

Scientific American.

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Ice Ships.

When the surface of the earth is uncovered on Manhattan Island, but especially on Long Island, we behold innumerable loose rocks, of every size, from the small cobble of a few pounds to the large block of many tons weight. Some of these are much water-worn, while others are rough and jagged.—They are also of great variety with regard to their composition. Some are of white granite, like that of the Sing Sing quarries, others like the dark grey granite of Staten Island; and others, again, are of the schistose class. These rocks grew not where they are found, and no human hands carried them thither. Whence came they, and how have they been deposited, far and wide, over such an extent of country, like huge hail stones dropped by successive showers? The only plausible theory for their presence is, that those places where they are now found, were once the bed of the sea, over which icebergs floated from an arctic ocean, with these stones attached to their sides and base, and were dissolved by warm currents of water, and thus relieved of their stony cargoes. In the northern seas, the ice forms to a great depth and grasps with its strong cold hand large and small rocks, at the sea bottom and on the shore. When spring comes, these are lifted up by the powerful thaw and water swell, and are floated off into the ocean, with their cargoes of rough stones wrenched from the rocky shore, and water worn boulders lifted from the sea bottom and beach. Carried out on the cold ocean currents setting from the north to the south, these icebergs at last disappear, by dissolution in the warm currents of the tropics, and, as a consequence, their rocky freights are strewn over the bottom of the sea. In the spring of 1838, a block of granite, estimated to weigh 1,000,000 pounds, is stated by Prof. Von Baer, of St. Petersburg, to have been carried by ice from Finland to the Island of Hoagland; and it is well known that huge blocks of granite are carried down by the ice every season from Finland, and deposited along the bottom of Copenhagen Bay. This is the manner, no doubt, by which all Long Island, and much of the eastern coast of our continent came to be covered with boulders.

What powerful influences must have been at work, by which parts of our country now dry land, were once covered with the beating surges of ocean; then the wild waves repelled again, and the hills and valleys arising out of and above them. To conceive of a period in the history of our country when tall icebergs floated over the place where the city of New York now stands, seems to be a draft upon the imagination as heavy, as to believe in Aladdin's "Wonderful Lamp." But, if this "iceberg boulder theory" is correct, we must believe it; there is no other help for us.

Physical Geography of the Sea.

A new science, which has received the above name from Baron Humboldt, has come into existence within a very few years, and the credit of its authorship belongs to a Lieutenant of the American navy—M. F. Maury, L. L. D. The first distinct work on the subject, for public sale, has just been issued by Harper & Brothers, and we find that it is dedicated in a gentle spirit by Lieut. Maury to George Manning, of this city, who has done so much to disseminate information on the subject. The physical geography of the sea relates to its winds, currents, temperature, character of its waters, its depths and shoals. By charts, it presents the different tracks of vessels on the ocean, and then exhibits the winds and currents which they meet at different seasons of the year. These charts are made from the logs of numerous navigators, and have proved of immense benefit to the nautical world. Before the commencement of publishing these charts, the average passage from New York to California was 183 days; it is now reduced to 135

days. Between England and Australia, the average time of going, without these charts, was 124 days, and the coming about the same time. The outward passage is now reduced to 75 days. The saving to the United States trade with California and Australia, by shortening the voyages, amounts to more than \$2,250,000 per annum. Nearly all the nations of the world are now unitedly engaged in advancing and perfecting this science.—A conference was held in Brussels in August, 1853, at the suggestion of the United States, consisting of representatives from France, England, Belgium, Russia, Sweden, Holland, Denmark, Portugal, and the United States, which recommended a plan of observations to be followed on board of vessels of all friendly nations. In peace and in war, these observations are to be carried on, and in case any of the vessels on board of which they are conducted may be captured, the logs of them are to be held sacred. "This," says Lieut. Maury, "is a sublime spectacle presented to the scientific world: all nations agreeing to unite and co-operate in carrying out one system of philosophic research, with regard to the sea. Though they may be enemies in all else, here they are friends. Every ship that navigates the high seas, with charts and blank abstract logs for observations, may henceforth be regarded as a floating temple of science." This eloquent passage must thrill the heart of every lover of science. It is greatly to be regretted that all these nations are not as friendly in the pursuit of national and commercial objects, as they are in the "science of the sea."

