

## Scientific Items.

**Fried Salsify.**—The root cut crosswise in halves or shorter, is boiled until quite tender; remove from the water and allow to drain. Dip each piece in batter and fry quickly in plenty of hot lard, to an even light brown.

**Salsify Fritters.**—Boil tender and mash fine. Mix with beaten eggs and flour, thin enough to drop from a spoon and fry as other fritters. Some prefer to mix hard enough to make into balls, and fry with very little fat, browning one side at a time.

—*Agriculturist for February 1.*

### HOW BEST TO REMOVE WARTS?

This question was discussed at the last meeting of the Conn. Board of Agriculture, one gentleman said a large wart on the udder of his heifer prevented her being milked. He was recommended to apply grease or oil, at frequent intervals. Boiled linseed oil has been thus used with good results. In one case mentioned, a number of large warts were removed from various parts of a horse by bathing them in a weak solution of potash. When warts are small at the base, they may be removed by a string frequently tightened—"tied off" as it is sometimes called. Warts are more frequent and abundant on young than old animals. They often disappear very quickly and without any application. The methods for curing human warts would make a very curious list, exhibiting many strange and fanciful whims.—*American Agriculturist.*

## Notes and Clippings.

THE practice of starting the fires of locomotives, with gas instead of wood, is now, we learn, adopted to a considerable extent in Germany, *e. g.*, on the Royal Eastern Railway, at Berlin, it proves economical. The apparatus of Herr Siegert is there used. It consists of a horizontal tube, and several vertical tubes with burners. Each vertical tube has a nozzle in which the gas mixes with air drawn in laterally, before issuing at the copper burners. The lighting of the anthracite coal on the grate is done in 10 to 20 minutes, according as the gas pressure varies between 20 and 15m. The method is as follows: In a gap between the bars is inserted from below an iron plate the length of the system of burners, and so that it projects 100mm. above the grate surface. Then three or four shovel-fulls of dry coal-pieces about the size of one's fist are placed about the plate, and the rest of the grate-surface is covered 100 to 150mm. high with coal. Then the plate is drawn out, and the system of burners put into its place; 300 litres of gas lights the coal sufficiently. In the course of 30 to 45 minutes, according as the locomotive was previously warm or cold, the burning coal is pushed apart, so that the fire may extend as quickly as possible over the whole grate. The gas is conveyed to the burner apparatus through a tube of caoutchouc from a small gas-holder, and the pressure can be easily varied at will. The apparatus is supplied by Pintsch, of Berlin, at the price of 65 marks (say £3 5s.) An improvement introduced by Siegert in his apparatus consists in doing away with the nozzle of each burner, and producing the mixture of gas and air by means of a single nozzle in the connecting pipe.

A NEW mode of propelling vessels has been described to the French Academy by M. Grandt, who says he has constructed apparatus for the purpose. The principal agent is electricity. The ordinary steam-engine is set to drive one or more electro-dynamic apparatus. The current is sent through a voltmeter containing acidulated water. The oxygen and hydrogen arising from decomposition are led, in a tube, fore or aft, in the boat, according to the direction in which it is desired to go. They escape by an aperture in the hull, a little above which aperture are two insulated platinum points, giving passage to an induction spark. The explosion thus caused propels the boat.

A NEW hydraulic ship has been built in Germany, and on her trial recently accomplished excellent results. More than 200 years ago a method of propelling vessels by expelling water from the stern received some recognition; but all attempts to obtain high speed have failed. A new method is based on the assumption that the propelling force depends on the contact of surfaces, and not on the sectional area of the flowing mass, so a number of tubes with narrow outlets are used instead of one large tube.

IT is a curious fact, lately noted by M. Doughty, that if boiling-water be projected on an incandescent surface, its temperature falls at once to 97° C. He is of opinion that this is due to work expended in production of the spheroidal state.

