

IMPORTANCE OF SLEEPING WITH THE MOUTH SHUT.

We have received a very curious pamphlet from George Catlin, the famous painter and investigator of the habits, customs, character and ethnology of the Indian tribes. Mr. Catlin observed, many years ago, that those tribes of Indians who have not been corrupted by contact with the whites, have remarkably fine figures, perfect teeth and robust constitutions, and are free from most of the diseases which prevail in civilized communities. Naturally anxious to learn the cause of this superiority, he was led to make inquiries and observations in relation to it, and after a long series of investigations he has come to the conclusion that it is to be attributed to a very great extent to the manner in which Indians breathe, they breathing at all times through the nose, while whites breathe very much through the mouth. His pamphlet is entitled "The Breath of Life," and it bears the motto—

{ All Life (on Earth) is Breath. }
{ All Else (on Earth) is Death. }

The following extracts embrace Mr. Catlin's most interesting facts, and they will give a good idea of the course of his reasoning:—

THE WAY THE HABIT IS ACQUIRED.

"When I have seen a poor Indian woman in the wilderness, lowering her infant from the breast, and pressing its lips together as it falls asleep in its cradle in the open air, and afterward looked into the Indian multitude for the results of such a practice, I have said to myself, 'glorious education! such a mother deserves to be nurse of emperors.' And when I have seen the careful, tender mothers in civilized life, covering the faces of their infants sleeping in overheated rooms, with their little mouths open and gasping for breath; and afterward looked into the multitude, I have been struck with the evident evil and lasting results of this incipient stage of education; and have been more forcibly struck and shocked when I have looked into the bills of mortality, which I believe to be so frightfully swelled by the results of this habit thus contracted and practiced in contravention to nature's design."

BREATHING THROUGH THE MOUTH NOT NATURAL.

"We are told that 'the breath of life was breathed into man's nostrils'—then why should he not continue to live by breathing it in the same manner? The mouth of man as well as that of the brutes, was made for the reception and mastication of food for the stomach, and other purposes; but the nostrils, with their delicate and fibrous linings for purifying and warming the air in its passage, have been mysteriously constructed, and designed to stand guard over the lungs—to measure the air and equalize its drafts during the hours of repose. The atmosphere is nowhere pure enough for man's breathing until it has passed this mysterious refining process, and therefore the imprudence and danger of admitting it in an unnatural way, in double quantities, upon the lungs, and charged with the surrounding epidemic or contagious infections of the moment. The impurities of the air which are arrested by the intricate organizations and mucus in the nose, are thrown out again from its interior barriers by the returning breath; and the tingling excitements of the few which pass them, cause the muscular involutions of sneezing, by which they are violently and successfully resisted. The air which enters the lungs is as different from that which enters the nostrils as distilled water is different from the water in an ordinary cistern or frog pond. The arresting and purifying process of the nose, upon the atmosphere with its poisonous ingredients, puffing through it, though less perceptible, is not less distinct, nor less important than that of the mouth, which stops cherry stones and fish bones from entering the stomach.

"In man's waking hours, when his limbs and muscles and his mind are all in action, there may be but little harm in inhaling through the mouth, if he be in a healthy atmosphere, and at moments of violent action and excitement it may be necessary. But when he lies down at night to rest from the fatigues of the day, and yields his system and all his energies to the repose of sleep, and his volition and all his powers of resistance are giving way to its quieting influence, if he gradually opens his mouth to its widest strain, he lets the enemy in that chills his lungs—that racks his brain—that paralyzes his stomach—that gives him

the nightmare—brings him imps and fairies that dance before him during the night; and during the following day, headache—toothache—rheumatism—dyspepsia, and the gout."

THE DISEASES PRODUCED.

After pointing out that the organs most quickly affected by a wrong mode of breathing, are the lungs and their connections, including the bronchial tubes, the throat, the tongue and the teeth, our author says:—

"Besides the list of fatal diseases already given and which I attribute chiefly to the pernicious habit which I have explained, there are other results affecting the senses, personal appearance, and the enjoyments of life, which, though not fatal, are themselves of sufficient importance to demand its correction; such as curvature of the spine, idiocy, deafness, nightmare, polypus in the nose, malformation and premature decay of the teeth, toothache, tic-douloureux, rheumatism, gout and many others, to which the brute creation are strangers, and to most of which the savage races are but little subject."

