

quality of resisting both the action of air and the strongest corrosive acids. He claims also that by adding a small proportion of the birch bark gum to gutta percha or to India-rubber (one-twentieth part will suffice), the durability of the rubber or the gutta-percha will be greatly increased, the new mixture not being acted upon by the air or by acids.

**The Destruction of Trichinae.**

It is commonly believed that ordinary cooking will destroy trichinae and render infested meat innocuous. Without doubt, as has been stated in the daily press, "the encapsulated parasites cannot survive a certain elevation of temperature, and death renders them harmless." Is it, however, correct to say that a "complete means of protection is furnished by the heat incidental to cookery?" Considerable doubt is thrown on this statement by M. Vacher, of Paris, whose authority is of considerable weight. He affirms that the protection given by cooking is quite illusory, and that in the thorough cooking of an ordinary joint of meat the temperature in the center is not sufficient to insure the destruction of the parasite. He took a leg of pork of moderate size and boiled it thoroughly. A thermometer placed within it at a depth of two inches and a half registered, after half an hour's boiling, 86° Fah., after boiling for an hour 118°, after an hour and a half 149°, and after two hours and a half, when the joint was thoroughly cooked, 165°. This temperature M. Vacher maintains is insufficient, and we must remember that at the center, which is still further from the surface than the bulb of the thermometer was placed, the temperature would not be so high. "Trichinae would escape almost entirely the action of boiling water" in cooking. M. Vacher's note was communicated to the Chamber of Deputies, and, no doubt, has influenced the decision of the French Government to prohibit entirely the importation of American pork.—*Lancet*.

**Raw Oysters.**

Dr. William Roberts, in an interesting series of lectures on digestive ferments, published in the *Lancet*, says: The practice of cooking is not equally necessary in regard to all articles of food. There are important differences in this respect, and it is interesting to note how correctly the experience of mankind has guided them in this matter. The articles of food which we still use in the uncooked state are comparatively few, and it is not difficult in each case to indicate the reason of the exemption. Fruits, which we consume largely in the raw state, owe their dietetic value chiefly to the sugar which they contain; but sugar is not altered by cooking. Milk is consumed by us both cooked and uncooked, indifferently, and experiment justifies this indifference; for I have found on trial that the digestion of milk by pancreatic extract was not appreciably hastened by previously boiling the milk. Our practice in regard to the oyster is quite exceptional, and furnishes a striking example of the general correctness of the popular judgment on dietetic questions. The oyster is almost the only animal substance which we eat habitually, and by preference, in the raw or uncooked state, and it is interesting to know that there is a sound physiological reason at the bottom of this preference. The fawn-colored mass which constitutes the dainty part of the oyster is its liver, and this is little else than a heap of glycogen. Associated with the glycogen, but withheld from actual contact with it during life, is its appropriate digestive ferment—the hepatic diastase. The mere crushing of the dainty between the teeth brings these two bodies together, and the glycogen is at once digested, without other help, by its own diastase. The oyster in the uncooked state, or merely warmed, is, in fact, self-digestive. But the advantage of this provision is wholly lost by cooking, for the heat employed immediately destroys the associated ferment, and a cooked oyster has to be digested, like any other food, by the eater's own digestive powers.

**Medical Uses of Figs.**

Prof. Bouchut mentions some experiments he has made, going to show that the milky juice of the fig tree possesses a digestive power. He also observed that when some of this preparation was mixed with animal tissue, it preserved it from decay for a long time. The *Medical Press* refers to this fact, in connection with Prof. Billroth's case of cancer of the breast, which was so excessively foul smelling that all his deodorizers failed, but on applying a poultice made of dried figs cooked in milk, the previously unbearable odor was entirely done away with. Certainly the remedy is worth trying.