**BUSINESS ON THE SUEZ CANAL.**—It is reported that the traffic returns of the Suez Canal Company for October show the receipts to have been \$628,000, against \$439,919 in the same month of 1879. In the first ten months of the year the increase is from \$4,865,058 to \$6,633,660. The tonnage at the end of September amounted to 3,288,851 tons, and as the traffic is most active during the last three months of the year, it is believed that the tonnage by the end of December will easily exceed 4,000,000 tons. M. De Lesseps, in his argument for the canal in 1855, wrote: "It might be argued without exaggeration that almost the whole of the freight to the East will take the route of the canal." The estimates, however, were not based upon that presumption, and De Lesseps presumed that but half the shipping would pass through the isthmus. He therefore estimated the amount of tolls to be earned on 3,000,000 tons.

**HOOSAC TUNNEL LIGHTED BY ELECTRICITY.**—Experiments with electric light in the Hoosac tunnel have proved that a light can be thrown strong enough to do track work within the tunnel, free from smoke, and the men working at from 500 to 1,000 feet from the light. With the tunnel choked with locomotive engine smoke the light penetrated the smoke, as nearly as could be judged, 10 times as far as that of the ordinary oil headlight. The tunnel is to be lighted within a few days by 12 electric lights, using a turbine wheel at the east end of the shop for motive power. The wire to be used for connecting the lights with a dynamo machine is a new process or patent, and is, we understand, the invention of Prof. George Mowbray, North Adams, a successful man with nitro-glycerine.

**THE ENGLISH CHANNEL TUNNEL.**—The French Government has extended for three years the concession for the preliminary work on the proposed Channel tunnel to connect England and France. The original concession was made in 1875, for five years. So far all the geological evidence, and especially that derived from the experimental borings, has proved to be highly satisfactory. It is questionable, however, whether in the event of a favorable termination of the preliminary work, it would actually be undertaken exclusively by private enterprise, by reason of its enormous costliness. In such an event, doubtless the two governments interested in its execution will be asked for, and will grant the enterprise, substantial assistance.

**A LECTURE EXPERIMENT.**—The decomposition of steam by a red-hot iron is often shown as a lecture experiment. Dr. Henry Leffman, of Philadelphia recommends the substitution of magnesium for iron. About a yard of the ordinary magnesium ribbon is so placed in a hard glass tube that the metal touches the glass in a number of points. One end of the tube is drawn out into a pretty wide jet, and the other is attached to a flask of water. Steam is produced, and after the air is expelled the metal is heated at the extreme end until it takes fire. The escaping hydrogen may be lighted at the jet. The experiment, besides being a striking one, is interesting as showing a body acting as a supporter of combustion, and becoming itself converted into a combustion.

**A CURIOUS EXPERIMENT IN MAGNETISM.**—M. Obalski describes a pretty magnetic curiosity to the *Academie des Sciences*. Two magnetic needles are hung vertically by a fine thread, their unlike poles being opposite one another. Below them is a vessel containing water, its surface not quite touching the needles. They are hung so far apart as not to move toward one another. The level of water is now quietly raised by letting a further quantity flow in from below. As soon as the water covers the lower ends of the needles they begin to approach one another, and when they are immersed they rush together.

**CEMENT FOR MARBLE.**—Sift plaster of Paris through muslin, and mix with shellac dissolved in alcohol or naphtha. As soon as mixed apply quickly, and squeeze out as much of the composition as possible, wiping off that which squeezes out before it sets. The cement will hold better if the parts to be joined be roughened by a pointed tool before cementing, which can be done without destroying the edge of the fractured part.—*Monthly Magazine.*

**HARDENING GLUE.**—The only thing that will render glue perfectly insoluble is bichromate of potash. If you add a little of this in solution to the glue and after applying the glue to the article expose it to the sunlight, it will become insoluble, even in hot water. Better expose for a good while, say an hour or so, to make sure that all the glue has become insoluble.