

must be light and delicate, so as not to interfere with the coming dinner. If there are biscuits, they must be dry and crisp, the bread must be as thin as a wafer, and the butter the best—preferably sweet. It may be flavored with roses, new mown hay, violets, cloves or nasturtiums, the latter being the most accessible at this season. A few hours before serving wrap the butter in a clean napkin, and lay among the flowers whose odor is to be impregnated. Chocolate wafers are always popular, or sandwiches made with some delicate filling, candied violets, crystallized orange leaves, chestnuts boiled and made into a paste, peanuts, nasturtium leaves, a paste of dates, or lettuce, crisp and white, moistened with mayonnaise. The sandwiches may be round, triangular or square, but dainty. Orange Pekoe is one of the favorite teas, with its orange or jessamine flavor. The linen may be plain or elaborate, as the purse allows, but must be spotless; the kettle shining and the cups clean. While the tea is usually served hot, tea punch, or cold Russian tea, is also in order for the 5 o'clock tea. An excellent recipe for tea punch is this, given by Mrs. Gillette, instructor in cookery at Pratt Institute:

To the juice of three lemons and three oranges add the pulp and juice of one pineapple, shredded, and one pint of sugar. Let it stand until the sugar is dissolved. Take one tablespoonful Ceylon or any strong tea, and one quart boiling water. Pour the water over the tea and let it stand until cold. Strain and add to fruit, pulp, and juice with one quart Apollinaris water and one box fresh strawberries or raspberries used whole. Pour over a block of ice in punch bowl.

Although cupping does not play as prominent a part in the therapeutics as of yore, it is frequently of value in certain troubles connected with the spine, lungs or kidneys. It is not a difficult operation, when one knows just how. The materials necessary are several cups or glasses, with smooth rims, a saucer of alcohol, a spirit lamp and plenty of soft towels. Have the cups perfectly dry, and wipe out with a sponge of cotton fixed to a wire and wet with alcohol. Set the sponge on fire, and turn quickly in one of the glasses to produce a vacuum, and put at once over lungs or kidneys, wherever needed. As soon as the surface is reddened and the skin rises, that is sufficient.

An excellent, old-fashioned remedy for the disagreeable tickling sensation in the throat, so common at this season, is a syrup of vinegar made rather thick with sugar, and seasoned with as much cayenne as can be borne with equanimity.

Grapes may be kept almost indefinitely in cold storage. The clusters should be cut carefully from the vine, looked over, to see that no broken or stung grape mars their fair symmetry, then each bunch wrapped separately in cotton, then in paper, or well surrounded with cork shavings or sawdust, to absorb the moisture. The point is to keep them cool and dry.

To remove wine stains, sprinkle well with salt, moisten with boiling water, then pour boiling water through until the stain disappears.

EMMA PADDOCK TELFORD.

#### SCIENTIFIC MISCELLANY

One of the most elaborate applications of the "penny-in-the-slot" idea is to be seen in a Berlin restaurant. This is a handsomely fitted-up establishment, supplying several articles

of food and various drinks at counters running along the sides of the room, and serving everything automatically when the proper coins—which are plainly indicated for each article—are deposited. The articles of food are seen in plates behind glass panels. The depositing of the coin causes the plate to be lowered to the counter, within reach of the customer, while another plate moves forward into position for the next comer. Any drink selected is similarly supplied, a glass being first taken from a peg, rinsed in a jet of water, and placed under the tap, which automatically measures out just a glassful. The visitor finds the place cleanly and attractive, with every facility for helping himself, and tables at which he may stand or sit while eating.

The experiments of Dr. Folgeraiter have shown that the magnetic "dip" of terra cotta vases may help to fix the date of the vases, or conversely, may give the earth's dip for that place and period. There are no records of magnetic dip earlier than 1576. Since then it reached a maximum of 74 degrees 42 min. in Italy in 1720, then gradually diminished to the present value of 67 deg. 30 min., while the vases examined indicate a dip towards the South Pole about the eighth century B. C. It is now suggested that fires and volcanic eruptions of known date may have left magnetic records. For example, the brick walls of the council hall of the ducal palace in Venice, burned in 1575, should be examined for traces of remanent magnetism, and substances at Herculaneum may be expected to have retained magnetism imparted by the lava in the direction of the earth's dip at the date of eruption.

Close connection is traced by H. Lugin between photo-voltaic currents set up in silver salts and the decompositions giving photographs.