**Foot-and-Mouth Disease.**

A serious invasion of eczema epizootica, or foot-and-mouth disease, has taken place, after the country had been free from it for several months. The infection is supposed to have been conveyed by diseased cattle from the North of France, which arrived at Deptford Market some time ago. Thence it was carried in every direction, the fairs and markets being the chief sources of dissemination. It now prevails pretty generally over England, notwithstanding the efforts made to check its progress. It is to be feared that inspection of the cattle markets is often at fault. For the chief metropolitan market there is only one inspector, and as the number of animals crowded together is frequently more than two thousand, it is evident that they cannot be submitted to that careful examination which is so necessary for the detection of the disorder, particularly at its commencement, or in its

milder form. The infection can be conveyed by all kinds of media independent of the living animal, and this certainly renders the extension of the disorder far more easy, and its suppression much more difficult, than some other transmissible diseases of animals. It must not be forgotten that the infection can be transmitted to other than the bovine species, and man himself is not proof against it. The milk is the chief vehicle of infection.—*Lancet*.

**NOVEL FISH BASKET.**

One of the most ingenious and useful inventions for the comfort and convenience of fishermen that we have seen for



FISH BASKET.

a long while is a canvas basket or creel, made by Messrs. Abbey & Imbrie, of this city. They are made of waterproof canvas, with the sides and bottom perforated for the purpose of draining the basket and for ventilation. As they roll up in a small package when not in use, or to fit in a valise when traveling, their great superiority over the old-fashioned fish basket can readily be seen.

The accompanying illustrations show the basket ready for use and folded for traveling, and are sufficiently plain to be understood without further description.

**Good Work by Boys.**

The good example set in Maine last year and year before, of offering prizes for farm work by boys, has been wisely followed in Vermont. The prizes won last year have just been awarded. The first prize of \$25 and a scholarship in the Vermont University and State Agricultural College (worth \$50 a year for four years) for corn, was taken by Frank J. Hubbard, of Whiting, and the first prize, of the same amount, for potatoes, by Lewis S. Breed, of Goshen. The second prize, of \$20, for corn, was taken by Edgar J. Tuthill, of Newfane, and for potatoes by Frank J. Hubbard. The third prize, of \$15, for corn, was taken by J. T. Goodenow, of Montpelier, and for potatoes by Burt Royce, of Williamstown. The fourth and fifth prizes for corn were taken by Edward N. Casey, of Whiting, and H. E. Thayer, of Guilford; and for potatoes by Eugene Plastridge, of Northfield, and George R. Powers, of Lunenburg. No less than 305 boys competed from 146 different towns. The best yield reached was at the rate of 192 bushels of dry shelled corn to the acre and 422 bushels of potatoes to the acre. As the average production of Vermont farms is estimated to be 39 bushels of corn and 140 of potatoes to the acre, it will be seen that the results secured by the boys are quite encouraging.



FISH BASKET FOLDED.

**Opening of a New Railway to the Pacific.**

A new route to the Pacific is opened by the completion of the Atchison, Topeka and Santa Fe Railroad to a connection with the Southern Pacific at Deming. From Kansas City to Deming the distance (over the Atchison, Topeka and Santa Fe) is 1,154 miles; from Deming to San Francisco (over the Southern Pacific and Central Pacific), 1,208 miles, making the distance from Kansas City to San Francisco 2,362 miles, against 1,916 from Omaha to San Francisco. From Chicago the distance is about the same to Kansas City (or Atchison) as to Omaha; but from New York the distance to Kansas City by the shortest route is 1,342 miles, and to Omaha 1,402 miles. Thus the new route is considerably the longest in distance; but as trains run quite slowly by the northern route, it will not be difficult (though somewhat costly) to make as good time by the new route as is made

now by the Union Pacific. At the rate trains run on the Union Pacific the additional length of the Southern route will require nearly twenty-four hours' time, but as the average speed on the old line is but 19 miles per hour, this can be made up by running trains on the new line about 23½ miles an hour. The new line is likely to get a fair share of the through traffic, from this direction at least; in the other it will depend chiefly upon the disposition of the Central Pacific, which works both roads and may prefer to send traffic by the route which will give it the largest profits. Passengers, especially those who expect to make the trip but once, are very likely to take one route in one direction and the other in returning, thus seeing as much as possible. A good deal has been claimed for the new route on account of its freedom from snow blockades; but we doubt if the possibility of a snow blockade on the Union Pacific will drive from it in winter as many passengers as the certainty of the infernal heat on the Southern Pacific in Arizona and the California desert will deter from attempting that route in the summer. But no doubt the new route will get a good share of the through passengers, and the loss of them will be quite seriously felt on the old line, the rates being high and yielding a good profit. The competition of the new route, however, will not be nearly so serious a matter as it would have been a few years ago, when the local traffic was comparatively trifling.