Although a great deal has been done in a few years, principally by American sailors, in collecting information for the preparation of the "wind and current charts," much yet remains to be accomplished. A vast amount of the great ocean spaces between Europe and the East Indies is almost unknown. In an outward voyage to India, the Atlantic has generally been crossed three times by navigators instead of only once, owing to one captain following in the route of another, so as to get such winds as were stated to prevail, for wafting their ships to the desired havens. Great activities are now at work to discover new and favorable routes, and thus make shorter voyages; these we have no doubt will be crowned with complete success.

Fencing Railways.

The State of Illinois is the first which has adopted measures to fence in all railroads, in order to prevent cattle straying on the track. This we recommended years ago. We hope every State in our Union will soon follow in the footsteps of Illinois. The law passed by the Legislature of that State provides that every railway now in operation, or which shall be hereafter placed in operation, shall erect and maintain good and sufficient fences on the sides of their roads, with openings and gates at the farm crossings, sufficient to prevent cattle from getting on the road.—And when such fences and guards are not erected and in good repair, the Company shall be liable for damages done by them to cattle which may get on the track, but if the fences and guards are erected and in good repair, they shall not be held liable unless the damage was wilfully done. Said fences need not be built through unoccupied lands lying at a greater distance than five miles from any settlement. Any person who shall lead, or ride, or drive any stock upon such road, except at the crossings, or tear down the fences or guard thereof, shall be liable to a fine of not more than \$100, and for all damages sustained thereby.

Medicinal Effects of Saleratus.

A writer in the *Medical Examiner*, criticises the paper of Dr. Alcott, originally published in the *Boston Medical and Surgical Journal*, on the injurious effects of saleratus as used in domestic cookery, and especially in attributing the great mortality among children under five years of age in our country, to such use of it. No less than three-fifths of the deaths of children were attributed to its use, without any attempt to substantiate such a bold assertion by facts, ex-

cepting the placing of it among irritant poisons, because Orfila had done so. Common salt is also set down by Orfila as an irritant poison when excessively used. The critic in the *Examiner* tells Dr. Alcott that he forgot to mention that one-half of the children that die under five years of age never tasted bread nor saleratus. He asserts that "if the ill consequences resulting from careless cooking were properly estimated, it would be found that much disease might be traced to sour and badly fermented bread." Saleratus, he asserts, will produce no injurious effects from constant use in such small quantities as are required for making bread. How true these views make the old saying, "doctors do differ."

Patent Tea and Coffee Pot.



The annexed engraving is a side elevation, partly in section, representing an improvement in the construction of coffee pots, for which a patent was granted to James MacGregor, Jr., No. 117, Beekman street, this city, on the 11th of April last year.

The nature of the improvements, consists, first, in surrounding the bottom (or bottom and sides as far as may be desired,) of the tea or coffee pot, with an outer case, which may or may not be attached to the tea or coffee pot, leaving a space for water between the two cases, below the bottom of the tea pot, while the tea or coffee is being prepared,—here is no loss from evaporation, and the coffee or tea may be steeped somewhat longer to advantage than in the common mode.

Second, in having a mouth-piece to the outer case, for the purpose of pouring water between the two cases, and for the escape of steam made between the two cases; while the pot is on the heating apparatus this mouth-piece is always to be kept open. When it is removed from the heating apparatus, this mouth-piece may be covered to retain heat. The space between the cases should not be filled more than three-fourths full, thereby allowing free escape to the steam made between the two cases, and by that means preventing the water in the pot from rising much above boiling heat. The inner case or pot, where the tea or coffee is put, is generally made as much smaller below where the outer case is to join as is desired for water space. Thus leaving the outside of a uniform appearance. The handle is put on the side half way between the spout and mouth-piece, they being exactly opposite to each other.

