

Science and Art.

Lavender.

The climate of England appears to be better adapted for the perfect development of this fine old favorite perfume than any other on the globe. "The ancients," says Burnett, "employed the flowers and the leaves to aromatise their baths, and to give a sweet scent to water in which they washed; hence the generic name of the plant, *Lavandula*."

Lavender is grown to an enormous extent at Mitcham, in Surrey, which is the seat of its production in a commercial point of view.—Very large quantities are also grown in France, but the fine odor of the British produce realises in the market four times the price of that of Continental growth. Half a hundred weight of good lavender flowers yield, by distillation, from 14 to 16 oz. of essential oil.

All the inferior descriptions of oil of lavender are used for perfuming soaps and greases; but the best is entirely used in the manufacture of what is called lavender, to be in keeping with the nomenclature of other essences prepared with spirit.

The number of formulæ published for making a liquid perfume of lavender is almost endless, but the whole of them may be resolved into essence of lavender, simple; essence of lavender, compound; and lavender water.

There are two methods of making essence of lavender:—1. By distilling a mixture of essential oil of lavender and rectified spirit; and the other—2. By merely mixing the oil and the spirit together.

The first process yields the finest quality. Lavender essence, that which is made by the still, is quite white, while that by mixture only always has a yellowish tint, which by age becomes darker and resinous.

SMYTH'S LAVENDER.—To produce a very fine distillate, take—

Otto of English lavender . . . 4 oz.
Rectified spirit (60 over proof) . . . 5 pints.
Rose water 1 pint.

Mix and distil five pints for sale.

ESSENCE OF LAVENDER.—

Otto of lavender 3 1-2 oz.
Rectified spirit 2 quarts.

Many perfumers and druggists in making lavender water or essence, use a small portion of bergamot, with an idea of improving its quality—a very erroneous opinion.

LAVENDER WATER—Take—

English oil of lavender . . . 4 oz.
Spirit 3 quarts.
Rose water 1 pint.

Filter as above and it is ready for sale.

COMMON LAVENDER WATER—Same form as the above, substituting French lavender for the British. SEPTIMIUS PIESSE.

Chloroform and the Blood.

At a recent meeting of the Boston Society of Natural History, Dr. C. T. Jackson exhibited a vial of blood, taken from the heart of a woman who died from the effects of chloroform, inhaled at a dentist's office, and stated that it had lost the property of coagulation, was of a peculiar, dark cranberry red color, and uniformly liquid. The blood globules, in a microscopic examination made by Dr. Bacon, were found to be a little shrunken and distorted; the white globules were also deformed.

At the autopsy all physicians present agreed that the deceased came to her death from the effects of chloroform.

Dr. Jackson's particular duty in this examination was to investigate the chemical condition of the blood. He had ascertained that it contained formic acid, which was readily separable by distillation of the blood by the heat of a chloride of calcium bath.

The formic acid, separated, had its peculiar odor, and instantly decomposed nitrate of silver, reducing the silver to its metallic state, so that large flakes of the metal were obtained. The observation that chloroform was decomposed by the blood, with the production of formic acid, he believed to be new, and it must be regarded as an important physiological fact of no small practical moment. Three atoms of chlorine leave the formyle to com-

bine with the blood, while three atoms of oxygen are abstracted from the blood, to unite with the formyle in the production of formic acid. Thus the blood is not only deprived of its oxygen, but it is so altered as to be incapable of absorbing vital air, and the patient dies from asphyxia.

Curious Use of the Microscope.

Recently, on one of the Prussian railroads, a barrel which should have contained silver coin, was found, on arrival at its destination, to have been emptied of its precious contents, and refilled with sand. On Professor Ehrenberg, of Berlin, being consulted on the subject, he sent for samples of sand from all the stations along the different lines of railway that the specie had passed, and by means of his microscope, identified the station from which the interpolated sand must have been

taken. The station once fixed upon, it was not difficult to hit upon the culprit in the small number of employees on duty there.

Culture of Currants.

