

MEDICAL NOTES.

Copaiba in Croup.

If the following remedy should prove a universal one, the saving of young life would be enormously increased:

Drs. Miller and Lincoln, in the "Transactions of the Medical Society of the District of Columbia," vol. I., No. 1, relate several cases of croup cure by balsam copaiba, and refer to many others. Dr. M. had used copaiba extensively in croup for 30 years, and had before spoken of its efficacy, in the Society. He was in the habit of placing a vial of the balsam in possession of all his patients whose families were subject to croup, directing them to take doses of 20 or 30 drops before sending for medical aid. The result was that, while he was formerly frequently called out at night to attend croup cases, he was then but seldom annoyed by similar calls. So great was the faith of his patients in this remedy that he had often been applied to for his so-called croup medicine. It was especially valuable in the early stage. Dr. Lincoln had never seen copaiba fail if given in the first stage of the disease, and had derived great benefit from it in every period of the complaint. He thought the remedy of great use, even in the pseudo-membranous form of croup. His dose was one drachm which gave prompt relief.

Guarana in Chronic Rheumatism.

Dr. Edward A. Rawson, assistant surgeon to the Carlow Infirmary, says: "Suffering severely from lumbago, and finding all vaunted remedies fail, I tried guarana as an experiment. I took 15 grains in hot water, with cream and sugar. For 24 hours afterwards I had a delightful relief from pain. On the return of the lumbago, I took another dose in the same manner, and with a similar result. I gradually increased the dose to 40 grains, and took it regularly once a day for about a week. The lumbago disappeared. I gave up the guarana, and in a few days the pain in the back returned. A 40 grain dose removed it, and it did not return for several days. Whenever it does, I have my remedy at hand." Dr. Rawson goes on to say that he has tried guarana with a variety of patients, rich and poor; and if the pain is acute, coming on with sharp stings, guarana acts like magic; when it is of a dull, aching character, the drug is slower in its action, and several doses must be taken before any decided benefit can be perceived. He comes to the conclusion that, whenever the fibrous envelopes of nerves, the aponeurotic sheath of muscles, or the fasciæ or tendons are the parts affected, guarana gives either instantaneous or speedy relief, which will last from 12 to 24 hours; and he thinks that perseverance in the use of the drug, gradually increasing the dose to 40 grains, will finally entirely remove any of the above named kinds of rheumatism. Guarana was examined by Martius in 1829, and by Gravelle in 1840. They declare that it stimulates and at the same time soothes the gastric system of nerves, diminishes febrile action, and strengthens the stomach and intestines, particularly restraining any excessive mucous discharges; at the same time increasing the action of the heart and arteries, and promoting diaphoresis.

This medicine is a preparation of the seeds and juice of the *Paullinia sorbilis*, a Brazilian plant, of which wonderful stories have been told by travelers. Its effects appear to be various, some of them similar to those of tea and coffee in stimulating the nervous system. The Indians consider it a specific for bowel complaints. Dr. Gravelle found it advantageous in the diarrhoea of phthisis, sick headache, paralysis, tedious convalescence, and generally as a tonic. Dr. Ritchie recommends paullinia in irritation of the urinary passages. Dr. Herve never failed to derive benefit from it in the most obstinate cases of idiopathic diarrhoea. It cures both headache and neuralgia by restoring the tone of the gastric membrane, and removing all pains caused by irritation of the stomach. Though not an astringent, its peculiar action renders it a most valuable agent in all affections of the bowels, whether simple or chronic diarrhoea, dysentery, or choleraic discharges. In France it has cured attacks of cholera when the evacuations have been at the rate of 30 an hour. It is also said to be prompt and certain in dysentery, curing the very worst cases. From all appearances, no new medicine rivals it in value.

An Ingenious Substitute for the Hypodermic Syringe.

In the *Edinburgh Medical Journal*, Dr. John M. Crombie, states that many medical men are often deterred from using morphia hypodermically on account of the expense of the syringe, and the pain they cause the patients. To avoid these, he advises the use of small threads coated with morphia and passed through a fold of the skin by fine needles. The threads may vary in strength from one sixth to one grain of morphia.

Diabetes.

Dr. O. Schultzer claims great success in the treatment of diabetes under the free use of glycerin, internally, with citric acid, and abstinence from starchy food.—*New Remedies*.

Diastase as a Digestive Agent.