THE EFFECTS ON THE TEETH.

"The teeth of man, as with the brutes, are wisely constructed to answer their intended purposes through the natural term of life, and would so, no doubt, but from abuses, the principal one of which I consider to be the pernicious habit already explained. The saliva exuding from the gums, designed as the element of the teeth, floods every part of the mouth while it is shut, continually rising, like a pure fountain, from the gums, at the roots of and between the teeth, loosening and carrying off the extraneous matter which would otherwise accumulate, communicating disease to the teeth, and taint to the breath.

"Among the native races they seem to have a knowledge of these facts, and the poor Indian woman who watches her infant and presses its lips together as it sleeps in its cradle attracts the ridicule perhaps, or pity, of the passer-by, but secures the habit in her progeny which enables them to command the admiration and envy of the world. These people who talk little and sleep naturally, have no dentists nor dentifrice, nor do they require either; their teeth almost invariably rise from the gums and arrange themselves as regular as the keys of a piano, and without decay or aches, preserve their soundness and enamel and powers of mastication to old age; and there are no sufficient reasons assigned yet, why the same results, or nearly such, may not be produced among the more enlightened races, by similar means. Civilized man may properly be said to be an open-mouthed animal; a wild man is not. An Indian warrior sleeps, and hunts and smiles, with his mouth shut, and with seeming reluctance, opens it even to eat or to speak. An Indian child is not allowed to sleep with its mouth open, from the very first sleep of its existence; the consequence of which is, that while the teeth are forming and making their first appearance, they meet (and constantly feel) each other; and taking their relative natural positions, form that healthful and pleasing regularity which has secured to the American Indians, as a race, perhaps the most manly and beautiful mouths in the world.

AN INDIAN'S OPINION OF ENGLISHMEN.

Of the party of fourteen Ioway Indians, who visited London some years since, there was one whose name was Wash-ke-mon-ye (the fast dancer), he was a great droll and somewhat of a critic, and had picked up enough of English to enable him to make a few simple sentences and to draw amusing comparisons. I asked him one day how he liked the white people, after the experience he had now had; to which he replied—"Well, white man—suppose—mouth shut, putty coot, mouth open, no coot—me no like um, not much." This reply created a smile among the party, and the chief informed me that one of the most striking peculiarities which all Indian tribes discovered among the white people, was the derangement and absence of their teeth, and which they believed were destroyed by the number of lies that passed over them."

The pamphlet is published by John Wiley, of New York city, and sold for 25 cents. We advise all persons, especially parents, to procure it.

It is said that the Secretary of the Treasury has ordered the devices on our national coin to be so changed as to signify the religious faith of the nation, and its trust in a Supreme Being.

Railways in Chili—American Engineers Abroad.

The *Railway Times* contains the following on the construction of railways in Chili:—

The railway between Santiago, the capital, and Valparaiso, the seaport of Chili, was projected in 1851, and the works commenced at Valparaiso in October, 1852. About thirty-two miles of the line have been opened to the public for nearly five years. Unforeseen delays occurred to stop all further progress until last month, when a contract was entered into by the government and the present contractor for the works of the Southern Railway of Chili. This contract obliges the contractor, Mr. Henry Meigs, an American, to deliver up the railway complete in three years, and the amount of the contract is \$6,000,000.

The Southern Railway of Chili is the main artery of the country, and it is proposed to extend it south from the capital, a distance of 170 miles. About 52 miles have been opened for traffic for three years, and the works of the extension are being rapidly carried out. The principal engineering works on this railway are the bridges, which are numerous and of considerable extent, to suit the sudden risings of the rivers in the floods of the rainy season, and the floods caused by the melting of the snow in the Cordilleras. The 32 miles of this railway were constructed by Mr. Evans, an American engineer, and all the bridges are on the trussed systems, known as Long's patent, and Bollman's combinations of cast and wrought iron. The present engineer-in-chief, Mr. Cross Buchanan, has adopted plate girders for all his bridges on the division under contract. Although perhaps not so elegant and light looking, the girder bridges are not less suitable to the country, and the difficulty of erecting and finishing them can be overcome by a judicious division of each girder into pieces suited to the mode of transport into the interior. The first large bridge of this kind yet erected in Chili was opened for traffic on the 18th of September last. It has nine spans of 60 feet, and was erected and finished in less than two months after the arrival of the first sections from the coast.

