

Camphor.

This immediate product of vegetation was known to the Arabs under the names of *kamphur* and *kaphur*, whence the Greek and Latin name *camphora*. It is found in a great many plants, and is secreted, in purity, by several laurels; it occurs combined with the several oils of many of the *labiacæ*; but it is extracted, for manufacturing purposes only, from the *Laurus camphora*, which abounds in China and Japan, as well as from a tree which grows in Sumatra and Borneo, called in the country, *Kapour barros*, from the name of the place where it is most common. The camphor exists, ready formed in these vegetables, between the wood and the bark; but it does not exude spontaneously. On cleaving the tree *Laurus sumatrensis*, masses of pure camphor are found in the pith.

The wood of the laurus is cut into small pieces, and put, with plenty of water, into large iron boilers, which are covered with an earthen capital or dome, lined within with rice straw. As the water boils, the camphor rises with the steam, and attaches itself as a sublimate to the stalks, under the form of granulations of a gray color. In this state, it is picked off the straw, and packed up for exportation to Europe.

Formerly Venice held the monopoly of refining camphor, but now France, England, Holland, and Germany refine it for their own markets. All the purifying processes proceed on the principle that camphor is volatile at the temperature of 400° F. The substance is mixed, as intimately as possible, with 2 per cent. of quicklime, and the mixture is introduced into a large bottle made of thin uniform glass, sunk in a sand bath. The fire is slowly raised till the whole vessel becomes heated, and then its upper part is gradually laid bare, in proportion as the sublimation goes on. Much attention and experience are required to make its operations succeed. If the temperature be raised too slowly, the neck of the bottle might be filled with camphor before the heat had acquired the proper subliming pitch; and, if too quickly, the whole contents might be exploded. If the operation be carried on languidly, and the heat of the upper part of the bottle be somewhat under the melting point of camphor, that is to say, a little under 350° F., the condensed camphor would be snowy, and not sufficiently compact and transparent to be saleable. Occasionally sudden alterations of temperature cause little jets to be thrown up out of the liquid camphor at the bottom upon the cake formed above, which soil it, and render its re-sublimation necessary.

If, to the mixture of 100 parts of crude camphor and 2 of quicklime, 2 parts of boneblack, in fine powder, be added, the small quantity of coloring matter in the camphor will be retained at the bottom, and the whiter cakes will be produced. A spiral slip of platina foil immersed in the liquid may tend to equalize its ebullition.

By exposing some volatile oils to spontaneous evaporation, at the heat of about 70° F., Proust obtained a residuum of camphor; from oil of lavender, 25 per cent. of its weight; from oil of sage, 12½; from oil of majoram, 10.

Refined camphor is a white translucent solid, possessing a peculiar taste and smell. It may be obtained, from the slow cooling of its alcoholic solution, in octahedral crystals. It may be scratched by the nail, is very flexible, and can be reduced into powder merely by mixing it with a few drops of alcohol. Its specific gravity varies from 0.985 to 0.996. Mixed and distilled with six times its weight of clay, it is decomposed, and yields a golden yellow aromatic oil, which has a flavor analogous to that of a mixture of thyme and rosemary; along with a small quantity of acidulous water tinged with that oil, charcoal remains in the retort. In the air, camphor takes fire on contact of an ignited body, and burns all away with a bright fuliginous flame.

Camphor is little soluble in water; one part being capable of communicating smell and taste to 1000 of the fluid. 100 parts of alcohol, spec. grav. 0.806, to dissolve 120 parts of camphor, at ordinary temperatures. It is separated in a pulverulent state, by water. Ether and oils, both expressed and volatile, also dissolve it.

When distilled with eight parts of aquafor-

tis, camphor is converted into camphoric acid. Camphor absorbs 144 times its volume of muriatic acid gas, and is transformed into a colorless transparent liquor, which becomes solid in the air, because the acid attracts humidity, which precipitates the camphor. One part of strong acetic acid dissolves two parts of camphor.

Industrial Pursuits—Honor to the Tired Worn Hand.

It is a painful fact, although derogatory to our character as republicans, that the grades in society are not regulated in the country, as they should be, by the true standard of merit, talent, and useful in men, but very generally by a Goldometer applied by the ridiculous rules of fashion. Under our government the royal gift or patent of title and nobility cannot be conferred on individuals, that they may strut higher than their fellow-men; nor can the position of any citizen in civil life give him claim on his neighbor for more than the ordinary courtesies of good society, as taught and inculcated by the rules of decorum and good breeding. But is there not an aristocracy found in American society, whose exactions, whose exclusiveness, and whose conventional rules—both of theory and in practice—appear as ridiculous to the well-balanced and judicious mind as those of the titled and tinselled aristocracy of monarchical governments?