The substance here named, says Dr. Collens C. Hunt, in the *Physician's Monitor*, which is believed to be new as a remedial agent, was first employed by William Elmer, M. D., of New York, who has given it a fair trial for a year or two, with most gratifying results. It not only aids in the digestion of starchy food, but seems to impart vigor to the digestive functions generally, and through this action supplies energy to the brain and nervous system. For some of the worst forms of indigestion, the use of diastase has had the effect, in particular, of producing the most tranquil and refreshing sleep, and that where, previously, satisfactory sleep had been almost unknown. This result is attributed

to the digestive power of diastase more than to any other property it possesses. Diastase may be given in the form of a sirup or in lozenges. The dose is from 1 to 2 grains directly after each meal. The sirup should be prepared with glucose rather than with cane sugar; but any sirup has the great objection that it is required to be kept cold, or the diastase is liable to turn sour.

Iron Purifies Water.

Almost all large water pipes are of iron, as tax payers well know when they are called upon to replace the old rusty mains with new ones every few years. But, according to good chemical authority, the iron has an advantage with its defects. Professor Medlock proved by analyses, several years ago, that iron by its action on nitrogenous organic matter produces nitrous acid, which Muspratt called "Nature's scavenger." The latter chemist found, as a general result, that, by allowing water to be in contact with a large surface of iron, in about 48 hours every trace of organic matter was either destroyed or rendered insoluble, in which state it could be purified effectually by filtration. Medlock found, on examining the water at Amsterdam, which smelt and tasted badly, that the sediment charred on ignition, and was almost consumed, showing that it consisted of organic matter. He also found that, instead of taking iron from the service pipes, the water before entering those and an iron reservoir contained nearly half a grain of iron to the gallon; while in the water issuing from the pipes, there was only an unweighable trace. Before entering the reservoir, the water holding iron in solution formed no deposit; while the water coming from the pipes and freed from iron gave the organic sediment above mentioned. He then made analyses of water brought in contact with iron, and water not in contact, with the result that the water which had not touched iron contained 2.10 grains of organic matter, and 0.96 grain iron; the other gave only a slight trace of both, showing plainly that the organic matter in the water was either decomposed or thrown down by contact with iron; and this water, when filtered, was found to be clear, of good taste, with no smell, and free from organic matter. It is not stated in what shape the iron was held in solution, but it was probably in that of carbonate, the usual iron salt of springs, since carbonic acid is so common in water in general. These facts may be made useful in certain places and ways in effecting the purification of water rendered injurious and offensive by the presence of organic substances. And if the interiors of iron mains could only be kept from rusting by a swabbing with nitric acid, or by a paint of charcoal and plumbago, so much the cheaper.

SCIENTIFIC AND PRACTICAL INFORMATION.

MANGANESE IN SEEDS.

A chemical analysis made of seeds known as tapayons, which were brought to France by a missionary from China, has revealed the remarkable fact that the ash contains 17 per cent oxide of manganese, 14 per cent of magnesia, and 12 per cent of lime. This amount of manganese is much greater than is recognized in the leaves of the beech tree or in any other vegetable.

COPPER, A PREVENTIVE OF CHOLERA.

M. Burg, in a recent memoir to the French Academy of Sciences, states that workers in copper are never attacked by cholera, while the operatives whose labor in other metals is of similar character form no exception. This fact has not only been observed in France, but in Italy, Russia, Sweden, Spain, and Turkey. M. Burg concludes that copper acts as a protection against the disease, and advises the use of salts of the metal as a preventive medicine.

SCIENTIFIC MARKETING.

There is Science in this last attempt of our transatlantic cousins at household financiering, a great deal more Science than is necessary to accomplish that timeworn desideratum of making two blades of grass grow where one before flourished. By an ingenious little transfer of checks and bonds, a man may get his daily bread for nothing and be paid besides. A company sells tickets to a tradesman at a premium of five per cent of face value. Then the latter hands these over to his customers in quantities equal in amount to the cost of the goods bought, allowing the 5 per cent for ready cash. Then when the customer gets \$25 in tickets, he goes to the company and receives a \$25 bond in exchange. Meanwhile the tradesman's 5 per cent is put out at compound interest, and the profits accruing enable the company to make their own profit and besides pay off the bonds by ballot. Consequently, the customer not only eats his cake but more than has it too, for his whole expenditure is returned with interest.

SONOROUS SAND.

The *New York World*, in a report of a scientific meeting in San Francisco—the name of the association is not stated—gives an account of a very curious property of sand which is found in a large drift on the Island of Kanai of the Hawaiian group. The bank is about sixty feet high, quite steep, about one and a half miles long, and extends parallel with, at some hundred yards from, the beach. If, at the extreme south end and for half a mile north, two handfuls of the sand be slapped together, there is a sound produced like the low hooting of an owl—more or less sharp, according as the motion is quick or slow. Sit down upon the sand and give one hand a quick circular motion, and the sound is like the heavy bass of a melodeon. Kneel upon the steep incline, extend the two hands, and clasp as much sand as possible, slide rapidly down, carrying all the sand you can, and the sound accumulates as you descend until it is like distant

