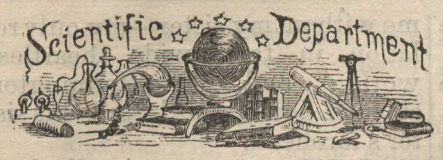

SPONTANEOUS EXPLOSION OF TOUGHENED GLASS

In the *Bohemia*, Professor Ricard, of Trchewan, tells the following tale:

"A child's drinking glass was bought one day, at Saaz, for about seventy kreutzers, and for six months it sustained its character of unbreakable glass. But about nine o'clock one evening in the sixth month it was used in drinking *eau sucree*, and was then placed, with a silver spoon in it, upon a large oaken table. Suddenly I heard from my room a violent explosion like a pistol shot, and a metallic sound. I ran in, and saw the whole floor strewn with needles and splinters of glass scattered thinly and widely—and not only upon the floor, but the bed, the table, the washstand, the carpet, and the clothes hung up were covered with these shreds. I looked everywhere for the cause of this explosion, and at last remarked that the child's drinking cup was gone. The empty glass had exploded—without apparent cause, without the approach of a light, and having a spoon in it—with such extraordinary force that the whole household was frightened. I relate this story, therefore, not only for the information of chemists and natural philosophers, but also of those families who believe that in this so-called unbreakable glass they possess remarkable and unspoilable playthings or useful household goods, to show them that when such an explosion occurs it may cause not only fright but mischief."

To the foregoing the editor of the *Polytechnichen Notizblatts* adds that such explosions of toughened glass, often without any apparent cause, have been pretty frequent of late, and appear to be on the increase—a circumstance likely to prevent people from using toughened glass until the cause of this evil property has been discovered and removed by a change in the process of manufacture. The explosion is, doubtless, caused by some change in the extreme tension of the fibers of the toughened glass, and it is probable that if the tension were removed the glass would no longer be tough.—*Scientific American.*

The Uses of the Lemon.—The London *Lancet* says: "Few people know the value of lemon-juice. A piece of lemon bound upon a corn will cure it in a few days; it should be renewed night and morning. A free use of lemon-juice and sugar will always relieve a cough. Most people feel poorly in the spring, but if they would eat a lemon before breakfast every day for a week—with or without sugar, as they like—they would find it better than any medicine. Lemon-juice, used according to this recipe, will sometimes cure consumption; Put a dozen lemons into cold water and slowly bring to a boil; boil slowly until the lemons are soft, then squeeze until all the juice is extracted; add sugar to your taste and drink. In this way use one dozen lemons a day. If they cause pain, lessen the quantity and use only five or six a day until you are better, and then begin again with a dozen a day. After using five or six dozen the patient will begin to gain flesh and enjoy food. Hold on to the lemons, and still use them very freely for several weeks more. Another use for lemons is for a refreshing drink in summer, or in sickness at any time. Prepare as directed above and add water and sugar. But in order to have this keep well, after boiling the lemons squeeze and strain carefully; then to every half pint of juice add one pound of loaf or crushed sugar, boil and stir a few minutes more until the sugar is dissolved, skim carefully and bottle. You will get more juice from the lemons by boiling them, and the preparation keeps better."

Plumbing and Rum Selling.—In commenting upon the report of a sanitary enquirer in New York, *The Sanitarian* says:—In addition to an enormous quantity of such villainous work in New York and Brooklyn as that above described, it is a common practice for plumbers to put in "safety pans" under the washstands of the best houses, against the danger of leaks to the frescoing. These pans are usually provided with no traps, of about ten inches in diameter, connected with the house drain-pipe ostensibly to prevent the escape of sewer-gas into the rooms, and yet they are never sealed—never have any water in them unless there is a leak under the washstand! Not long since we were called upon to examine a first-class house in which there had recently been two deaths from diphtheria: the washstands throughout the house were all thus provided with these death traps—not one of which had any water in it; all the chambers were in free communication with the main house sewer-pipe. And the house was "elegantly" plumbed throughout, without regard to expense, or common-sense. As commonly pursued, the trade of plumbing is fraught with danger comparable only with rum-selling, and scarcely less fatal to the health and lives of the people; and like it, should either be wholly prohibited or placed under such legal restrictions as will effectually protect the health and lives of the people.

