

where the ebullition goes on until the temperature of the milk is reduced by means of the vacuum and the use of cold water passing through the steam chambers. The milk is lastly put into 40-quart cans and immediately cooled down to a low temperature, when it is ready for the market.

Sometime ago, we noticed the above invention of Mr. Borden, and we are happy to be able to state that it has now become a very large business in this city.

#### TEA, COFFEE, AND COCOA FOR THE SICK. BY FLORENCE NIGHTINGALE.

Too much is said against tea by wise people, and too much of tea is given to the sick by foolish people. When you see the natural and almost universal craving in English sick for their "tea," you cannot but feel that nature knows what she is about. But a little tea or coffee restores them quite as much as a great deal; and a great deal of tea, and especially of coffee, impairs the little power of digestion they have. Yet the nurse, because she sees how one or two cups of tea or coffee restores her patient, thinks that three or four will do twice as much. This is not the case at all; it is, however, certain that there is nothing yet discovered which is a substitute to the English patient for his cup of tea; he can take it when he can take nothing else, and he often cannot take anything else if he has it not. I should be very glad if any of the abusers of tea would point out what to give to an English patient after a sleepless night instead of tea. If you give it at five or six o'clock in the morning, he may even sometimes fall asleep after it, and get, perhaps, his only two or three hours' sleep during the twenty-four. At the same time you never should give tea or coffee to the sick, as a rule after five o'clock in the afternoon. Sleeplessness in the early part of the night is from excitement, generally, and is increased by tea or coffee; sleeplessness which continues to the early morning is from exhaustion often, and is relieved by tea. The only English patients I have ever known refuse tea, have been typhus cases; and the first sign of their getting better was their craving again for tea. In general the dry and dirty tongue always prefers tea to coffee, and will quite decline milk unless with tea. Coffee is a better restorative than tea, but a greater impairer of the digestion. Let the patient's taste decide. You will say that in cases of great thirst, the patient's craving decides that it will drink a great deal of tea, and that you cannot help it. But in these cases be sure that the patient requires diluents for quite other purposes than quenching the thirst; he wants a great deal of some drink, not only of tea, and the doctor will order that he is to have barley-water, or lemonade, or soda-water and milk, as the case may be. Lehmann, quoted by Dr. Christison, says, that among the well and active "the infusion of an ounce of roasted coffee daily will diminish the waste going on in the body by one-fourth;" and Dr. Christison adds that tea has the same property. Now, this is actual experiment. Lehmann weighs the man and finds the fact from his weight. It is not deducted from any "analysis" of food. All experience among the sick shows the same thing. Cocoa is often recommended to the sick in lieu of tea or coffee. But independently of the fact that English sick very generally dislike cocoa, it has quite a different effect from tea or coffee. It is an oily, starchy nut, having no restorative power at all, but simply increasing fat. It is pure mockery of the sick, therefore, to call it a substitute for tea. For any renovating stimulus it has, you might just as well offer them chestnuts instead of tea. An almost universal error among nurses is the bulk of food, and especially the drinks they offer to their patients. Suppose a patient ordered four ounces of brandy during the day, how is he to take this if you make it into four pints with diluting it? The same with tea and beef-tea, with arrowroot, milk, &c. You have not increased the nourishment, you have not increased the renovating power of these articles, by increasing their bulk; you have very likely diminished both by giving the patient's digestion more to do; and most likely of all, the patient will leave half of what he has been ordered to take, because he could not swallow the bulk with which you have been pleased to invest it. It requires very nice observation and care (and meets with hardly any) to determine what will not be too thick or too strong for the patient to take, while giving

him no more than the bulk which he is able to swallow.

[Professor Christison, the greatest living authority on poisons and poisoning, holds beef-tea to be the best known combination of food and drink for most cases of sickness. He has lately written about its use in the most flattering manner.—Eds.]

#### ADVANTAGE OF A TASTE FOR SCIENCE.

A mind which has a taste for scientific inquiry, and has learned the habit of applying its principles readily to the cases which occur, has within itself an inexhaustible source of pure and exciting contemplations. One would think that Shakespeare had such a mind in view when he describes a contemplative man as finding—

"Tongues in trees, books in running brooks,  
Sermons in stones, and good in everything."

Accustomed to trace the operations of general causes and the exemplification of general laws, in circumstances where the uninformed and uninquiring eye, perceives neither novelty nor beauty, he walks in the midst of wonders; every object which falls in his way elucidates some principle, affords some instruction and impresses him with a sense of harmony and order. Nor is it a mere passive pleasure which is thus communicated. A thousand questions are continually arising in his mind, a thousand objects of inquiry presenting themselves, which keep his faculties in constant exercise and his thoughts perpetually on the wing, so that lassitude is excluded from his life, and that craving after artificial excitement and dissipation of the mind which leads so many into frivolous, unworthy and destructive pursuits, is altogether eradicated from his bosom.—*Sir John Herschell.*

#### AMERICAN PATRONAGE OF INVENTIONS FOR SHIPS.

An English ship of 998 tons, bound from London to Calcutta, was once compelled to anchor in the Downs to procure two more hands, although she had then a compliment of 45 all told on board, whereas an American ship of nearly the same size, bound on the same voyage, proceeded with only 21 men. The crews of both ships, excepting the captain of the American, were British seamen. Mr. Duncan Dunbar, an English shipowner, recently made this statement before a committee of the British Parliament, and stated the cause of the difference. The English ship was rigged in the old fashioned style, somewhat like a ship-of-war, and therefore required a large number of men to work her; while the American ship had almost all the modern improvements—such as patent trusses to her lower yards, iron barrels to her topsail and topgallant yards, the best of blocks and cordage, and Cunningham's patent rig, whereby her topsails could be reefed from the deck, (an English invention) and Emerson's patent windless. These enabled her to be sailed with less than half the number of men required to navigate the British ship.