As there is likely to be a scarcity of summer fruits this year, owing to the destruction of the peach and cherry buds, &c., all who have currant bushes should bestow upon them special attention. Old and neglected bushes should have some of the old branches cut away, so as to give the young shoots a chance to fill their places, and these should be thinned out, if numerous, and shortened if long, so as not to crowd each other. Dig out the grass if any, about the roots, and apply a good dressing of manure and ashes, spading it in; and when the hot weather commences, cover the entire surface under the bushes with tan bark, sawdust, old leaves, or chip dirt; this will

prevent the growth of weeds, and keep the ground moist, greatly promoting the quantity and quality of the fruit.

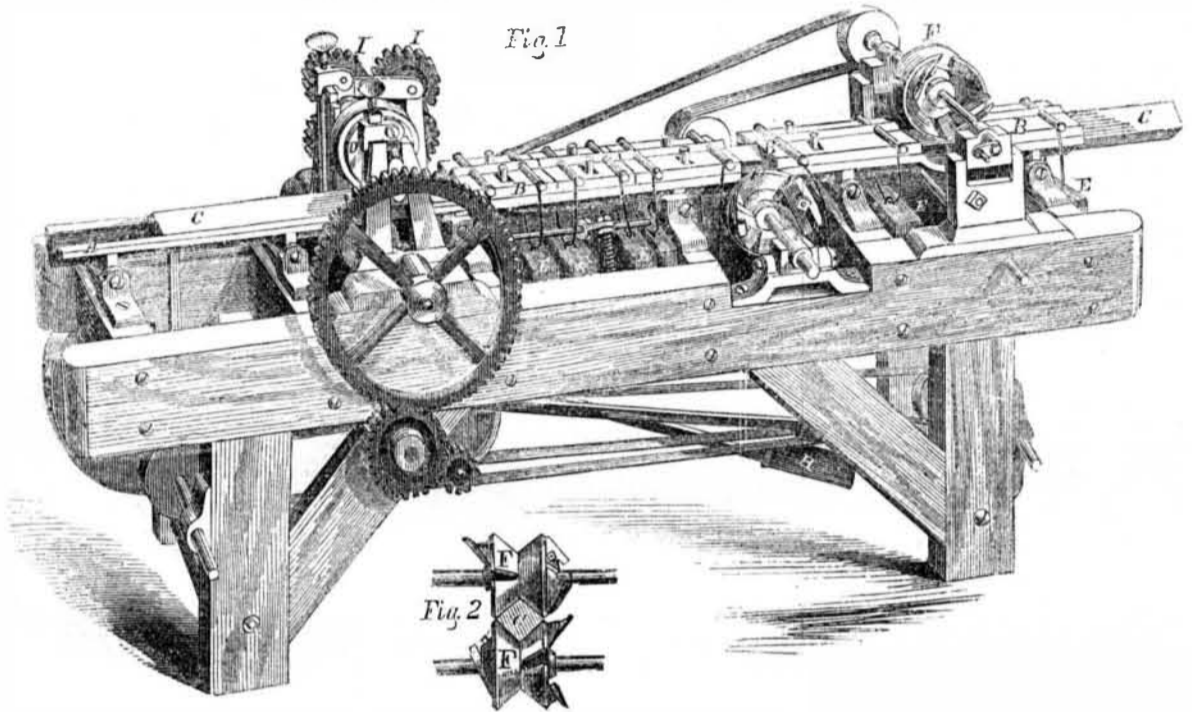
Gooseberry bushes should be treated in a similar way, only more attention should be given to pruning, so as to keep the bushes open and the leaves and fruit fully exposed to the air.

Expensive Boats.

It has cost the U. S. Government one and a quarter millions of dollars, to prepare and publish the account of Lieut. Wilkes' Antarctic Expedition, and yet not one in a hundred thousand of our people have ever seen it.—"That's the way the money goes."

Commodore Perry's book, giving an account of his expedition to Japan, has cost \$200,000 in preparing it for publication.

IMPROVED TIMBER PLANING MACHINE.



Machine for Planing Timber.