A difficulty encountered in the preparation of foundation for the Paris International Exhibition of 1900 is the character of the banks of the Seine, which are formed of stone and earth filling, resting on fine sand easily washed out during periods of flood. This difficulty is being overcome by a new system, devised by M. Louis Dulac. Wells about 2½ feet in diameter, spaced about 6 feet between centers, are sunk to varying depths down to about 50 feet by means of a special pile driver, having a boring weight of conical form, and these wells are filled with lime and cement concrete, which is rammed hard by a second weight of different form. This process forms a series of monolithic columns anchored into the ground, the concrete spreading to some extent into the sides of the wells. In his first experiments with this system, the inventor was enabled to construct buildings exerting a load of nearly four tons per square foot on ground that previously would not carry a tenth as much, and a later building weighing about eight tons per square foot was paced on land where the first fall of the boring weight had thrown up a jet of semi-liquid mud to a height of thirty feet.

The Swedish waterfall of Kraengede, the most powerful in Europe, is estimated at 160,000 horse power. Dr. Gustave de Dalval, the inventor of the famous turbine, and M. Gin, the inventor of the process for making rubles, are arranging to put to work this enormous store of long-wasted energy. For what? is asked by M. F. Laur. This writer disposes of the matter by assuming that a few thousand horse-power will be needed for aluminum, carborundum, and sodium, but that on pupies, carbide of calcium, cerium, the most plausible hypothesis, from 140,000 to 150,000 horse power will be used for iron-making. As

it has been found practicable to obtain electrically 20,000 tons of iron a year with 1,000 horse-power. The falls of Kraengede can throw on the market 3,500,000 tons of iron or steel. "What an avalanche! and how all our plans may be turned upside down by it!"

In the streets of Portsmouth, Eng., each of 240 lamp posts is provided with both an arch and an incandescent lamp. It is designed to use the weaker light at hours when the other is not necessary, and an automatic switch on each post enables the operator at the central station to extinguish instantly one set of lights and light the other set.

Double trees are worshipped in India as divine. Of these curious freaks, which are two trees—usually of different species—that have become accidentally united, M. Hector Levelle mentions four examples now to be seen. In each case one of the trees forming the union is a fig, the adventive roots let down by this tree from its branches seeming to play an important part in causing the plants to become joined. In the principal street of Vellore a *Melia Azadirachta* is completely surrounded by a *Ficus religiosa*, attracting much venerative attention; at Courtallum a *Borassus flabelliformis* is entirely imprisoned by a *Ficus Bengalensis*; in the colonial garden of Pondicherry, a *Ficus Bengalensis* letting fall its roots—destined to be transformed into trunks—from the top of a palm tree, the *Caroyta ureus*, gives an exact idea of the process of growing together; and at Colombo a *Borassus* is closely held at its base in a *Ficus*. The effect of a palm surrounded by a fig and apparently growing from it is very singular.

Timber used in mines is subject to decay from various causes, such as warm, moist air; but the most serious cause, according to a paper by Mr. J. Bateman to the British society of mining students, is the chemical action set up by the cotton mould fungus. This fungus is the white, fluffy material seen clinging to timber, especially in return-air ways. Various methods of protecting the timber have been tried, such as trickling water over it constantly, steeping in brine, charring the surface, and creosoting. The last is the most effective. The timber is placed in a wrought-iron cylinder, the air is pumped out, and creosote is forced in to a pressure of 100 pounds per square inch. Pine, fir, etc., absorb ten to eleven pounds of creosote per cubic foot, and oak and other hard woods about six pounds.

The number of minor planets known between Mars and Jupiter now considerably exceeds 400, of which M. Charlois of Nice has discovered 86, while Herr Palisa, the Austrian astronomer, has detected 83. The magnitudes of the first 400 of these planets have just been tabulated by Herr G. Huper. All are telescopic, only two being brighter than the eighth magnitude, while of the later discoveries—the second 200—nearly all are of the twelfth magnitude or smaller.

#### SUNDAY SERVICES.

Elder Charles W. Penrose of the Stake presidency, presided over the services at the Tabernacle Sunday afternoon, Oct. 10, 1897.

The choir sang the hymn:

"Though deep'n'g trials throng your way,

Press on, press on, ye Saints of God."

Prayer was offered by Elder John Kirkman.

The choir further sang:

"Behold the great Redeemer die

A broken law to satisfy."

Elder Orson F. Whitney addressed