Third, in having an air-tight cover to the spout and top of the pot, of sufficient weight and adhesion to cause pressure sufficient to prevent the tea or coffee from boiling while being drawn or prepared. The pot and all parts are generally made of tin.

A is a small ball valve in the spout; B is the cover of the pot; C is the space for tea or coffee. D is the space for water between the two cases. E is the mouth-piece attached to the outer case, for the admission of water, and the exit of steam by a channel, E.

DIRECTIONS FOR USING—Put the necessary amount of tea or coffee into the pot to make the desired quantity; then fill the pot with boiling water, sufficient to give the required amount, and carefully put the cover on; fill the space between the two cases (by pouring in at the mouth-piece at the handle,) two-thirds full. The cover to this mouth-piece is to be left open, while the pot is on the heat-

ing apparatus, or stove, to let the steam off, and to be closed when it is taken off, to retain the heat. The water between the two cases, while the pot is on the heating apparatus, should boil, but not vehemently. Tea will seldom require to have the water in the outer case boil more than ten minutes, and coffee fifteen to twenty minutes; then the pot can be taken off the heating apparatus; the cover on the mouth-piece should be closed and the pot left (if time is not pressing,) for tea about ten minutes, and for coffee about twenty minutes—more time does no harm. It may stand for hours without injury. The coffee roasted in the usual mode is ready for use without grinding, thereby preventing all sediment from the coffee. If the above time is taken, no loss is sustained by not grinding.

By the use of one of these pots, a much superior tea and coffee liquid is obtained than by common pots, and with less tea and coffee. This we have proved to our satisfaction; the improvement is a most excellent and economical one, and will effect a considerable saving in every family in which it is used.

These pots are manufactured and sold by Mr. MacGregor, at the above named place.

Railroad Signals.

The *Railroad Advocate*, in the above question, is like an eel that has tied itself into a knot so tight that it cannot get loose. It made a voluntary wrong statement, and it wriggles and wiggles in its own mud to hide it; but all won't do. In the last number, it flies for consolation to that reviler of everything American—the *London Mechanic's Magazine*. It is welcome to such company; as distinguished for its profound ignorance, as it is for its vapid conceit.

The *Railroad Advocate* characterizes the *Mechanic's Magazine* as "one of the ablest and most respectable journals of the kind in the world," thus evincing its practical ignorance of that publication. This is only a chip under which it attempts to hide its own slender proportions; a mere attempt to throw dust into its readers' eyes.

To show the power and force of its English authority, it is only necessary to state, that after more than a generation of years (according to a statement recently published in the *Tribune*,) its stamped issue amounts to about three hundred copies. "Full many a flower is born to blush unseen."

The fact is, the *Mechanic's Magazine*, like the *Railroad Advocate*, is able and respectable only for its insignificance to do good or evil; all else is purely imaginary; and the affiliation between the two is appropriate and consoling.

Engravers Advancing.

Samuel Cousins, the distinguished London engraver, has been elected a full Royal Academician. He is the first engraver who has been admitted to such an honor. Bartolozzi was elected, not as an engraver, but as a designer. There is a talk of admitting another engraver a full Royal Academician, making the number of academicians forty-two instead of forty; but certain schoolboy conditions will, it is said, have to be complied with, which the most eminent engravers are unwilling to fulfill.

Amendment of the Patent Laws.

An amendment was made by our late Congress, at the request of the Commissioner of Patents, providing for four new principal examiners, four assistant examiners, and the power to employ two other principal, and two assistant examiners, if required. This amendment to the patent law confirms regulations heretofore adopted by the Commissioner.

Coal Pit Explosion.

A severe explosion, by which 35 miners lost their lives, took place in the Midlothian Mine, near Richmond, Va., on Monday last week. It was caused by breaking into an old shaft which was filled with fire damp. There were fifty in the pit at the time; those not instantly killed it is supposed will not live, owing to severe injuries.