Our engraving illustrates an invention for planing four or more sides of a stick of timber simultaneously, only two cutter heads being required for the purpose. A is a trough-shaped bed plate, extending in sections the whole length of the machine. This trough is covered with plates, B, that are A-shaped in their centers, so as to correspond with the trough of the bed. The timber, C, is laid edgewise in the bed, and the plates, B, rest on the timber; the plates, B, merely serve to keep the timber from lifting out of place. The timber is pushed through the machine between the bed, A, and plates, B, by the feed rollers, D; the plates, B, are pressed down upon the timber by means of the weights, E. If the timber is uneven in any part, the weights, E, permit the plates, B, to rise. F F' are the cutter heads, which are grooved, and have knives projecting inward towards the inner surfaces of the grooves. Each cutter-head is furnished with a double set of knives, one set for each side of the groove; each set of knives cuts one side of the timber. Fig. 2 shows the manner in which the cutters and timber are brought together. Four sides of the timber, it will be seen, are cut at once; by altering the form of the cutter-head it would be competent to plane sticks having six or eight angular sides, two cutter-heads only being employed.

The timber to be planed is fed in at the left end of the machine, and passes between the feed rollers; only one of these rollers appears in the cut; there are two of them placed one above the other; they are of the same shape as the cutter-heads, and a section of them, showing their action on the timber would be very similar to fig. 2.

The bearings of the feed rolls are connected with the long weighted levers, H, which hang under the machine and permit the rollers to rise and fall, according to the size or form of the timber. The pressure of the rollers upon the timber is in accordance with the weight of the levers; the rollers are, therefore, self-adjusting, and adapt themselves to the size and form of the timber. The cutter-head, bed

plate, and other parts of the machine are all rendered adjustable, by means of suitable set screws. I I are compensating gear wheels, arranged to keep the feed rollers always in motion, whether they rise or fall on the timber. Suitable cog wheels, pulleys, and bands connect and move the various parts.

This machine is quite simple, and easily managed. For planing off large timbers used in the construction of churches, stores, dwellings, ships, &c., it is very effective, and saves much labor. Small sizes may also be used with great advantage in the planing of table legs, bed-posts, and prismatic stuff of all kinds. Further information can be had by addressing the inventor and patentee, Mr. Joseph W. Kilmam, East Wilton, N. H. Patent granted January 22d, 1856.

Color Blindness.

Color blindness, or Daltonism, as it is often called, has of late attracted great attention. Sir David Brewster, Dr. George Wilson, Prof. Wartmann, and others, have investigated the phenomenon with surprising success; and the *North British Review* has a paper on the subject, in which it is said: "Till within these few years this affection of the eye was supposed to be confined to a small number of individuals; but it appears from the calculations of various authors, that one person out of every fifteen is color blind.

According to the experiments made by Dr. Wilson upon 1,154 persons at Edinburgh, in 1852-3, one person in every eighteen had this imperfection; 1 in 55 confound red with green; 1 in 60 confound brown with green; 1 in 46 confound blue with green. Hence 1 in every 17-9 persons ought to be color blind. Instead of this being the case, however, according to our experience, we have never known but one case of color blindness; we are therefore skeptical of the correctness of Dr. Wilson's experiments.

In San Francisco there are four establishments in which sewing machines are used for sewing brown linen drill into bags, for miners, to contain their gold dust.

Literary Notices.

PUTNAM'S MONTHLY, for April, is one of the best, if not the very best yet published. The first article is on "Religious Freedom in America,"—tracing its rise and progress. All the other articles are equally good. Published by Dix & Edwards, 321 Broadway, N. Y.

BLACKWOOD'S MAGAZINE, for this month, re-published by L. Scott & Co., 54 Gold st., this city, is an excellent number; it contains a manly review of Caird's sermon on "Religion of Common Life," and the other articles are equally able, vigorous, and interesting.

KNICKERBOCKER MAGAZINE—The April number is upon our table, and of all the magazines which come to our office there is none we prize so highly as the Knickerbocker. It is always full of fun, and the matter is original. Samuel Hueston, publisher, 348 Broadway, N. Y. \$3 per annum.



Inventors, and Manufacturers

ELEVENTH YEAR!

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