are simply run through between a pair of heavy rollers, the juice received into tubs, and then boiled down into syrup or molasses. In Georgia, the *Statesman* asserts that with proper cultivation 400 gallons may be obtained from an acre of millet.

The Boston (Mass.) *Traveler* states that J. F. C. Hyde, of Newton Center, has cultivated

some of this millet this season, and has made a quantity of excellent molasses from it. It is stated that it can be cultivated as successfully as Indian corn in Massachusetts, and that both syrup and sugar can be obtained from it. This is a question which should arrest the attention of our farmers. Not one or two experiments, but a great number are required to decide whether or not this plant can be cultivated with economy, for the purpose of extracting syrup or sugar from it. The warm regions of our globe now furnish our saccharine matter; it yet remains to be proved whether colder climates can furnish a cheap supply.

NEW MOWING MACHINE.



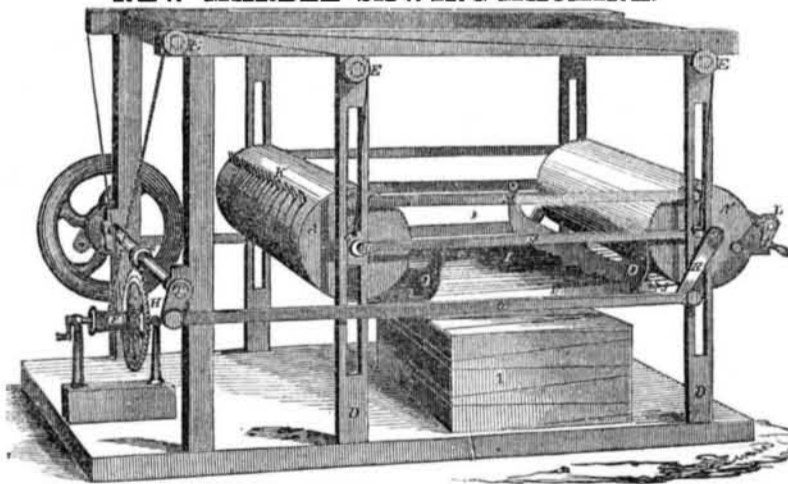
The accompanying engraving illustrates an improvement in Mowing Machines, for which letters patent were granted to Mr. Henry F. Mann, of Westville, Ind., June 2d, 1856.

The principal novelty consists in a peculiar arrangement and construction of the frame, which permits the employment of a very large driving wheel, causes the machine to run easy, diminishes the weight, and lessens the cost of construction. The driving wheel, A, large gear wheel, B, and pinions, are of cast-iron, but all the other parts are of wrought-iron, put together in the manner shown in our cut. The tongue is so placed as almost to do away with side draft. The cutter bar, C, is

made in the usual manner, and smooth cutting edges employed. But any other kind of cutting device may be used if desired. The gearing is arranged in a firm and compact manner, and there is little or no trembling when at work. A four feet driving wheel is used.

This invention has been thoroughly tested in competition with others of the best reputation, and is said to be superior in several important particulars. It requires less power to draw it, is more easily handled, weighs considerably less, is not likely to get out of order, is extremely simple, durable, etc. For further information address the inventor, as above.

NEW MARBLE SAWING MACHINE.



New Marble Saw.

The machine illustrated by our engraving, invented by Josiah Ashenfelder, of Philadelphia, and patented June 3, 1856, is principally intended for sawing up blocks of marble into angular shapes, such as monuments, but it may be used with equal advantage in sawing slabs. The method of adjusting and changing the angle at which the saws cut, is both simple and accurate.

The drums A A', with their shafts, B B, rest in the flanged boxes, C, to allow them to rise and fall freely in the slotted guides, D. The drums and connections to be raised and lowered by means of the chains or cords by which they are suspended—being fastened to boxes C, and passed around the grooved pulleys E, and wound on the drum F, which is operated by the thread G, on the driving shaft

gearing into the toothed wheel H, which is secured by a catch and spring to drum F.

The saws I, are hung on chains I, which are fastened on pins K, arranged at convenient distances on drum A, and to drum A', by being wound on the small shaft L, placed near the top of the drum for the purpose of straining the saws. The rods M, serve to give motion to drum A, and also as a stay against which to strain the saws. The rods N, by keeping the shafts, B B, equi-distant, prevent undue friction on guides D, in straining the saws.

The guide bars, O, are bolted to the rods, N, and are provided with slots through which the saws pass and are guided. The saws are operated from the drums A A', which receive an oscillating motion in the ordinary manner, from short cranks P, connecting by rods, Q

with long cranks, R. To change the angle of the saws it is merely necessary to shift the chains I, on the pins K, and shaft L, to the angle desired, and adjust the saws in the guide bars to suit.

The block of marble in the engraving represents one mode of sawing by which no less than twenty-five monuments can be cut from a block of sufficient size—using six saws, at three cuts, as will appear at C1, representing the first cut, by which five tapering slabs are sawed, requiring two more cuts to perfect them, and with not more than one-eighth the waste of the ordinary machine.

For further information address S. A. J. Salter, Queen street, Kensington, Philadelphia.

Explosion on a Steamboat.

The steamboat Isaac P. Smith exploded its steam-chest, on the 8th inst., near Haverstraw, on the Hudson River, scalding to death two firemen, and severely injuring the engineer. It is stated that it was racing with the Glen Cove when the accident took place. We hope the Inspectors will give this case a thorough examination.

Fattening Ducks.

Ducklings intended for the table should be confined in a warm house, never be allowed to swim, and have an unlimited supply of food. A mixture of three parts of Indian corn meal and one part potatoes, moistened slightly with the washings of dishes, the liquor in which meat has been boiled, or milk, with a few unground grains of barley once daily, fattens them quickly.

The temperature of the valley of Sacramento, (Cal.) during the day, in summer, ranges from 102° to 120°, in the shade.



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