A recent discovery in telegraphy is likely, according to the *Student's Journal*, to cause a revolution in medical pratice. Hitherto it has been necessary for country patients who wish to consult a London physician either to come to town or to send for the physician to visit them at their country homes. But it is not improbable that before long physicians will be able to remaining their consulting rooms and be kept advised by telegraph as to the exact state of their patients without regard to distance. It is reported that a physician, Dr. Upham, of Salem, Mass., recently demonstrated to an audience to which he was lecturing the variations of the pulse in certain diseases by causing the lecture-room to be placed in telegraphic communication with the City Hospital at Boston, fifteen miles distant; and then, by means of a special apparatus and a vibrating ray of magnesium light, the pulse-beats were exhibited upon the wall. By a judicious combination of Dr. Upham's apparatus and the telephone, a patient may possibly be subjected to a physical examination sufficient to diagnose heart and lung disease without going near the physician.—*Methodist.*

Shamoy Skins are, as every one knows, largely used for many purposes—for inside linings of gloves, &c., and for cleaning purposes in many departments. It is not derived from the skin of the chamois, as is sometimes ignorantly supposed, from the sound of the name, which results from the process, but from the flesh-side of the sheep-skins which have been split. The skins, after having been passed in the ordinary way through the earlier processes of washing, &c., are soaked first in lime-water and next in a mixture of bran and water, or in a weak infusion of sulphuric acid, after which they are beaten in a mill till no moisture remains in them. Fish oil is then poured over the skins, which are again beaten till they are thoroughly impregnated with it. This is done over and over again until the skins can receive no more oil; and then they are hung for a short time in a room heated up to a certain temperature. They are then carefully washed in a solution of potash, which removes any oil that may still remain about the leather; and thus we have the shamoy skin of daily use.—*Good Words.*

A Sunlight Stove.—A successful attempt has now been made te store up the heat of the sun's rays for immediate and practical use. It was carried out in India. The rays were first made to pass through glass fixed an inch away from the actual apparatus, which was consequently entirely surrounded by hot air. The enclosed apparatus, a copper receptacle, was blackened outside—a color which is well known to absorb heat, as any one may prove by wearing a black coat on a warm summer's day. The heat thus retained was further assisted by a conical reflector of silvered glass, and a quantity of mutton and vegetables placed within was perfectly cooked. To further aid in retaining the absorbed heat, when the apparatus was removed from the sunlight it was covered with a rug, as ladies place a "cosy" over the teapot to draw the tea. Since then the inventor has improved upon the process, and can now cook chops or steaks in the open air as quickly as by an ordinary fire, and entirely by the sun's rays. The most remarkable point is, perhaps, that the heat is kept in the apparatus for as long as three and a half hours.—*Cassell's Magazine.*

Sleep as a Medicine.—A physician says that the cry for rest has always been louder than the cry for food. Not that it is more important, but it is often harder to obtain. The best rest comes from sound sleep. Of two men or women otherwise equal, the one who sleeps the better will be the more healthy and efficient. Sleep will do much to cure irritability of temper, peevishness and uneasiness. It will restore vigor to an overworked brain. It will build up and make strong a weak body. It will cure a headache. It will cure a broken spirit. It will cure sorrow. Indeed, we might make a long list of nervous and other maladies that sleep will cure. The cure of sleeplessness requires a clean, good bed, sufficient exercise to promote weariness, pleasant occupation good air, and not too warm a room, a clear conscience, an avoidance of stimulants and narcotics. For those who are overworked, haggard, nervous, who pass sleepless nights, we commend the adoption of such habits as will secure sleep.—*Woonsocket Patriot.*

