Science and Art.

Snuff.

Though we advocate the proper use of the olfactory sense, yet we repudiate snuff; nevertheless, we will point out the analogy between the use of scent and the use of snuff. By a singular perversity of human nature, the snuff-takers declare, almost to the majority of one, that they dislike scent; we have, however, only to show that snuff is scent in a high degree, and then leave the reader to decide the question.

Two-thirds of the snuff that is taken owes its fragrance to ammonia, the tobacco leaf merely serving as a medium to bring the ammonia to the nose. The moist tobacco leaf certainly imparts a peculiar odor to the snuff that is made from it, but still it is to the ammonia that it owes its peculiar pungency. In this respect, then, we can only compare the snuff-box to the ladies' smelling-bottle; they are both mediums for conveying ammonia, either plain or modified by certain other odorous bodies, for the purpose of disguising its real smell, to the olfactory nerve.

The reader will now see our reason for placing snuff in the same section of odoriferous bodies as "smelling salt."

Like every other substance that is capable of being modified by man, there are snuffs in infinite variety.

The plain snuffs are of two kinds; that is, Scotch and rappee. Irish is but a slight modification of Scotch. The Irish and Scotch snuffs are made from the stalks of the tobacco leaf, which, in truth, otherwise would be a waste product of segar manufacture. When the tobacco leaf is being made into segars, the stalks and fibres are cut out of the leaf, otherwise it would not roll up properly; when these fibres have accumulated sufficiently, the snuff-making process is begun. If the snuff is to become any of the high-dried qualities, then the material has to be sent to an oven, and there dried to that extent required for particular denominations. Lundyfoot is remarkable as being dried almost to the extent of burning, hence this favorite snuff always has a burnt wood smell; after this process it is sent to the snuff-mills, to be ground to titillating dust.

The Irish and common Scotch is made entirely from the stalk of the tobacco-leaf. The best Scotch contains a portion of the leaf mixed with the stalk.

The moist snuffs are prepared in another way, thus:—After sufficient stalks have accumulated in the manufactory, they are cut up into pieces of about the 1-16th to 1-8th of an inch in length, and placed in a large trough, in lots of from one hundred weight to double that quantity. As the material is put in, it is thoroughly moistened with water in which is dissolved, for some varieties, carbonate of ammonia, and for others, muriate of ammonia; in this state it is left to ferment or ripen from about one to two months, according to the weather; in a fortnight or more after this treatment, the material begins to "heat," and it is now that the future aroma, or *flavor*, as the makers term it, is decided; for if it becomes too hot, the ammonia is dissipated, and if not hot enough, then the ammoniacal fragrance is not sufficiently developed. It must be observed that tobacco in any form, when moist, and allowed to heat, produces ammonia from the elements of its own composition; in this respect it is only like other vegetables containing nitrogenous compounds; the final odor of the snuff depends on the peculiarities of the various tobaccos employed, such as American, Cuban, &c. After the fermentation is complete, the material is sent to the mill to be ground.

"Rappee," which means little leaf, is considered a finer quality of snuff than the former, and is prepared by similar process; it consists, however, of leaf tobacco, and contains little or no stalk. The ammoniacal smell is much stronger in rappee snuff than in others.

There are, however, several other kinds of snuff, which by their popularity will induce us to claim all who use them—and they are a legion—as patrons of the "Art of Perfumery." These are "Prince's Mixture," which is a rappee scented with otto of rose; and "Queen's Scotch," which is perfumed with bergamot.

The snuff-makers were the first to teach the perfumers to what an extent the fragrance of the Tonquin Bean was admired; even now, if a perfumer makes a mixture containing Tonquin Bean extract, in excess, he is charged with making his perfumery smell like snuff.

A delightfully scented snuff, called "Wallflower," is made by Messrs. G. and S. Goodes, of Spitalfields, Eng., who seem determined to bring snuff into fashion, as it was in the reign of Good Queen Anne. SEPTIMUS PIESSE.

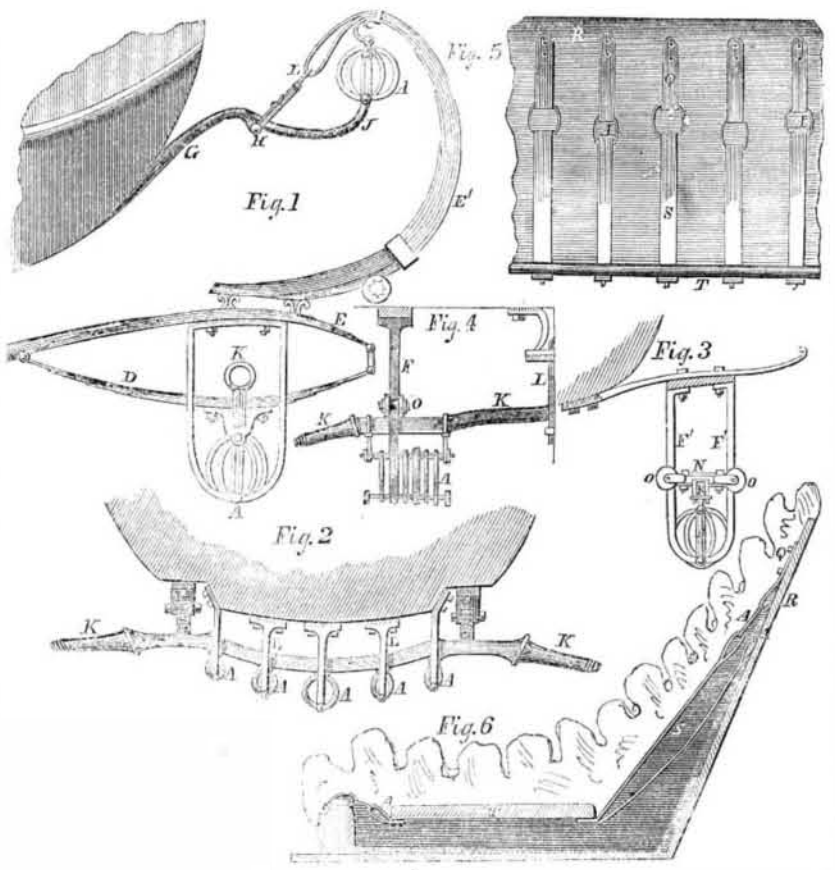
London, 1856.