That this is the case, we think few will deny. That dignity, which honest industry and scientific acquirements in the mechanical arts confer upon their possessor, is not recognised to the extent it should be in our social system. The educated mechanic or the tradesman does not generally occupy that position in society to which he is righteously entitled; and, with but an exception now and then, and at particular seasons—in an election canvass or the like—he is too generally regarded as a member of an inferior grade of society. It behooves us to inquire why this false state of things exists among us. The mechanical arts have not flourished with us to such a degree as to constitute any great portion of the wealth of our section. How few eminent and educated mechanics or manufacturers, in the various branches of trade, are found among us, or at least receive that encouragement and support sufficient to make a residence with us desirable or profitable.—Our boots and shoes; our hats; our furniture; our cutlery; our axes; yes, even our axe helms, our wood-saws; our locks and hinges; our spades; our plows; and hoes, and in short, every article we use, comes from abroad.—This state of things may be in part attributable to our agricultural system—to our extensive production of cotton, which monopolizes the entire productive energies of this latitude; but the question may be fairly put, is it not also in some degree owing to causes within our power to remove?

The people of the South have, just at this time, abundant matter for serious consideration, and, among the various subjects entitled to a large share of their reflections, is the inquiry how they may best elevate and foster the mechanic and manufacturing interests in all their branches. Industry, ingenuity, enterprise, and mechanical talent, when accompanied by a sound education, such as is generally bestowed upon the youth of our country are among the chief elements of a nation's strength. And why, then, should not those engaged in bringing the elements into successful action, in their appropriate sphere, be not regarded as equal to those of any other profession in life. They are really so—yes, and superior to hundreds of drones, who, with a showy and superficial education, and the wealth of their more industrious ancestors, imply condescension in every word and look they bestow upon the industrious mechanic. This ought not so to be—these artificial distinctions of society, among intelligent and industrious citizens of an enlightened country, are inimical to our prosperity and to the interests of the republic.

The above is taken from the South Carolinian—it is above comment.

Plato, hearing it was asserted by some persons that he was a very vicious man, "I shall take care to live so," said he, "that nobody will believe them."

Office of the Fly Wheel.

A piston, which is urged by the force of expansive steam, is acted upon by a continually diminishing power of impulsion. When the pressure of the steam becomes by expansion less than the load which such piston drives through the intervention of machinery, including the natural resistance of the machinery itself, then it is clear that the moving power will cease to be efficacious, and that the piston must come to rest.

The inertia of the machinery may continue the motion somewhat longer than the moment at which an equilibrium takes place between the resistance of the load and the pressure of the piston, but this effect must soon expire.

The expedient by which the expansive principle may be most conveniently extended is to use, in the commencement, steam of high pressure, and great density; such steam may allow of considerable expansion before it loses so much of its force as to be reduced to an equilibrium with the resistance to the piston.

In all cases the expansive principle evidently involves a continual variation in the impelling power of the piston.

Now it seldom happens that there is any similar variation in the resistance which the piston is required to overcome; and in that case an irregularity of action would ensue. In the commencement, the energy of the impelling force being greater than the resistance an accelerated motion would be produced; and towards the end, the impelling force becoming less than the resistance, a retarded motion would be effected. A great variety of contrivances have been suggested by mechanical inventors to equalize the varying action,—the most common and the most beautiful of which is the fly-wheel. This is a heavy wheel of metal, well centred, and turning upon its axle with but little friction, so that the force necessary to keep it in uniform motion is inconsiderable. The varying action of the piston is transmitted to this wheel.—When the impulsive force is greater than the resistance of the load, the surplus is imparted to the wheel, to which it gives a slight increase of speed. Owing to the great mass of matter in the wheel, an increase of speed which is scarcely sensible absorbs an immense amount of moving force. When the impulsion of the piston by the expansion of the steam becomes less than the resistance, then the momentum of the wheel acts upon the load, and that portion of surplus force which was previously imparted to it is given back, and the wheel assists, as it were, the piston in moving the load when the latter becomes enfeebled by the extreme expansion of the steam.

