Emanation of Light from various Solid and Fluid Substances, and Animal Matter.

The emission of light from the glow-worm is a fact with which every one is acquainted. A similar effect is known to be produced by several animal substances in a state of decomposition: and from decayed wood is experienced a like luminous appearance. Persons who have witnessed the beautiful phosphorescent effects of the sea, in a dark night, must likewise have been forcibly struck with the radiations of so singular a phenomenon. Such peculiarities in nature cannot be supposed to have escaped the notice of the prying philosopher. Newton, and other eminent philosophers conceived the sun to be a vast body of fire: but the more improved instruments of Bode, Herschel, Schroeter, and other modern astronomers, have contributed to determine that the solar mass is opaque; and these opinions are strongly confirmed by the results of a long course of experiments made by Arago on the emission of light from bodies actually opaque, and which promise to solve many difficulties as to the physical constitution of the sun.

Ingredients of the Principal Varieties of Potash of Commerce.

Po'ash of America:—857 potash, 154 sulphate of potash, 20 muriate of potash, 2 insoluble residue, 119 carbonate acid and water.

Potash of Russia:—772 potash, 65 sulphate of potash, 5 muriate of potash, 56 insoluble residue, 214 carbonate acid and water.

American Pearlash:—754 potash, 80 sulphate of potash, 4 muriate of potash, 6 insoluble residue, 308 carbonate acid and water.

Potash of Treves:—720 potash, 165 sulphate of potash, 44 muriate of potash, 24 insoluble residue, 199 carbonate acid and water.

Potash of Dantzic:—603 potash, 152 sulphate of potash, 14 muriate of potash, 79 insoluble residue, 304 carbonate acid and water.

Potash of Vosges:—444 potash, 148 sulphate of potash, 510 muriate of potash, 34 insoluble residue, 304 carbonate acid and water.

Transit of Venus and Mercury.

The last transit of Venus over the Sun's disc happened on the 3d of June, 1769; the next will be on the 8th of December, 1874. The times of the transits for 1000 years to come may be found by adding successively the following numbers, commencing at the year 1769: 105, 8, 122, 8, 105, 8, 122, 8, 105, 8, 122, 8, 105, 8 122, 8, 105, 8, 122, 8. On the 14th of June, 2976, a transit will occur, in which the nearest approach of the centers of the planets will be 45 sec. N. The transits of this planet are among the most interesting phenomena in astronomy, not only from the rarity of their occurrence, but from the important determinations to which they lead.

The last transit of Mercury over the sun's disc happened on the 9th of November, 1848; the next will take place on the 11th of November, 1861.

The transits of Venus and Mercury were first predicted by the celebrated Kepler.

Envy.

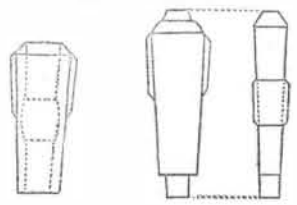
The envious man is in pain upon all occasions which ought to give him pleasure. The relish of his life is inverted; and the object which administer the highest satisfaction to those who are exempt from this passion, give the quickest pangs to those who are subject to it All the perfections of their fellow creatures are odious. Youth, beauty, valour, and wisdom are provocations of their displeasure. What a wretched and apostate state is this; to be offended with excellence, and to hate a man because we approve him! The condition of the envious man is emphatically miserable! He is not only incapable of rejoicing in another man's merit or success, but lives in a world wherein all mankind are in a plot against his uiet, by studying their own happiness and advantage.

Iron Moulding.

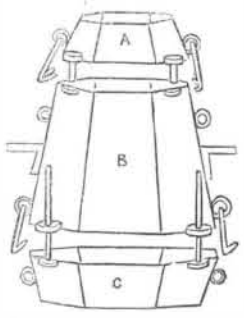
Continued from page 400.

Many improvements in moulding are stated to have been discovered within the past two years. A gentleman of Baltimore is now in England to secure a patent for a new plan of moulding. A number of papers have noticed it, but all of them have given wrong descrip tions. When the foreign patent is secured, in all likelihood we will be able to give a full description of it. In 1846 a very valuable improvement was made in pipe casting by a Mr. D. Stewart, of Montrose, North Britain. The improvement consisted in the machinery for forming the moulds, which saved a great deal of labor in running the sand, but the American invention will, from what we have heard about it, soon supercede it.

In our last we described the mode of moulding flat thin iron work, such as stone plates and work of that kind. The accompanying engravings represent another kind of work, which requires three boxes for the moulding, and the article to describe it fully will be continued to, and finished with, our next number, which completes this volume.



This figure represents a bush for cart wheels —the dotted lines showing the interior tapered hole, through which the axle passes. These bushes are cast in pairs, and the cores for them are cast iron pins of the form of the axle. These core pins are turned and polished to make the interior of the bush smooth, The pattern of the bush is solid, and it has a core print on each end to steady the core, as shown in the second figure of the above cut, and the third figure shows the core extended at the ends, in correspondence with the core prints. In the interior, by the dotted lines, there is represented a chamber to contain the grease or lucubrating material. To form this chamber, a thickness of sand is wrapped round the core pin, which allows it to be driven out when cast. The box to cast the bush being made of three parts, the length of the middle part is made the same as that of the bushes between the small end and the tops of the feathers, and the parts are octagonal, as represented by the following cut.



