

Steel Its Manufacture.

Steel is generally made in England from Swedish iron. In this operation layers of malleable iron and layers of coke are placed one upon another in a proper furnace, the air is excluded, the fire raised to a considerable degree of intensity, and kept up for eight or ten days. If upon trial of a bar, the whole substance is converted into steel, the fire is extinguished, and the whole is left to cool for six or eight days longer. Iron thus prepared is called blistered iron, from the blisters which appear on its surface. In England coke alone is used for this purpose; but it has been found an advantage in using one-third to one-fourth of wood ashes, especially when the iron was not of so good a quality as to afford steel possessing tenacity of body as well as hardness. These ashes prevent the steel-making process from being effected so rapidly as it would otherwise be, and give the steel pliability without diminishing its hardness, good wood charcoal needs no wood ashes. The blisters on the surface of the steel, under this management, are smaller and more numerous. If bars, when they are put into the surface, be sprinkled with sea salt, this ingredient contributes to give body to the steel. If the cementation be continued too long, the steel becomes porous, brittle, of a darker texture, more fusible and capable of being welded. On the contrary, steel cemented with earthly infusible powder, is gradually reduced to the state of forged iron again. Excessive of repeating in the forge is attended with the same effect.

The properties of iron are remarkably changed by cementation, and it acquires a small addition to its weight, which consists of the carbon it has absorbed from the charcoal, and amounts to about the one hundred and fiftieth or two hundredth. It is much more fusible than before; and it may still be welded like bar iron, if it has not been fused or over cemented; but by far the most important alteration in its properties is, that it can be hardened or softened at pleasure. If it be made red-hot and instantly cooled, it attains a degree of hardness which is sufficient to cut almost any other substance; but, if heated and cooled gradually it becomes nearly as pure as iron, and may, with much the same facility be manufactured into any determined form.

A great number who are unacquainted with the nature of steel suppose that it will stand more heat than iron but if a steel wire and an iron wire be put into the fire together, the steel wire will be found reduced to a fluid state while the iron is yet malleable, steel is therefore easier burned (as it is called) than iron.

Curiosities.

Iron may be put into a vice and sawed with a saw endwise. The saw should have a thicker edge than back and with uniform teeth one-twelfth of an inch apart. The mechanic must have a vessel of cold water beside him in which to dip his saw often. A bar of iron may be sundered while hot by brimstone.

If strontia is thrown into the flame of a spirit lamp a beautiful purple flame is the result.

A copper plate perforated with holes if held over the flame of ether, will emit a beautiful green flame.

Camphor gives to flame a bluish color.

If a small piece of camphor be ignited in a candle and then placed in a basin of water, it will float and burn and move to and fro on the surface, emitting a fragrant smell. If a drop of oil be let fall on the water, the camphor will suddenly stop

Squaring the Circle.

Gabriel H. Thompson, has presented the following modest petition to the Legislature of Massachusetts:—

"The petition of Gabriel H. Thompson, praying for a grant of ten thousand dollars, to enable him to go to London and publish his work on the great discovery of the true quadrature of the circle, and to avail himself of the rewards there offered. And your petitioner as in duty bound will ever pray," &c

The Senators of the Bay State gave Mr. Thompson leave to withdraw his modest petition.

Brahminical Wonders.

According to Lieut. Wilford, the Brahminical Puranas state the circumference of the earth at 2,457,000,000 British miles; whereas according to our calculation, it does not exceed 24,000 miles. These works also tell us of mountains 491 miles high; of a king reigning 27,000 years; of Valvasvatu having lived 3,892,888 years ago, and whose reign lasted 1,728,000 years. The civil list and droits are not stated. Also, of an island in the middle of the earth, 400,000 French leagues long, and as many broad; and of a mountain in that island 400,000 leagues high, and 32,000 wide; of other mountains 40,000 and 280,000 leagues high. These latter wonders are in the Bagavadam; and in the same Puranas, there is a tree mentioned, 4,400 leagues high; and again, an island which is 3,300,000 leagues in extent; and another surrounded by a sea of milk, rather more than 12,000,000 of leagues in circumference. These things are taught by the Brahmins as sacred truths, to the people who believe in them.

Ancestry of the British Queen.

During the troubles in the reign of Charles I, a country girl came to London in search of a place as a servant maid, but not succeeding she hired herself to carry out beer from a brew house and was one of those called tub-women. The brewer, observing a good looking girl in this low occupation took her into his family as a servant, and after a short time married her—He died while she was yet a young woman, and left her the bulk of his fortune. The business of brewing dropped, and Mr. Hyde was recommended to the young woman as a skilful lawyer to arrange her husband's affairs. Hyde, who was afterwards Earl of Clarendon, finding the widow's fortune considerable, married her. Of this marriage there was no other issue than a daughter, who was afterwards the wife of James II, and mother of Mary and Anne, Queens of England.

A Mother's Cry.

