

We have tried Mr. Borden's extract, and find that it makes a palatable and nutritious beef tea. It is recommended by the Boston *Medical and Surgical Journal*, and other medical authorities of the highest respectability, for the use of invalids.—*Scientific American*.

The French System of Weights & Measures.

The last monthly report of the Agricultural Department has an exceedingly able article on the French system of weights and measures, in which the opinion is expressed that a law will be passed, by the present Congress, making this the only legal system of the country, but allowing eighteen months or two years preparation for the change.

It takes a man or child from five to fifteen minutes, to learn this system thoroughly, and we have no doubt if every Member of Congress would devote the very little effort that is required to master the system, it would be immediately adopted by an almost unanimous vote, and that a much shorter delay than eighteen months would be allowed before it should go into operation. It could be taught in all the public schools in a single day, and the adults among our people—nearly all the graduates of public schools or of higher seminaries—could learn it as easily in a week as they could in eighteen months, or in eighteen years.

What is there of it to learn? Simply four units—the unit of length, the unit of weight, the unit of capacity, and the unit of area. The unit of length is the meter, a little more than a yard, about $39\frac{1}{2}$ inches; the unit of weight is the gram, about $15\frac{1}{2}$ grains; the unit of capacity is the litre, about $1\frac{1}{2}$ pints, and the unit of surface is the are, equal to 100 square meters. Besides a knowledge of these units, it is only necessary to know that the system is decimal, like that of our money. The other quantities are obtained by multiplying or dividing these units by 10, 100, 1,000 or 10,000. A length of 10 units is called a decimeter; a length of 100, a hectometer; a length of 1,000, a kilometer; and a length of 10,000, a myriameter. The multiples of the other units are expressed by the same prefixes; for instance, a weight of 10 grams is called a decagram; of 100, a hectogram; of 1,000, a kilogram; and of 10,000 a myriagram. It will be seen that these prefixes for the multiples are taken from the Greek numerals; those for the fractions of the units are derived from the Latin numerals; for instance, a tenth of a meter is called a decimeter; of a hundredth a centimeter; a thousandth a millimeter.

A child will master the whole system in very little more time than is required to commit to memory the table of avoirdupois weights. Let Congress pass an act declaring that, after the first of January, 1867, the French system of weights and measures shall be the legal system of the country, in one month it will be thoroughly taught to all the children in our public schools—every newspaper in the country will publish it—long before the year expires our people will be thoroughly prepared for it—and before the expiration of another year, there will be a general expression of wonder that we endured the enormous labor and inconvenience of our old complicated and incongruous system as long as we did.—*Scientific American*.

London "Pneumatic Dispatch" Railway.

"The formal opening of the first portion of the tube which is to connect the General Post-office with the terminus of the London and North-western Railway took place yesterday. Four waggons with goods passed from Euston Square to Holborn, and its arrival at the company's premises at the latter place was watched by the gentlemen present. Afterward a number of them were conveyed in the waggons to the Euston terminus, thus testing the capabilities of the service, although the journey was a little uncomfortable, the wagons not being fitted for passenger traffic. Tarpaulin coverings were obtained for one or two of the carriages, but the greater number of the excursionists had to fit themselves in as best they could among the bags of shingle, taking care to keep their heads well below the edge of the carriages, lest, as an American gentleman present was credited with saying, 'they might get their hair brushed by machinery.' The first sensation at starting, and still more upon arriving, was certainly not agreeable. For about a quarter of a minute in each case there was a pressure as on the ears, suggestive of diving-bell experience; suction like that with which one is drawn under a wave, and a cold draught of wind upon the eyes, having almost the effect of falling water; but once fairly within the tube, these sensations were got rid of, or left behind, and the motion had little more positive discomfort about it than would be attendant on riding on a 'lorry' over the worst ballasted line in England. It was a curious sensation to be flying horizontally through the earth—feet foremost, in utter darkness, for the best part of ten minutes, which in that place seemed half an hour, knowing that to the right and left of you there were gas-pipes, water-pipes, drains, cellars, roots of trees, and all the intricate fibres of the London sub-soilway; that nearer again to you was an arch which you might touch at your peril, and that of all these you could absolutely see nothing. The conventional horrors of rats and catacombs troubled one little, seeming out of place beside this latest effort of human invention or audacity."—*London Engineer*.

Thermo-Electric Battery.

A thermo-electric battery, of much greater power than it has hitherto been thought possible to obtain by heating dissimilar metals at the point of junction, is now in daily use in one of the lectures of Mr. King, at the Polytechnic Institution. It is the invention of an Austrian engineer, who has had several honors conferred upon him for having brought his researches to such a successful result. The bars of metal in the battery consist of two alloys, one containing a large proportion of anti-mony with a little bismuth and zinc, and the other the same proportions of bismuth and zinc, with a very large admixture of copper. The pairs of bars are mounted on a frame, and the metals heated at the point of junction by a row of jets, burning a mixture of gas and common air. Instead of the feeble—almost inappreciable—effects of all earlier thermo-electric batteries, this one will not only give a long spark with a good induction coil, but will enable an electro magnet to hold a bar of iron with such power that a strong man can scarcely release