Why Colors Can Never Be Photographed.—It is now universally admitted by chemists and physicists that natural colors can never be reproduced by the process of photography. There is a broad philosophical reason for this belief. Color has no objective existence. It is simply the brain's interpretation of the rapidity with which the waves of the ray of light beat against the retina. Beats more rapid produce the sensation of the mind known as violet; beats less rapid, that known as red. The violet and the red are nothing but the vibrations of the other until they reach the optic nerve and communicate to that the vibrations which the brain translates. Until collodion, or some other sensitive agent, can be made to vibrate like the optic nerve, and can be endowed with intelligence like the brain, the undulations that fall upon it in a ray of light will remain undulations and nothing more. In other words, it is as impossible to photograph color as it is to photograph sound.—*N. Y. Sun.*

It was long supposed that the brackishness of Salt river, Arizona, was caused by the stream running over a bed of salt somewhere along its course Its waters are pure and fresh from where it heads in the White mountains to within 50 miles where it empties into the Gila. Fifty miles from its junction with the Gila there comes into it a stream of water that is intensely salt. This stream pours out of the side of a large mountain, and is from 20 to 30 feet deep. It is very rapid, and pours into the salt river a great volume of water. Here could be easily manufactured sufficient salt to supply the markets of the world. All that would be necessary would be to dig ditches and lead the brine to basins in the nearest deserts. The heat of the sun would make the salt. Were there a railroad near the stream its waters would doubtless soon be turned and led to immense evaporating ponds. it is supposed that the interior of the mountain, out of which the stream flows, is largely composed of rock salt—*Scientific American.*

Another new use of the telephone is in the Norwegian herring fisheries. The fishing season takes place when the herrings come into the shoals to deposit their eggs; but it often happens that the fish accomplish their purpose and go back into deep water before all the fishermen can be warned. Some 120 miles of submarine cable have been laid and telephones connected with it, so that all the fishermen on the coast can be immediately notified.

Chromate of lead gives a beautiful yellow color to candy but is, unfortunately, poisonous. Conscientious makers do not however use it in quantities large enough to be immediately fatal, unless too much candy is eaten. The test is simple, dissolve the candy in water and if there is an insoluble yellow residuum it is probably chromate of lead.

A comparison of ancient records with modern observations tends to show that diphtheria is an old disease with a new name. It made great havoc in New England, especially in New Hampshire and Maine, at three different epochs, 1735 —'8, 1786 and 1832.

DOMESTIC

CLEANING AND COOKING DRIED FRUIT.

By Mrs. Henry Ward Beecher.

All dried fruit should be carefully picked over and throughly washed before it is put to soak.

But it is a great mistake to put fruit into water and leave it, under the impression that it must soak awhile before dirt can be washed off. Put the dried fruit into a pan of tepid water and wash throughly but rapidly. Rub it with the hands briskly and take it from the water as soon as possible, leaving it to drain a short time before putting it in soak for the night. If dried fruit is thus speedily washed it loses very little, if any, of its flavor.

All dried fruit requires to be soaked an hour or two, and unsually all night, before ready to be cooked. If it is put on to cook without soaking, it will be hard and tough; but use only water enough to cover it, or no more than will be needed to cook it in. If too much water is used it will make the fruit when cooked insipid and tasteless. Not a drop of the water in which it is soaked can be spared. Half of the best juices of the fruit will be found in this water, but if cooked in it and properly looked after they will be so united as to be both alike good.

No sweetening should be added to the fruit until it is perfectly soft, else the sugar will make the sauce quite hard and unpalatable. But when the fruit has swelled to its natural proportions and is as tender as if just gathered, then put in whatever sweetening is needed and leave it to simmer till the juice is like a rich syrup and the fruit is throughly seasoned by it.

In preparing citron, raisins or currents for cake or pies almost every cook has her own particular ideas, and will follow them, sometimes unwisely, if the mistress does not interfere.