Distress and Impending Famine in Ireland.

We take the following from the *Dublin Agricultural Review*:—That much and serious distress exists at the present moment in the western districts of Ireland is but too true. Letters from various parts of the country testify to that unfortunate fact. Professional men, surveyors and valuers, whose duties necessarily lead them into remote districts, not altogether on "outside cars, going at a rapid rate," are reluctantly obliged to admit the existence of considerable and wide-spread distress. Commercial men, too, like Mr. MSwiney, who, in the interest of trade, require of their correspondents and travelers to inform them of the condition of the people, have also told us how much of suffering and privation is already being experienced by the peasantry and small farmers of the country. It is useless attempting to disguise the facts. The things are unfortunately too real already, and the sooner we set out earnestly to grapple with the evil the better it will be for all classes. Extensive employment, of some kind or other, must be provided for the people to keep them from starvation or from burthening the rates. Let us trust, however, that the mistakes of 1846 will not be repeated, with respect to the nature of the works to be undertaken. It is generally admitted, however, that the want of fuel is one of the chief causes of the prevailing distress. Fabulous prices are now being paid for a cleave of turf in parts of the West. Coal is not to be had for any money. This is a state of things most melancholy to contemplate.

There is an abundance of turf cut in all the bog districts; but, being saturated by the continuous wet weather, it is, of course, totally unfit for fuel. It is perfectly manifest that the ordinary method of drying it fails at this season. Here is the misfortune. Is there no possibility of making this moist peat available for fuel?

THE TELEGRAPH ON WAR SHIPS.—The *London Post* states that an iron clad elevated room is built on the after deck of the *Warrior*, and fitted with telegraphic apparatus, communicating with the engine room and all the apartments of the vessel. In this room the commander witnesses in comparative safety all that is going on and sends his orders with lightning speed to any part of the ship.

Meerschaum Mania.

The value of the meerschaum pipes and cigar tubes imported into the United States in 1858, it is stated, amounted to \$200,000, a great sum to be wasted on a mere sham. This is really getting to be a serious business. It is bad enough to waste time and money—to say nothing of breath—in the consumption of the evil weed, but when to this is added the mania for coloring expensive pipes, thus increasing the habit of smoking, the folly of it all is really too preposterous.

We were amused the other day at hearing a young but ambitious smoker gravely asserting that meerschaum was made of the foam of the sea! This impression has probably arisen from the German work used to designate the material—*meerschaum* meaning *sea foam*—a poetical figure of speech, alluding to its lightness and whitish appearance. It is properly magnesite, a mineral of soft earthy texture somewhat resembling chalk, found in Spain and other countries at the head of the Mediterranean. To produce the yellow and brown colors so much admired in the pipes, and which are brought out only after long smoking, the blocks of which the pipes are made, are kept for some time in a mixture of wax and fatty matters. A portion of these is absorbed, and being subsequently acted upon by the heat and the tobacco fumes, assumes various shades of color. Thus the smoker in coloring his pipe, is employed in the dignified business of mingling tobacco smoke with a mixture of wax and grease!

