

**Concrete Walls.**

The following plan for making walls of concrete is worthy of attention, in a great number of respects. We are not aware that it has been practised by any person but Rennie, who found it better in some situations than solid blocks.

*Mr. Editor:*—If we place two flat stones side by side close together with a thin layer of cement between, in a short time they adhere together like one solid stone. Now every particle of sand is a very small stone, and if a large quantity of coarse sand be mixed with a moderate quantity of cement, together with water, and the whole well worked over, so as to insure the thinnest fibre of cement between each particle of sand, I should think that the whole would harden into a solid mass like the sandstone made by Sir James Hall. If this compound be allowed to harden in moulds cubical blocks can be obtained which can be used in building like hewn stone. Now the great object is to use as little cement as possible. We may throw pebbles in the mould as many as we can conveniently get in, first smearing each with the pure cement, and this will lessen the quantity of cement required. The most advantageous way of doing it would be as follows: First mix the cement with the coarse sand, adding a little fine sand thereto and then place in the bottom of the mould a lot of considerably large pebbles, no matter how large; there are now several crevices which may as well as not be filled in with smaller ones; still smaller crevices will now appear, let these be filled with gravel stones, and the mortar be mixed in altogether, and so on to the top. Theoretically, the quantity of cement may be indefinitely diminished, and practically to a very small quantity. Concrete walls may be built up in this way, and irregular stones of immense size worked in, in this way. And if it would harden inside, piers might also thus be built, by raising the outside like a pie crust with hewn stone, these forming a bed or pit in the middle which could be filled up in the same way once the moulds were filled. Yours respectfully,

LYMAN W. DENSMORE.

Rochester, N. Y., April 14, 1848.

**Island of Chusan.**

The Island of Chusan is seven miles from the mainland, and forty miles distant from the city of Ningpo, and lies in the vicinity of all the great and valuable marts of commerce on the eastern coast. It is 150 miles in circumference. The chief bay, that of Tinghae, is capable of accommodating, in perfect security, a hundred sail of square rigged vessels, and possesses the most admirable facilities for the establishment of docks. Good water abounds, not only at the capital, but throughout the Island. Chusan consists of a succession of hills and dales, which present one unbroken scene of rich cultivation, and exhibit the most lovely scenery. Wheat, rice, tea, grass-cloth, sweet potatoes, cotton, tobacco, and other articles grow in great luxuriance. The island is intersected with roads—not intended for wheeled conveyances—from five to seven feet broad, and paved and flagged throughout; and it is thickly studded with villages. Those who have the best opportunity of forming an opinion on the subject, believe that a hundred well populated and superior villages would be found on it, containing from one to five thousand inhabitants. The whole population is estimated at 270,000. The people are industrious and comfortable, and appear to have no want un-supplied; scarcely a beggar is to be seen, and there is a comparative absence of crime, which reflects no small credit on the Chinese character. Not a single homicide has occurred during the time in which it has been in British occupation; and the inmates of the jail, contributed by the whole island, have rarely exceeded twenty; and the majority have consisted of those who were confined for the illegal sale of its indigenous whiskey, the shamshoo.

The climate vies with that of the most favored regions in the world. There are but three months which can be called hot, June, July, and August. In this latter month, the thermometer stands on an average at 83 deg., but sinks at night to 73 deg. The next

month it subsides to 74 deg. Then comes winter with its bracing influences, and the ground is covered with hoar frost, and the ice lies half an inch thick. In January and February, the thermometer stands at 20 deg. of Fahrenheit. In March it rises to 28 deg., but the hills continue to be capped with snow and the cheerful fire is kept up until the commencement of June, so that it is only during three months of the year that woollen clothing is unnecessary. All the other places in China, where we have commercial stations are hot, sultry, and unhealthy. The Island furnishes provisions of every description, of the best quality, at a very moderate price. Beef, pork, and poultry, may be obtained in the greatest abundance. Of geese, as large as those in America, there is no lack. Ducks are hatched by steam by thousands, and eggs are less than a halfpenny a piece. Game of every variety easily procured. Bread of good quality, is readily prepared by the Chinese. All kinds of vegetables may be obtained, and fruit grows with great luxuriance. Potatoes have now been introduced, and will probably become an article of great consumption throughout China. Indeed all kinds of provisions may be had at one-half the sum they cost at Hong Kong. It is only for an American want to be known, to be immediately supplied from the Island or the continent. Fishing is universal around the island, and it is calculated that no fewer than 7,000 vessels come from the continent, and remain for three months off Chusan employed in fishing. They are attended with boats filled with ice, in which the fish are packed, and then dispatched to the neighboring coast.

