

Hints for Preserving Fruits.

A useful hint to cooks was given at a recent sanitary convention in Grand Rapids, Michigan. It was pointed out that by adding sugar to sour fruits, during the cooking process, the greater part of the cane sugar was converted by the aid of the acid into grape sugar, which does not possess half the sweetening power. By cooking the fruit first, and then adding the sugar to an agreeable sweetness, a very great deal of sugar might be saved.

Raspberry, strawberry, and cherry sirups of the German Pharmacopœia have to be made by bruising the fruit and letting the marc and juice ferment, after which the juice is strained off and filtered. A better and safer way is to add at once to the freshly bruised fruits five to six per cent of alcohol, to let the whole stand for some days, decant and filter. Lastly, boil up once to remove the greater part of the alcohol. Sirups made with juice prepared as above retain in a remarkable degree the odor and taste of the fresh fruits.

NOVEL FRUIT GATHERER.

The annexed engraving shows a convenient implement for gathering apples, pears, peaches, and other fruit without bruising it. The cup that receives the fruit is movable on the upper end of the rod, and is provided with a forked hook which grasps the stem of the fruit. A cover is hinged to the cup and connected with the rod, so that when the cup is pulled downward in the act of fruit picking, the cover closes and guides the fruit, so that it falls into a rubber tube connected with the lower part of the cup. After the fruit stem has been removed, the spring on the rod returns the parts to their former position.

This fruit gatherer was recently patented by Mr. J. N. Jarman, of Peacher's Mills, Tenn.

Sapphires in Siam.

Five years ago a native hunter in Siam found sapphires in a remote and secluded district. Some men who were let into the secret followed him to the mines and brought back to Rangoon and Calcutta a number of very valuable stones. A rush ensued from British Burmah, thousands of adventurers flocking to the mines, some to find sudden fortune, but more to lose their lives from privation and jungle fever.

The mines occur in the provinces of Battambang and Chantaboon. In his commercial report for 1879 the British consul at Bangkok says that the miners are very careful to conceal their gems while in Siam. Being anxious to show some of the gems to Admiral Coote, the consul called for specimens from some miners who had just returned from the diggings. One miner, a poorly clad and miserable looking fellow, produced a few small stones, and after a great deal of coaxing was induced, with many precautions, to give a private view of his great prize, which was a very large sapphire in the rough, valued at \$10,000. He would probably not have shown this stone at all had he not been on the point of leaving in a steamer. Owing to the secrecy thus observed by the possessors of valuable gems, it is impossible to give any estimate of the total value of stones found, but that individuals have made very large profits is certain. One man dug out a stone which he offered for sale in Chantaboon at \$500, but did not find a purchaser. He went with it to Rangoon, where he was offered \$7,500; but, having awoke to the value of the stone, he declined to sell and took it to Calcutta, where he eventually obtained \$15,000 for it. Now, however, there are many experienced gem merchants established in the neighborhood of the mines, and something like the real value of the stones can be obtained by the miners on the spot. The largest sapphire hitherto found, so far as the consul knows, weighed 370 carats in the rough, and when cut turned out 111 carats of the finest water. The ruby, onyx, and jade are also found in the district, but the quality of none of these is such as to make them very valuable.

Pyrethrum for Grain Weevils.

Adjacent to my office is a warehouse filled with wheat. This spring the grain weevils therein commenced to migrate, and infested my premises. We therefore sprinkled some buhach, or insect powder, over the grain, and swept the weevils up literally by the quart. Those which emigrated to my office were also treated with a sprinkling, and it cut short their earthly career.

I am convinced that a judicious use of this powder on board each grain ship would save an immense amount of loss. I have seen it used in one of the largest mills in the

State, and it brought cockroaches out in quantities which astonished even the miller, who little thought he had so many on his premises. A clergyman, a friend of mine, who cannot sleep if a mosquito is within a mile of him, tells me he has only to put a little powder on some burning paper in his room, and there is "perfect peace."—A. T. Elliott, in *American Entomologist*.

Bogus Sugar.

The manufacture and great profits which the makers of glucose are now realizing are described in the following testimony lately given by one of the original producers, in a law suit at Buffalo, N. Y. It would appear from the evidence that the public rather prefers to be cheated, and will pay more for sugar that is not sweet than for the genuine article.