#### COLORING OF ADULTERATED WINES.

Although many experiments have been instituted by chemists for the detection of the coloring matters employed in adulterated wines, so as to be able to distinguish the true from the false, no very positive results have yet been arrived at, because the color of genuine wine itself changes with age, and because the same colors can be imitated by various substances, all of which possess nearly the same elements when analyzed.

It is believed that some of the cheap claret wines contain alum and sulphuric acid, and the chemist Lassaigne has lately called attention to the addition of about 0.33 per cent of sulphuric acid which he had detected (but with some difficulty) in French clarets. An easy method of detecting alum, acids, logwood, cider, tannin and other mixtures used in the adulteration of wines is a great desideratum; chemists have not yet made the discovery.

**AERIAL NAVIGATION BY SUN HEAT.**—One of our correspondents proposes a novel method of aerial navigation, by propelling balloons through the agency of a caloric engine revolving a screw propeller, without employing fire or fuel. He designs to concentrate the rays of the sun with a large burning lens, and thus make the solar heat rarify the air to operate the engine. The proposal is a grand and novel one. No fuel fire or water being required to enable us to career in mid-heavens. We wish our correspondent success.

#### AMERICAN JEWELRY.

Prior to the panic in 1857, the jewelry business in the United States was in a very flourishing condition; but since that period it has been very dull, and during the past year few factories have been in operation more than four months out of the twelve. There are large jewelry manufactories in Providence, R. I., Boston and Attleboro', Mass., Waterbury, Conn., Philadelphia, Pa., New York City, and Newark, N. J. The latter place is, perhaps, the most distinguished for the extent of its establishments and the quality of its articles. These consist of gold and silverware, watch-cases, bracelets, rings, chains, seals, brooches, and all kinds of personal ornaments of this character. The stones or brilliants for American jewelry are mostly imported, but the articles themselves are supplied by our home manufacturers, and they rival those of any other country in beauty of design and skill in fabrication.

There are various classes of jewelry. "Solid" is that which it composed of gold entirely—18 carats fine, at least; "massive jewelry" is mounted with *solid* gold, but its groundwork is of inferior metal; "filled-in work" is composed of thin-rolled gold, filled-in with common solder; "plated jewelry" is composed of an inferior metal, with a thin face of gold. Cheap trinkets are made with rolled metal, "struck-up" with dies. The ingots of which they are made contain about 1-60th of gold on the surface. Many articles are composed of brass, slightly gilt by the galvanizing process.

At the present moment, several of the jewelry manufactories in Newark, in which there were formerly employed from 200 to 400 workmen, do not contain over a dozen. It has been said by some that articles of jewelry, being luxuries, are generally first affected by "hard times," and the last to recover from their influence; and this is given as a reason for the long depression of American jewelry manufactures.

#### INDUSTRIAL FAIRS.

THE eighteenth annual exhibition of the Ohio Mechanics' Institute will be opened at Cincinnati on the evening of Sept. 24th, next, and will continue to the evening of Oct. 20th. The committee of managers intend to make it superior to any of the previous exhibitions.

MECHANICS, manufacturers, artists and inventors are referred to the advertisement of the Massachusetts Charitable Mechanic Association, in another column of this week's paper, of their ninth exhibition of American manufactures and the mechanic arts, to be held in the city of Boston, in September next. It is supposed that this will be the largest and most complete exhibition ever held by the association.

THE American Institute, at New York, will not hold their usual mechanical exhibition this Fall, owing to the difficulty of procuring a suitable building. They hope next year to have a permanent building of their own. A horticultural show will, however, take place, under the auspices of the Institute, probably in September.

**PLATINUM.**—This metal has a greyish-white color. In the state of fine powder it is grey, and without metallic luster; but the luster can be produced by friction. Platinum is the heaviest of all metals. (Specific gravity 21.5.) It is harder than copper but not so malleable as gold and silver. It can be drawn into exceedingly fine wire. It cannot be melted by the heat of a furnace; but it can be fused by means of a blowpipe, supplied with oxygen gas, and directed upon the flame of a spirit lamp. It can be welded at a white heat. It does not oxidize when heated in the air. Platinum dissolves in hot aqua-regia, but not in any simple acid. The solution contains chloride of platinum. When pure alkalis or nitrate of potash is ignited with platinum, the metal is corroded. When brought, in the state of a fine, porous, spongy mass, into a mixture of oxygen and hydrogen gas, it becomes red-hot and inflames the gas.

**THE GREAT TORNADO IN THE WEST.**—We have received an extremely graphic and interesting description of the wholesale devastation occasioned by the tremendous tornado which swept over the West on June 3d, but it is unavoidably "crowded out" of the present number.

**THE CITY OF THE DEAD.**—There have been interred at Greenwood Cemetery since Sept. 5, 1840 (when the first body was placed in the ground at that place), up to Saturday, June 9, 1860, 76,797 persons!