**The Bridge over the Ohio at Wheeling, Virginia.**

The Wheeling (Va.) Times gives us a description of the splendid Wire Suspension Bridge which is to be constructed over the Ohio river at that city. The length of the span is 1,010 feet from the centre of the towers upon which the structure rests. The strength of a strand of the wire used (No. 10) is capable of sustaining 500 pounds of weight at least. There will be 9,000 strands of the wire. The height of the bridge above low water mark, will be 87 feet. The summit of the eastern tower, will be 253½ feet above low water. The tower will be 60 feet above the bridge and 51 3-4 feet above the tower on the west end. The flooring of the bridge, will be 24 feet wide, with a foot way on each side 3½ feet wide, and a carriage way in the centre, 17 feet wide. The floor will be 93½ feet high at the eastern shore, and gradually fall to 62 feet at the western tower. The flooring will be supported by 12 cables, each 1,350 feet long which will rest upon iron rollers on the towers, and are firmly anchored in the ground or walls at each end. The timber employed in the building will be white pine, except the upper cover of boards which will be white oak. The whole weight of the wood work, will be 250 tons. The entire cost of the bridge will be estimated at \$210,000.

**Be True to Yourself.**

The history of the world, as well as the biography of those who have played a prominent part in its concerns, is worthy of everlasting remembrance. It assures us that it matters but little what form of danger may assail a man, if he be true to himself.

Poverty may lay its chilly hand upon him, and freeze up the brightest fountain of his hope—disappointments may meet him at every step—affliction may strike down those who are nearest to his heart—the foul breath of slander may attempt to sully his name, and tarnish his reputation—still let him be true to himself—let him maintain a stout heart and clear breast—and he will eventually outride the storm. Let those who are struggling with “low birth and iron fortune,” remember this truth—and let them remember, that no man can be destroyed by others without fault and weakness in himself.

Cato was the first Roman who attempted to write on diseases and medicine. He wrote a work that might have been called a system of Domestic Medicine, but there was little knowledge of the subject displayed in it.

**Musquitoes.**

The proper—that is, the technical name for this tribe of insects is the Culicidæ: they belong to the order of dipterons, or double-winged insects. The common gnat, *Culex pipiens*, is a delicate, pretty insect, rather less than a quarter of an inch in length. It is furnished with a long, slender proboscis, which projects downwards and forwards, having at its extremity a pair of little sucking discs; this organ forms the siphon up which the creature draws its fill from our life stream. On the sides of this are placed, at different distances, several lancet-like processes, some of which appear simply to cut, while others seem adapted to inject the irritated poison into the minute wound; and these are barbed, and resemble in some respects, the sting of the bee. The “hum” of the gnat, or, as the poet Spencer calls it, “its murmuring small trumpet,” is a sound familiar to every ear—to most of us far more familiar than agreeable. This, which is really a pretty and not unpleasant sound itself, were it not that it is a flourish preparatory to an onslaught, is produced by the rapid vibration of its delicate gauze-like wings. The sound has a precise analogue in the deep-toned hum of the “fan” of our blast-furnaces, where the vanes of the blower cut through the air with vast rapidity, and produce, in so doing, the musical notes we hear. The fragile wings of this insect have been estimated by Latour to vibrate at the rate of three thousand times a minute; a rapidity which, when it is regarded as a succession of muscular contractions and relaxations, is something far more wonderful than the most enormous speed to which mechanism was ever driven. The gnat makes its appearance in the greatest numbers at eventime, but its persecutions are by no means confined to that period. It delights chiefly in shady woods, and in moist situations, from whence great hosts may occasionally be observed to issue, and in the vicinity of stagnant pools, which form the nursing places of the young. It has been frequently remarked that it is the female insect which pursues us for blood, and that the male is altogether innocent of the crimes his partner delights to commit. The insect makes its attack in the following manner;—After the flourish as aforesaid, and with a courage equal to all its noise, it flies directly upon its victim, and falls to. Alighting gently upon the surface, it lowers its formidable weapon, gently and gradually thrusting it into the skin until it has pushed home all its lancets. The fluid which produces the subsequent pain in the wound is then injected into it, as has been plausibly supposed, for the purpose of rendering the blood more fluid, and better adapting it to the suctorial capabilities of the insect; and now the thirsty creature takes its fill.—These operations are repeated until it is satisfied, when it flies away, oftentimes becoming gorged and less active, as if completely intoxicated with its potion.