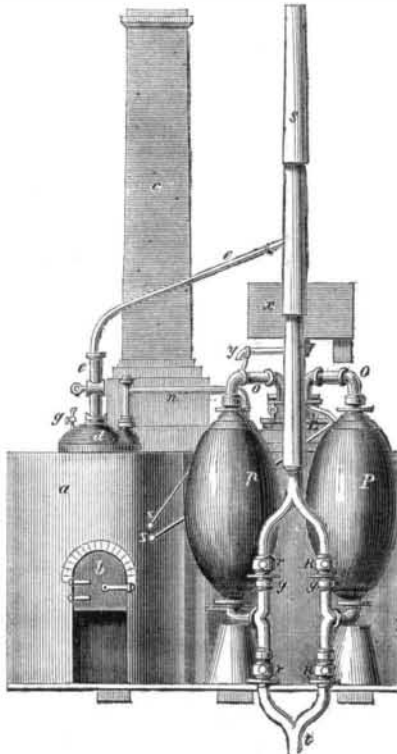
Here we are reminded of a little incident which recently took place within our knowledge, and which amusingly illustrates the folly of meerschaum coloring. A gentleman had an expensive meerschaum, which he doted upon, but which notwithstanding all his smoking he could not color so fast as he desired. In fact, after long puffing, it only showed one little spot of brown. Some of his friends told him they did not believe it would ever color, and the indefatigable smoker grew quite despondent. One evening his wife who naturally sympathized with him in trouble, took up the pipe during his absence and while examining it brought it over the flame of a lamp. Immediately a strong color was brought out by the heat, much to the surprise of the lady. Laying the pipe away, however, she said nothing about the matter. On the following morning when the gentleman made his usual inspection of his beloved pipe, his delight and amazement knew no bounds. His meerschaum had colored splendidly, and all owing to his indefatigable puffing! He displayed it in triumph to his friends, and became a more firm believer than ever in the virtues of tobacco smoke. Meantime his good lady said nothing, but she has imparted the secret to her female friends that they may be able to assist their husbands in their arduous endeavors to color their meerschaums. She is a very benevolent lady, and wants to do all the good she can in the world.—*Portland Transcript.*

SURFACE CONDENSERS FOR STEAM ENGINES.

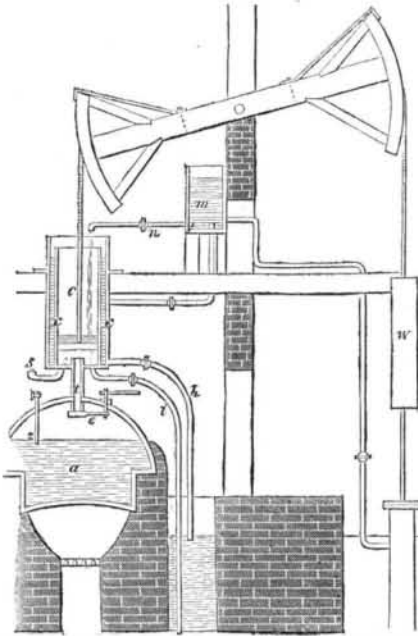
The following description is taken from the London *Engineer*, being a paper read before the Society of Engineers by John Louch. It will be found not only interesting but profitably useful by all who are interested in condensing, especially marine engines, as surface condensers appear to be rapidly superseding the old inside sort both in Europe and America. Mr. Louch said:—"In order to fully understand our subject it will be necessary to look a little to the history of the steam engine. Passing over the early inventions of Hero, De Caus, Branca, the Marquis of Worcester and others, as being impracticable or problematical, we come to the first really useful engine of Savery, in 1698, which was the only one of that period having any practical value, introduced to any extent for mining or other purposes."

The accompanying figure represents Savery's complete engine, invented in 1698, but we will only describe the condensing feature of it as that is all that is necessary. The two vessels, *p* *P*, are connected with the steam boiler by pipes *o* *O*, and with a well by the suction pipes, *r* *R*, and also with a discharge pipe, *s*, by the branch pipes, *g* *g*. This engine was only used for raising water from mines. The steam from the boiler passed by pipe *O* into the vessel, *P*, and when full the steam was shut off, then a stream of cold water from the cistern, *z*, flowed over the surface of

the chamber, *P*, and condensed the steam, forming a vacuum inside. Communication was then opened with the well below, and the water ascended through pipe *t* into *P*. The same operations were performed with the other chamber, *p*, and the two thus acting raised a constant stream of water by surface condensation.



The great waste of steam caused by its contact with the water in the vessel, *p*, soon led to the abandonment of Savery's scheme in favor of engines with cylinder and piston working ordinary lifting pumps through the intervention of an overhead beam, as shown in Fig. 2. This engine was the invention of Mr. Newcomen, and was patented and extensively introduced by himself and his partners Savery and Cawley. After having been converted into an injection engine it remained long in use, even after being to a considerable extent, superseded by the improved engine of James Watt; indeed it may be possible even now to find it still working in some of the more primitive colliery districts.