The country that is likely to profit most by the new line is the mining region of Arizona, which heretofore has had to get its supplies from the Atlantic coast by shipping them 3,300 miles west to San Francisco, and then 1,000 or 1,100 miles southeast. However, rates on this traffic are not likely to be low now. These scattered mines are about all there is to give local traffic on some 700 miles of road.

Rates, it is understood, will be the same by the new route as they have been by the old one. The Central Pacific, working both lines on the west, is in position to control this, and it is not likely to consent to anything which will reduce its profits.—*Railroad Gazette*.

**A Luminous Liquid.**

It is well known that certain metallic salts, especially if previously heated, when exposed to direct sunlight, to the electric or the magnesium light, and then brought into a dark place, give off a yellow or a bluish-white light. Especially the sulphurets of magnesium, strontium, and calcium possess this property in a greater or less degree. Balmein has recently patented a mixture which possesses this property in a remarkable extent. Thus, if the dial plates of watches are coated with this composition and then with a colorless varnish, the figures may be seen in the dark at some distance, if they have been previously exposed to diffused daylight. According to my experiments the organic compounds of these metals possess the same property, especially rosin oil lime soaps. If 100 parts of rosin oil are boiled in a suitable pan with 30 parts of freshly slaked lime, raising the heat by degrees, the mass which is at first lumpy becomes tougher, and finally passes into a thin liquid. As soon as this stage is reached, say at 320° Fah., the entire surface of the liquid becomes luminous in the dark, which is still more intense at a greater heat. At 380° Fah. the bluish-white light is very strong in the dark. Objects dipped in the liquid remain luminous for some time.—*B. Hoffmann, in Chemiker Zeitung*.

**Laundry Machinery in China.**

Our esteemed antipodal contemporary, the *Foochow Herald*, under date of January 27, 1881, says that plans and specifications for a model laundry have arrived there from England—a complete steam laundry, such as in England purify the shirts of the nobility, and, mayhap, royalty itself. The *Herald* is immensely tickled over it, and sets the details of the machine before its readers with great relish, and indorses the scheme with unctious—heedless of the advertisement involved. It says that the "plant" to be adopted will have the capacity of turning out 12,000 articles per week, and be worked by a four horse power engine with all the appurtenances. The *Herald* hopes and believes that the new laundry will be the forerunner of other steam laundries which will soon "eclipse that continual pest, the washman, and all his tribe." It is a curious fact, suggests the *Daily Graphic*, that just as we are beginning to welcome Chinese washmen in this country as ideals of care and skill in their line, and desirable substitutes for the ripping and reckless washerwomen, China itself should be hailing steam laundries as a deliverance from what we are learning to regard as one of the mercies of Providence. But so it is. The world revolves as of old, and light ever comes from the East.

**Intestinal Bacteria.**

Nothnagel, of Jena, has been investigating the organisms found in fæces, and has examined the microscopical characters of five hundred stools in health and disease. He found many microscopic organisms constantly present, but that which was found in greatest abundance was the *Clostridium butyricum* of Prazmowski (the *butyric vibrio* of Pasteur, the *Bacillus amylobacter* of Van Tieghem). It occurred in the fæces in which no starch could be demonstrated. It is probably this which has given rise to the statement that the yeast fungus is often present in the fæces; in point of fact it is very rarely found in the fæces. Riesenfeld and Brieger discovered butyric acid in both the intestinal contents and in stools, and the product is doubtless the result of the growth of these bacteria.