Mr. Horace Williams testified as follows:

"The manufacture of grape sugar from corn was commenced originally by witness and his partner. He invented some of the machinery by which the process was brought to perfection. He obtained patents in order to keep his process a secret. Their firm name was then A. W. Fox & Co. They commenced with two or three hundred bushels a day, and increased this amount gradually to two thousand. This was the amount in 1874. The Buffalo Grape Sugar Company was then organized. There were 200 shares, of which Fox owned 102; witness owned 60 shares, and the balance was held by William Hamlin. Improvements have since been made in the machinery, by which a better article of sugar is made and with greater facility. They first produced crude sugar—used in the manufacture of ale and lager beer, principally ale. The sugar was used in place of malt. At a later date they refined the sugar. Grape sugar also was used, in 1874, by tobaccoconists. As its quality was improved it was used in other branches of business. A large quantity is now used in making sirups for table use. Witness knew there was very little pure cane sirup sold now. The grape-sugar sirup is more wholesome and delicious. Glucose and grape sugar are one and the same thing—glucose being the sugar in a liquid form. When it is called grape sugar it is in a solid form. This is being used considerably in New York in making sugar, making what is called improved sugar. Witness understood that the Buffalo Grape Sugar Company was interested in this mixing of sugars in New York. At the present time the demand for grape sugar exceeds the supply, and the price of it has increased. In 1874 thirty pounds of sugar were made from one bushel or fifty-six pounds of corn. The price was then from 3½ to 4, and sometimes 4½ cents a pound. The refuse is sold for feed, and the price of it was from seven to eight cents a bushel. In mixing sugar the grape sugar is pulverized, and about twenty-five per cent. added to cane sugar. It improves the color of the sugar, and enables dealers to sell it for a better price.

During 1874 and 1875 the earnings were about \$15,000 a month, and in 1876 they averaged from \$19,000 to \$20,000. In 1877 the earnings for one month were \$35,000. Witness did not see many of the statements during 1878. A starch factory was run in connection with the sugar works, about 500 bushels of corn being used in a day. Witness did not know much about the earnings of the starch factory. He was aware that the business was profitable. He understood all of the processes of the establishment, and had charge of the manufacturing of the sugar, glucose, etc. He made estimates from time to time of the cost of turning a bushel of corn into sugar, and in doing so took into consideration the outlays, cost of machinery, building, etc. He estimated it to be about 25 cents a bushel, and the net profit of a bushel of corn, at 45 cents a bushel, when turned into sugar, to be 70 cents. A number of small manufactories have sprung up in this country, but there are only four or five of any account. The amount of corn consumed in 1879 was from 4,000 to 6,000 bushels a day. In some respects it costs less per bushel to run a large amount of corn than it would to consume a small quantity. The net profit per bushel from 1874 to 1879 was from 40 to 50 cents.

Composite Diamonds.

A diamond expert of Chicago asserts that many of the so-called solitaires, sold as single stones, are made up of small stones cleverly put together. Under the blowpipe they separate. He adds the surprising statement that not one diamond in ten sold in this country is other than the refuse of the London market. Nearly all are off-colored, specked, or feathered, and are sold at a fictitious value.

Mr. Whymper among the Andes.

Mr. Whymper, the English mountain climber and artist, writes to a friend in London that, during a forty-one days' excursion north of Quito, the most of the time was spent in tents at altitudes varying from 10,000 to 14,500 feet. Seven days were passed without any shelter whatever. The objects of the trip were the exploration and ascents of Cayambe, Saraurcu, and Cotocachi, and the collection of Inca antiquities. He was accompanied by the two Carrels, the well known Swiss guides. They were entirely successful, though at a somewhat severe cost, being drenched every day and much reduced by exposure and diarrhea. On Saraurcu it rained on one occasion for seventy hours without ceasing for a minute, and for more than six days and a half out of seven consecutive ones. He found Cayambe to have a height of 19,200 feet, Saraurcu 15,600, and Cotocachi 16,200 feet. The ascent of the highest mountain gave least trouble,