A is the top, B the middle, and C the bottom. To mould the *pattern*, a flat board is laid down and made perfectly level; upon this board a pair of bush patterns are set down on their small ends, the points passing through two holes made in the said board to keep the pattern steady. The box, B, is inverted and laid down over them, and then filled with sand, which is rammed about the pattern level, with the tops of the feathers, represented in the first figure. The box, C, is now fixed on and rammed with the sand, which, for a fuller description and better illustration, we will delay to the next number.

Hadley Falls.

The Hadley Falls Company, which has a larger Capital than any other Cotton Manufacturing Company in the U. States, is now building the largest dam in America, being 1,017 feet long, and 30 feet high. The water-power is estimated capable of driving 1,200, 000 spindles, with the preparatory and finishing machinery, being more than twice the power in Lowell. One mill is now up and they are getting the machinery into it.—The foundation of the large-machine shop, 443 feet long, is laid, and the building will be completed this season. These works are situated on the Connecticut River, in Massachusetts.

Washing Sheep at Alcruth, in Hungary.

The process of washing is done under the roof, and, accordingly, no sudden showers or rainy weather can interfere with it. Before the shower bath is administered to the sheep, their dirt or pitch has to be dissolved or loosened. For this purpose a soaking vat is put up, which is covered and well put together, of strong planks or boards. It is filled with hot water equal to 84 degrees Fahrenheit; the sheep are then placed in two lines, and constantly handled until the yolk and dirt are dissolved, which ordinary takes from fifteen to twenty minutes. The solvent effects of the hot water is increased by adding a few pounds of potash, and also by the lie arising from the natural oily matter of the wool. The sheep, after being well soaked, are placed under shelter, where they have to wait their turn of the shower bath, in order that the animal, now, too much heated, may not pass immediately from the hot soaking vat into the shower bath, this being from sixty-one to sixty-three degrees Fahrenheit. The water is let upon the sheep through a hose, with a strainer upon the end. It falls with considerable velocity, and is brought to bear upon all parts of the sheep until the wool is of a snowy whiteness. The sheep are then driven to a warm, dry shelter, and shorn as soon as the wool is dry, generally about the sixth day. On an average, forty sheep are thus washed in an hour.

African Mode of Cooking an Ostrich's Egg.

A small hole, the size of a finger, is very dexterously made, and having cut a forked stick from the bushes, they introduce it into the egg, by pressing the two prongs close together; then by twirling the ends of the stick between the palms of the hands, for a short time, they completely mix the yolk and the white; setting it upon the fire, they continue frequently to turn the stick, until the inside has acquired the proper consistence of a boiled egg. This method recommends itself to a traveller by its expedition, cleanliness, and simplicity; and by requiring neither pot nor water; the shell answering perfectly the purpose of the first, and the liquid nature of its contents that of the other. Notwithstanding the enormous size of one of these eggs, being fully equal to twenty-four of our domestic hen, the Hottentots commonly eat a whole one at a time.

First Towns in America.

It will seem curious to those who are not aware of the fact, that the first towns built by Europeans upon the American continent were St. Augustine, in East Florida, and Santa Fe, the capital of New Mexico. The river Gila was explored before the Mississippi was known and gold was sought in California long ere the first white man had endeavored to find home on the shores of New England. There are doubtless trees standing within the fallen buildings of ancient Panama that had commenced to grow when the sites of Boston and New York were covered with the primeval wilderness.

The Yankee and the Printing Press.

The London Athenæum says—"The Yankee has an admirable trick of carrying a printing press upon his shoulder wherever he goes—he cannot live without his paper. Whether he invades Mexico as a soldier, or enters Grenada as an emigrant, he goes armed with type. If he does nothing but show some of "these dragon's teeth" in the land through which he passes, no small account of good should come of it in time.

Barometer.

Take a pair of scales, in one put a brass pound weight, in the other a pound of dry salt; let there be a shelf or board under the scales to prevent their sinking too low, and when it is inclined to rain the scale with the salt will sink the lowest; when inclined to dry, the scale with the brass weight will weigh up the salt.

Of all the most healthy exercises for male or female, those on foot are certainly the best, because the most natural.

A society in New England has collected a fund for reprinting the works of the New England Fathers; the first volumes will embrace the works of the famous Dr. Bellamy.

Decorative Art.

The London Magazine of Science tells us that Miss Wallace, a lady of fortune, has recently discovered a mode of gilding and coloring the interior of tubes of glass, which when so prepared, form a most magnificent beading for the decoration of rooms. It is also applied to the framing of pictures with great success and in a variety of ways, in connection with decorative art, at once novel and attractive. Several specimens of this beautiful invention are now exhibited at the Society of Arts, Adelphi.

LITERARY NOTICES.

The "Pathfinder Railway Guide" is the title of a very useful monthly publication, containing tables of the hours of departure from each station, and the distances and fares on all the railway lines in New England with a complete railway map. This work is issued monthly by George Snow & Co. Boston. Can be had at the Pathfinder office, this city.

The "Pictorial National Library" for September, has been received from the publisher, Wm. Simonds, Boston It contains a good likeness and biography of Levi Woodbury, the distinguished judge, besides an extra amount of spirited engravings, and useful reading. We could do without many publications received by us much better than we could this. Published in monthly numbers, at $2 per annum.