Expedients for defence, against these plagues are frequently almost in vain; but it is our opinion that flax nets loosely twisted are the best that can be used round beds. Our Southern friends will be none the worse of trying the experiment during the coming summer, and this is the reason of our early advice.

**Liberty.**

We like Burke's ideas of liberty. He says:—“Men are qualified for civil liberty, in exact proportion to their disposition to put chains upon their own appetites, in proportion as their love of justice is above their rapacity; in proportion as their soundness and sobriety of understanding is above their vanity and presumption; in proportion as they are more disposed to listen to the counsels of the good and wise in preference to the flattery of knaves.”

**Friendship.**

When we see the leaves dropping from the trees in the beginning of autumn, just such, think we, is the friendship of the world; while the sap of maintenance lasts, our friends swarm in abundance around us, but in winter of need they leave us alone and naked. He is a fortunate man, that finds a real friend in his need: but more truly happy is he, by far, that hath no need of his aid.

**Lukium, or Turkish Plaster.**

The impervious and adhesive qualities of this composition, which is remarkably simple and durable, are so efficacious, that although some Taksim tanks are entirely beneath the earth, and thus perpetually exposed to outward infiltrations as well as inward pressure and undoubtedly coveal with the earliest Byzantine monarchs, yet there is no record of their requiring repair, or of their having ever leaked. Water-pipes of burned clay or metal joined with lukium, which, when dried becomes as hard as stone, resist the effects of humidity for ages. The following is the receipt, as now used by the Lou Yolgee (Water-way men):—Take 1000 pounds of fresh kilned lime, finest quality, reduce to powder, ten quarts of pure linseed oil; and one or two pounds of cotton. Manipulate the lime, gradually mixing the oil and cotton in a wooden trough, until the mixture assumes the consistency of loaf-dough. Let it dry and then break it into cakes for store or use. When required for the latter, take a sufficient quantity, moisten it with linseed oil, and with this paste give two or more coatings to the wall or pipes, allowing each coat to dry. Pipes of metal or clay can be hermetically joined by twisting well-carded hemp, saturated with lukium, round the interstices, and making it fast with cord also dipped in the mixture.

**The Female Temper.**

No trait of character is more valuable in a female than the possession of a sweet temper. Home can never be happy without it. It is like the flowers that spring up in our pathway reviving and cheering us. Let a man go home at night, wearied and worn by the toils of the day, and how soothing is a word dictated by a good disposition! It is sunshine falling on his heart. He is happy, and the cares of life are forgotten. A sweet temper has a soothing influence over the minds of a whole family. Where it is found in the wife and mother, you observe a kindness and love predominating over the natural feelings of a bad heart. Smiles, kind words, and looks characterise the children, and peace and love have their dwelling there. Study then, to acquire and retain a sweet temper. It is more valuable than gold; it captivates more than beauty; and to the close of life it retains all its freshness and power.

**How to Spoil a Child.**

Above all mistakes, is that of supposing that the better nature of a child is to be drawn out and raised into strength, which we should desire to see in the man, by making him pass through a cold and cheerless youth. A system of petty restraints, of privations, of severe looks, and incessant chiding, only results in depraving the feelings, and perverting the reason of a young person. He is, under such circumstances, entirely out of harmony with nature. He is like a flower, which requires light and warmth, placed in a cellar where it can never acquire its proper proportions, color, or vigor. It is quite impossible that a child so treated can ever attain the proper characteristic of a well-constituted man or woman.

**Love to the Saviour.**

A poor Scottish widow one day came to her parish minister, to be examined for admission to the Lord's Supper. He questioned her respecting the orthodoxy and spirituality of her views, and being dissatisfied with her statements dismissed her from the communion on that occasion: but requested that she would wait on him before the next, when probably her examination might prove more satisfactory. He saw that the aged female wept as she retired; and the big tear that trickled down her furrowed cheek revealed a depth of feeling that her conversation had not made manifest. Her pastor called her back, and asked her why she wept. Her reply was eloquent, because from the heart: sublime, because it was simple: “Sir I cannot speak a word for Christ,” said she, “but I could die for Christ, so truly do I love him.”

A lively Irish writer speaks of a “dish of potatoes roasted on the turf ashes, just bursting their brown surtouts and exposing the delicate whiteness of their mealy bosoms.”