thunder. In this experiment the sound was sufficient to frighten horses, fastened a short distance from the base of the drift. But the greatest sound produced was by having one native lying on his belly, and another taking him by the feet and dragging him rapidly down the incline, carrying as much sand as possible with them. With this experiment the sound was terrific, and could have been heard many hundred yards distant. With all the experiments that were made, it seemed that the sound was in proportion to the amount of sand put in motion with a proportionate velocity. Another consideration seems requisite—that is, its perfect dryness. The dry sand would sound on the surface where six inches beneath it was wet; but if any of the wet sand became mingled with the dry, its property of sounding ceased at once. The sand appears to the eye like ordinary beach sand, but ordinary beach sand will not produce the sounds. It has been said that it lost its sonorous properties when taken away from the bank, but no diminishing of its sonorous qualities, even with the bottle uncorked, was noticeable.

OUR NEW GOLD REGION.

The practical results of General Custer's expedition in southwestern Dakota are beginning to appear. This hitherto unknown region, as far as entered, has proved to be covered with magnificent timber and grazing, superior even to the famous Blue Grass country, in Kentucky. The valleys are admirably adapted to agricultural purposes, and the scenery is said to be lovely beyond description. In addition to these natural advantages of the country, gold, it is stated, is being found in great profusion, though no official investigation as to its richness has thus far been made. Veins of what geologists term "bearing quartz" crop out on every hillside, and from forty to fifty particles of pure metal, each as large as a pinhead, have been taken from the washings of a little over a single pan of earth. If the further reports from the expedition prove as satisfactory as this first one, another gold fever and rush of emigrants to preëempt land will be very probable.

RAW HIDE BELTS.

In driving centrifugal sugar machines, Mr. J. Mason, of the Island of Bardadoes, found the use of the ordinary leather belts to be troublesome and expensive. He, therefore, substituted belts of raw cow's hide, simply dried in the sun, cut perfectly straight, and the joints, square and even, stitched with saddler's hemp thread. He states that in practice, a belt of this description, will last four times longer than, and cost only one fourth as much as, a leather belt. He uses an 8 inch belt of this kind, to drive a line of 3 inch shafting, from which 2½ inch belts drive the sugar machines.

Carbonic Acid as a Motor.

The possibility of employing carbonic acid as a motor—the successor of steam, as it is termed by the author—is foreshadowed by a paper by Dr. H. Beins, published in the *English Chemical News*. The writer considers that he has discovered a very cheap way of producing carbonic acid in a liquid state and consequently at high tension. When sodium bicarbonate, or the corresponding salt of kalium, in a dry, pulverized state or in a watery solution, is heated in a closed space, a part of the carbonic acid is given off and condensed in a non-heated portion of that space, so that, at a temperature of from 636° to 843° Fah., liquid carbonic acid, says Dr. Beins, can be distilled out of those salts, with a tension of from 50 to 60 atmospheres. This liquid carbonic acid, or "carbolem" as it is called, is proposed to use to develop gas with which engines are to be driven. The paper on the subject contains a dissertation on the advantages of the plan, but gives so few details regarding its practical application, or with reference to the manufacture of the carbolem or liquid carbonic acid, that the gist of the matter is summed up in the above lines.

Sulphur in Iceland.

Dr. Blake gives a full and clear description of the vast deposits of sulphur occurring in Iceland, and points out the necessary steps for its utilization. For its shipment he recommends the port of Husavik, which is accessible all the year round, and which is situate very near to the sulphur beds of Lake Myvatn, Krabla, and Reykjahlid. The mines are not only rich and extensive, but easily worked. The sulphur can be supplied at half the cost of that furnished by the Sicilian mines, which it is believed will soon be exhausted. The earth impregnated with sulphur contains from 50 to 60 per cent, and is from three to six feet in thickness. Vapors arising from the interior of the earth continually deposit fresh supplies.

A Gigantic Grain Elevator.

The New York Central and Hudson River Railway Company is now building at the foot of 60th street, on the Hudson River, in this city, a grain elevator, capable of holding from 1,000,000 to 1,200,000 bushels of grain. This elevator will be used principally for storage purposes for the grain brought on in the company's cars, and intended for transference to sea going vessels and canal boats.

ANNATTO.—In the two French colonies of Martinique and Cayenne, there are more than six thousand acres under culture with annatto (*bixa orellana*), the annual produce being three million pounds. Although French Guiana has nearly five times the extent of land under culture with this plant that Guadaloupe has, it only produces about two thirds of the whole quantity. The production of annatto now exceeds the demand, as no fresh use has been found for this coloring substance, unless it is the manufacture of suet butter. Annatto is used to give the yellow color of true butter.