In Newcomen's engines as originally constructed and represented, the steam is admitted from the boiler, *a*, into the cylinder, *c*, which, when the air has been expelled, and the cylinder filled with steam, is closed. Cold water is then admitted by the cock, *n*, from the cistern, *m*, and filling the casing, *c*, around the cylinder, condenses the steam therein, and thereby produces a vacuum. The atmospheric pressure now comes into operation and depresses the piston, which, by its connection with the overhead beam at the inner end, raises the other end which is attached to and works the pump. The cock, *n*, is now closed, and *h*

opened to allow the condensing water to flow off into the cistern. The cock, *n*, is again opened, and the steam admitted into the cylinder by which the air and condensation water are expelled through the snifting pipe, *t*; and the counterweight, *w*, now preponderating, raises the piston to the top of the cylinder, and another stroke commences, as before described.

In working one of these engines it was observed on one occasion to make several strokes in quick succession; and on searching for the cause, a hole was found in the piston (which admitted the water which was supplied to the top for the purpose of keeping the packing air-tight) to the cylinder. Taking advantage of this accidental discovery, they were afterward invariably made with a jet of water injected into the cylinder, instead of merely to its external surface as before; and condensation by surfaces of cold metal was for some time abandoned.

Raising a Sunken Ship.

The British ship *Sovereign of the Seas*, while at Sydney, New South Wales, last summer caught fire in her upper works, and to save her from entire destruction, she was scuttled and sunk in 28 feet of water. Various plans had been proposed to raise her, by captains who had arrived at Sydney, but all were rejected as impracticable by Lloyd's agent at that place. At last Captain Lachlan McKay, of Boston, arrived in the ship *Nagasaka*, and having examined the sunken vessel, offered to raise her in one week. The proposal was deemed somewhat fanatical, but it was accepted. A large bagging of canvas was made, sufficient to cover both sides of the ship from the bilges to the planksheer. The lower edge of this vast sheet was sewed securely to a small chain which sunk into the required depth, after which it was hauled tight with powerful tackels, which kept it in its place. The upper edge was nailed, and otherwise secured along the line of the planksheer. Extra pumps were rigged down all her hatchways and manned by gangs, who kept them going without intermission, and in five hours she floated and became upright. In three days from the time Captain McKay commenced operations the ship was ready to have her cargo discharged. The *Sidney Herald* speaks in high terms of this feat of ship-raising. Captain McKay raised the clipper ship *Great Republic* in the same manner, after she had been scuttled to save her hull from destruction by fire while lying at one of the docks of this port (New York), several years ago.

The British and American Navies.

The whole force of the British navy numbers 431 steam vessels and 182 sailing vessels. This would make a total of 613 actual war vessels, without including the large number of transports and other ships that could, at short notice, be converted into men-of-war. The fleet would carry 15,000 guns, and some 84,000 seamen. The effective force of the American navy is 82 sailing ships, carrying 847 guns, and 164 steamships, carrying 1,055 guns. The Secretary of the Navy makes the whole effective force 264 vessels, 2,557 guns, and about 23,000 seamen; but he includes in his list receiving ships, and ships of the line that have been on the stocks since 1818. The House of Representatives has passed a bill authorizing the construction of twenty iron-clad gunboats to be built by contract or otherwise as the Secretary of the Navy may deem best for the public interest.

A Wooden Mother.

We have heard of wooden nutmegs, wooden hams, horn gun-flints, wooden oats, and wooden clocks, but what infusion of the Yankee ever tinctured a John Bull to invent a wooden mother! The following, by a correspondent of the *Mark Lane Express*, describes the new invention.

A fine sow, having twelve sucking pigs, belonging to a pork merchant in Monkwearmouth was taken ill, and died suddenly. The proprietor who is an ingenious character, set to work and formed a rough model of a sow in wood, being hollow in the center, the abdomen being furnished with twelve teats, cleverly formed of raw hide. The interior of the model is kept filled with milk and the whole of the young pigs suck from the teats of this singularly looking wooden sow, and all are thriving well.

The reserve fleet at Portsmouth, England, consists of eight line-of-battle ships, six frigates, four corvettes, and twelve sloops, armed with 1861 guns, and propelled by engines of 13,942 horse power. This does not include the *Black Prince*, which is nearly ready.