The fly-wheel is thus, as it were, a magazine of force, which gives and takes according to the exigencies of the machinery. When the moving force is in excess, the fly-wheel absorbs the surplus; when the moving force is deficient, the fly wheel gives back what it absorbed.

The History of a Glutton.

An incredible glutton, Joseph Krolonicker, died at Hefeld in the year 1771, (born at Passau) who had shown his rapacity for gormandizing in many houses at Hanover. This wonderful man as early as his third year ate stones to appease his hunger. His parents, and even his grandmother had been stone-eaters. According to the judicial declaration of his wife, he was never satisfied except when he mixed stones with his food, of which he had constantly a supply about him. Yes, he was once about going to Holland, and having heard that stones were not plenty there, he took several hundred weight with him. This man was always hungry, and therefore ate the whole night. The longest interval from satiety to hunger again, was one hour and a half. He was able to consume at one meal seventeen herring, and as many quarts of beer without taking into the account an equal portion of bread. At one time he ate two calves one boiled, the other roasted, in the space of eight hours. At Brunswick, he ate at the castle, twenty-five pounds of roasted beef besides having eaten before five portions in a refectory. He also ate other things, such as metals and felt, yet he would not eat cat-fish, to-

wards which he had an unconquerable aversion. Krolonicker, who was in his youth a soldier, when quartered, on account of his unheard of appetite, was counted as eight men. It is wonderful, but his passion for eating saved his life! for in an engagement he was struck by a bullet in the abdomen, but this being full of stones, the ball rebounded, and he was but slightly wounded. After his death it was found by dissection, that his bowels contained a multitude of metals and some flesh; also a pound and a half of stones.

Degeneration of our Race.

The following is from the Oregon Spectator some of it is true and some not.

That the Americans, as a people, have degenerated from their ancestors in point of stature, limitation of life, and ability to endure fatigue, would seem to be a fact generally admitted. Some of the causes it may be well to notice, as it is highly important, as a nation, that we should not only have vigorous understandings, but strength of body to plan and execute any undertaking man may perform.—One of the most obvious causes of declining strength, is the sedentary life of an increasing number of our citizens, added to the fact that far too little exercise is taken in the open air. It is so ordered on our planet, that man shall acquire a living by the sweat of his brow—and it is further ordained, that the labor implied in the mandate shall invigorate his bodily powers. Another reason why we do not possess the constitutions of our ancestors, is our luxurious mode of life when compared with theirs. We use more tea, coffee, and sugar than they did, and our food is frequently seasoned to death. In fact, modern cookery is becoming a science, calculated to pamper the appetite of the indolent; leaving the victim no other excuse than pastry for becoming a gouty dyspeptic. Another palpable cause of pulmonary habits, is fashionable dressing. What tends much to weaken us—although perhaps not so considered—is the use of stoves instead of fire places for warming rooms; and I may add to this another, in the general introduction of bolting cloths into grist-mills. Andrew Loucks, who, at our interview, was in his ninety-seventh year, in answer to the question; "why were people of your day healthier than those born at a later period?" replied, "we ate lighter food when I was a boy than at present—such as soups; used a great deal of milk, and but little tea and coffee. We sometimes made chocolate by roasting wheat flour in a pot, though not often. But, ah!" added the old man, "young people are now up late at nights—to run about evenings is not good, but to take the morning air is good."

Injury from Bleeding.

The too free use of the Lancet—which Dr. Reid called a "minute instrument of mighty mischief"—is thus condensed by Dr. Brigham in his report of the Utica Lunatic Asylum to the New York Legislature:

"Many of the patients sent to this Institution, have been injured by too much bleeding and depletion before they were committed to our care. Some we think have been rendered incurable by this treatment, and we cannot forbear remarking, that in our opinion the work of Dr. Rush on the "Disease of the Mind," in which directions are given to bleed copiously in maniacal excitement, has done much harm, and we fear is still exercising a bad influence and we hope no future edition will be issued without notes appended to correct the errors into which the distinguished author has fallen for want of the numerous facts which have been furnished since his time, which enable us to see the errors of our predecessors."

Surgery.

The science of Surgery is making rapid strides towards perfection. A skillful surgeon can manufacture a respectable looking nose out of a slice of skin and flesh from the forehead, but Dr. Wildman, of Georgia, has carried the science one step forward, and has made an entire lower lip for a young lady out of a slice of the right cheek. The young lady had, through an injudicious administration of calomel, lost a portion of the lower jaw and the entire lip. She stands therefore as a living monument of the ignorance and the skill to be found in the same profession.