Printing Textiles by Light.

A mode of printing textile fabrics by the chemical action of light has been brought to notice under the term of "chromatic photo-printing." The author, Mr. R. A. Smith, of London, proposes to employ the chemical agency of light in dyeing or staining textile fabrics; the cloth, whether wool, silk, flax or cotton, being first steeped in a suitable solution, then dried in the dark, and subsequently exposed to the action of light those parts which are to form the pattern being protected by pieces of darkened paper, or some other proper material, attached to a plate of glass. When the desired effect is produced, the time for which varies from two to twenty minutes, according to the nature of the process, the fabric has to be removed, in order to undergo a fixing operation, whilst a fresh portion of it is exposed to the light. This may easily be effected by the use of a very simple mechanical arrangement so that a number of photographic engines may be placed side by side and operated.—[Exchange.

[This plan is perfectly practicable, but far two expensive and troublesome, and besides, it only can produce one color.

CARRIAGE SPRINGS.



There are more carriages of every description made and used in the United States than in any other country, and perhaps it is not beyond the mark to assert more than in all other countries put together. Any improvement relating to carriages, therefore, whether it be in arrangement, form, combination, or the material of which they are made, is of great interest, we consider, to a very large and important class of our manufacturers and mechanics.

The accompanying figures are views of combination carriage springs, for which a patent has recently been taken out in England by G. N. & W. Hooper, and which are illustrated in the London *Engineer*.

The invention relates to the employment of india rubber springs in combination with the steel bearing springs of carriages, and also to the employment of india rubber springs for suspending the cushions of carriages and chairs in such a manner that a compensation action is obtained in proportion to the weight or load to be carried or supported.

The patentees describe several modifications, and the illustrations represent several forms of springs well-known to carriage builders, such arrangements being shown as fitted with compensating springs. These compensating springs consist either of straight lengths or strips of vulcanized india rubber, or of endless bands or rings, such rings or strips being of different sizes or lengths, and made to embrace studs or pins. The effect of this arrangement is that when the steel springs are called into play or deflected, they bring into action successively one or more of the compensating springs, by pulling or stretching them out between the holding pins; and as the compensating springs are of gradually increasing or decreasing lengths or diameters, it follows that the shorter for smaller ones will be called into play first, then the next larger ones, and so on, until the whole of them, whatever their number, may be brought into action.

Fig. 1 represents the application of a double set of compensating springs to the springs of a carriage, one set being applied to the double elliptical or under springs, D E, and another set applied to the C-springs, E′, the body loop, G, in this case being extended beyond the point, H, where it is slung by the braces, L, in the ordinary manner up to the point, J, where it is connected to the set of compensating springs, A, the springs themselves being suspended from the ends of the C-springs. K is the axle.

Fig. 2 represents a back elevation of an omnibus fitted with the compensating springs which are suspended from pins on the under side of the axle, K. L L are a series of stays or brackets, secured to the under side of the vehicle, and furnished at their lower ends with pins, which project inside the rings, A, forming the compensating springs. As these rings are of different sizes, it follows that the smaller ones will come into action first, as shown by the two extreme rings near the ends of the axle, which are represented as partially distended, whilst the rest are not as yet brought into play.

Figs. 3 and 4 represent two views of an arrangement wherein steel springs are altogether dispensed with, the vehicle being entirely suspended on compensating springs, A, of various lengths or diameters, as before described.

The axle, K, is fitted with two cross heads or bars, N N, which carry anti-friction or guide rollers, O O, either of india rubber or of metal covered with india rubber, for the purpose of allowing the body to play along the fixed guiding brackets, F′ F′, between the lower ends of which brackets and the axle are fitted the compensating springs, A A. The upright rod, L, is attached to the axle, and works through a hole in the metal stay or bracket, the hole being lined with wood or some other material to prevent a rattle; this rod and stay or bracket, or an arrangement to answer the same purpose, are necessary, in order to prevent the axle from turning over instead of remaining in its proper position.

Figs. 5 and 6 represent respectively a vertical section and under side plan of a seat suspended on compensating springs, such arrangement being applicable to seats or beds and mattresses for ordinary use, as well as to the seats of carriages.

A A are the compensating springs, which may consist, as described, of vulcanized india rubber rings, or of straight lengths of india rubber, of different sizes. Each ring is connected at one side with a strap, Q, secured to the back board, R, and the other side with a second strap, S, attached to the back portion of the board, T, which forms the foundation of the seat. This board is suspended at the front edge by india rubber rings, A, or straight lengths of different sizes, so that the entire seat will adjust itself perfectly to any greater or less load which may be placed upon it.

Total Eclipses for the Next Fifty Years.

Calculations have been made at the Observatory of Paris, that from the present time to the nineteenth century there will be only six total eclipses of the sun, not one of which will be visible in France, viz:—In 1860, 1861, 1870, 1897, 1899 and 1900; so that from the year 1000 to 1900 there will have been 255 eclipses of the sun, with only one total for Paris, on August 12, 1653.