Citron, having a large, smooth surface, requires less attention than smaller fruits which become quite wrinkled and shriveled when dried, and in these wrinkles dust and dirt find good hiding places. The citron can be wiped off with a damp cloth before slicing it up, or well brushed if it has lint or dust adhering to it, or if it does not look clean it can be scraped gently with a knife.

Raisins, both the large bloom raisins and the stoneless or Sultana, should be picked over carefully, remove all the stems and dirt that can be done with the fingers, and then, by taking them a few at a time in a clean linen cloth, if not extremely dirty, they can be rubbed quite clean without washing and if done with care will be perfectly fitted for use.

But the Zante *currants* are much more filthy than any of the dried fruit to be found in our market. They are usually matted together, and straws, hairs, or almost every kind of dirt so closely blended with them that we know of no way by which currants may be made passably clean but by washing. They need to be first rubbed in the hands so as to separate them and shake out the loose dirt; then put into a bowl of water, not many at a time, and well and quickly rubbed; then as fast as possible put each mess into a colander to drain. To be sure some of the sweetness and flavor is lost, but we lose much dirt also. Zante currents are so dirty and mussy looking that it never seems possible to get them so clean but that they retain, even when in pies or cake, an earthy dirty taste. We never feel tempted to use them. but think washing is the only way to make them clean enough to eat.—*Christian Union.*

Dressing Asparagus.—Cut off as much of the white end of the sprouts as is necessary to enable them to be conveniently handled; wash lightly. The English carefully scrape each separate stem, but what is to be gained by it they do not say.

Dandelions, Mustard, Etc.—Pick over, wash, and rinse throughly; put into an abundance of boiling water and boil rapidly until they are done, which you may know by mashing them between the fingers. Take up, drain and serve the same as spinach.

Milkweed.—Cut the stems when about five or six inches high, trimming off such leaves as appear to be tough; boil them in a medium quantity of water, take up and drain, very much the same as asparagus. The time required is twenty minutes, if they are very tender. The succulent stems are the most delicate part, and may be cut in bit and stewed like asparagus pease. Poke shoots may be cooked in a smaller manner.—Julia Colman.

Stewing Asparagus.—Tie the dressed asparagus in bundles of half a dozen sprouts each, and drop them into boiling water sufficient to cover them; boil gently for eighteen or twenty minutes, or until the green portion is quite tender—though it should not fall to pieces when handled. Cut and remove the strings and carefully place them lengthwise on a warm platter, and tilt it slightly for a few minutes to drain. Serve by placing a few on each plate and cut the green and soft portions.

Spinach.—Wash spinach carefully in an abundance of water; pick off all decayed leaves, and rinse; put into a pot with no water except what clings to it from the rinsing; cover close and cook gently till tender, which will require from twenty to thirty minutes, according to its succulence; then take up into a colander, place it over the pot to drain, covering it to keep it warm. If you have a perforated mould it is very convenient to press it into that, and when drained turn it out on a platter to serve, being careful to keep it warm.

The hair, with some people, is a subject of anxiety sooner or later. I wish I could give a receipt for keeping it on the female head and off the female lip; to keep it always glossy and bright, and prevent it from turning grey. I cannot do that, however, but I can remind you that the state of the health exerts a wonderful influence over the appearance of the hair. This is the best in the lower animals. In the dog, for example, a harsh dry coat is sufficient to tell the skillful veterinary surgeon that there is illness about the animal somewhere. And in the human being an unhealthy appearance of either hair or scalp, cannot exist with perfect salubrity of body. We all know that some strong and sudden affections of the mind, such as grief or fear, are capable of whitening the hair in even a single night; we know, too, that the worry and tear of life bleach the hair by a slower process; but it is more difficult to believe that hair once whitened, unless by age, often regains a portion at least of its colour without the aid of artificial means; but this, I think, has been proved

Now, all that is required in order to keep the hair beautiful, with a healthy person, is occasional washing, using eggs instead of soap and the use of a good though not too hard hair-brush. It is not the hair itself that is capable of being acted upon by these means but the scalp—the soil, so to speak, in which it grows. "*Family Doctor in Cassells Magazine.*