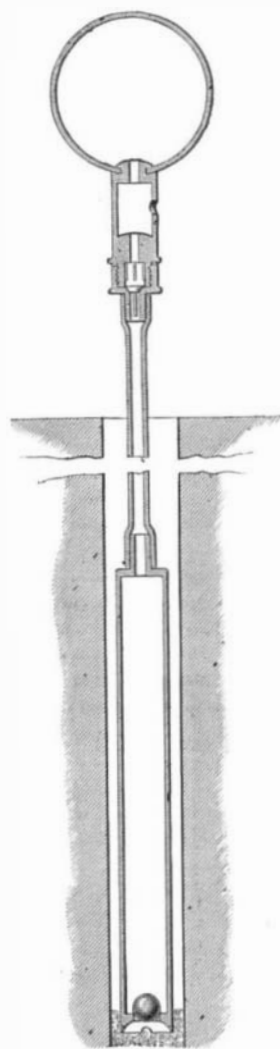
and the lowest one gave most. He waited for fourteen days before he could see it, as it is almost perpetually enveloped in mist.

The Best Vehicle.

An anecdote is told of a physician who was called to a foreign family to prescribe for a case of incipient consumption. He gave them a prescription for pills, and wrote the direction: "One pill to be taken three times a day, in any convenient vehicle." The family looked in the dictionary to get at the meaning of the prescription. They got on well until they got to the word vehicle. They found "cart, wagon, carriage, buggy, wheelbarrow." After grave consideration they came to the conclusion that the doctor meant the patient should ride out, and while in the vehicle he should take the pill. He followed the advice to the letter, and in a few weeks the fresh air and exercise secured the advantage which otherwise might not have come.

PNEUMATIC DRILL-HOLE CLEANER.

A simple device for removing drillings from drill holes is shown in the accompanying engraving. A tube having



Drill Hole Cleaner.

a ball valve at its lower end is connected at its upper end by a flexible tube with a hollow rubber ball, having a metallic neck containing a check valve, and having a small air hole in one side to be closed by the finger. The tube is inserted in the hole to be cleared of drillings; the rubber ball is compressed, and the air hole is closed by the finger. The ball being released, a partial vacuum is formed, and the external air pressure forces the drillings into the tube. The operation may be repeated several times before removing the tube, if necessary. The tube is emptied of drillings by pushing up the ball valve. This invention has been patented by Mr. J. L. Prentiss, of Cañon City, Col.

Operations at Flood Rock.

In the government operations for the removal of Flood Rock, Hell Gate, East River, about one hundred and thirty men, in three sets, who relieve each other every eight hours, night and day, six days a week, and the work of making the East River practicable to ships of the largest class, is progressing rapidly. The area of rock to be undermined and blown away is between five and six acres, in addition to about three acres that have already been mined and made ready for the great explosion that is to give New York from twenty-six to thirty-two feet of water at low tide from Blackwell's Island into the Sound. The width of the channel at Flood Rock now is 600 feet; after the rock has been blown away it will be 1,200. It is believed that the velocity of the tide at Hell Gate will be decreased by the destruction of Flood Rock.

A Clever Trick.

The *Japan Mail* describes a clever trick which was being exhibited by a native juggler at Joshida-bashi. The performance takes place in a small room about twenty-six feet long by twelve feet wide, half being allotted to the spectators, who are admitted on payment of the moderate fee of two cents. The "properties" consist of a deal table and a sword, etc. After the usual soul-stirring flourish on a drum and samisen, a man and woman appear from behind a screen, the man binds the woman's head in a cloth, and she then kneels down close to the table, and sideways to the spectators. The man then draws the sword, makes a violent blow at the woman's head, she falls forward, arms extended and limbs twitching. He then, having first wiped the sword on a gory-looking piece of rag, takes up (apparently) the woman's head, wrapped in the cloth, and places it on the table. To all appearance it is a human head, the eyelids and features have a convulsive motion; presently the eyes open in a dreamy sort of way, and, to the accompaniment of the everlasting samisen, the head sings a mournful song. A curtain is interposed between the audience and the performers, and when again drawn back the woman is disclosed quietly seated alongside the man. When it is recollected that this all takes place within about three feet from the spectator, and that the "properties" are of the simplest description, some idea may be formed of the wonderful excellence of a performance which has excited attention.