We read in the Journal de Cologne of December 2: "Capt. M. was recently informed that his son lay dangerously ill at Berlin. The mother hastens with all speed to the bedside of her son; but alas! he is already dead and lies extended in his coffin. In the anguish of the moment, she utters a loud cry and falls upon the body. What rapture succeeds to her despair, when she sees her well beloved son, roused from a trance by his mother's cry, revive and open his eyes."

A Stubborn Contest.

Near the Barbadoes islands is a huge white rock, which from the resemblance to a ship under full sail is called the "Ship Rock." A French frigate, falling in with this rock in the night time, mistook it for an English vessel and commenced firing into it. The echoes of the cannonade were repeated so perfectly that they were also mistaken for the returning fire. The action continued until morning, when each party having received an equal amount of damage, it was thought best to discontinue the fight.

Strange Speculation.

In his lecture on the Sun, Prof. Nichol alluded to the fact that fields of coal have been discovered in the polar regions of our earth, plainly indicating that that portion of our planet was once lighted and warmed by an agent more powerful than any which now reaches it, and which was capable of sustaining vegetation of a tropical character.

The Brain.

The brain itself may be removed, be cut away down to the corpus colosum, without destroying life. The animal lives and performs all those functions which are necessary to simple vitality but has no longer a mind, it cannot think or feel. It requires that the food should be pushed into its stomach; once there, it is digested; and the animal will then thrive and grow fat.—*Wigan's Dualitu of Mind.*

Echoes.

The famous echo in Woodstock, Park, England, repeats seventeen syllables in the day time and twenty at night.

Occupations of English Women.

In the census of returns presented to Parliament, we find rather curious matter relating to the occupation of ladies. We find fifteen ladies entered as "authors," and one as a "professor of the belles letters." Of actresses, three hundred and fifty-seven above twenty. Eighty-nine actresses are stated to be under twenty. Of curiosity dealers, the total return is forty-six, only six being of the fair-sex. This disproportion, however, is amply redeemed by the statement that there are five hundred and eighty-four females connected with the post-office. Four ladies are engaged as bayonet manufacturers, and eighty-six shoe horses. Of botanists, we have in all sixty-five, two of them being ladies. The Scotch, too profess to have thirteen female drovers following their cattle to the Southron's markets. Eighty females are entered as watch makers. Under the head 'newspaper editors, proprietors and reporters,' we find one hundred and twenty; only four, however, are mentioned as females above twenty.

Late Hours.

All animals, except those that prowl at night, retire to rest soon after the sun goes down, from which we may conclude that nature intended that the human species should follow their example. It is from the early hours of sleep, which are the most sweet and refreshing, that the re-accumulation of muscular energy and bodily strength takes place, as well as that of due excitability in the brain indispensable to the operation of our waking hours. In order that sleep may be refreshing it is necessary to take sufficient exercise in the open air during the day, to take a light supper or none at all, avoiding tea or coffee late in the evening, to sleep on a hair mattress, with a light covering of bed clothes, in a room freely ventilated. It is well known that the Duke of Wellington, now a hale old man, is accustomed to sleep on a narrow hard pallet; and we believe the couch of her majesty is of the simplest possible construction. It is reported that the Duke justifies the narrowness of his resting-place on the plea that when a man wishes to turn, it is high time to turn out.

Steam Ships of War.

Two Steam Navigation, and Royal Mail Companies in England have now afloat and running on various branches of service, from the port of Southampton alone, thirty-seven steam vessels, adapted to war-purposes, and built under contracts with the British government, and at their disposal in the event of a war or invasion. Fourteen of these vessels are of 1800 tons, and 500 horse-power or upwards each. The total tonnage is 45,530, the horse-power 13,910, and they are capable of carrying an armament of 246 guns of from 24 to 68 pounders. There are besides, at the same port, several vessels of a smaller class. This enumeration is of course exclusive of similar vessels which sail from Liverpool and the other ports of the kingdom, and exclusive of the vessels built exclusively for service of war, and now in the naval service.

Curious Criminal Facts

The Maiden, an instrument by which criminals were beheaded in Scotland, was introduced into that country by Earl Morton, and he was the first person who suffered by it; M. Guillotine, a French surgeon, who gave his name to an improvement of the Maiden, died also by his own invention; and Deacon Brodie, who was executed about thirty years ago for robbing the Excise office in Edinburg, and who really was a man of genteel birth, and in his manners more of the Macheath than anybody who appeared for the last fifty years—this gay deacon or the carpenter of Edinburg, invented the drop by which all the criminals of Britain now suffer; and strange to say, he was the first man who suffered on his own commodious gallows.

The cocoa nut tree supplies the natives of the countries in which it grows with bread, water, wine, vinegar, brandy, milk, oil, honey, sugar, needles, thread, clothes, cups, spoons, basins baskets, paper, masts for ships sails, cordage, nails, covering for their houses, &c., &c.

Wonders of Art.

There is a man in London who has a glass eye and spectacles, a wig, one arm and both legs of wood, a nose which is fastened to the skin of the forehead, a lower jaw of silver, an artificial set of teeth, a part of the skull of caoutchouc, and a palate and both ears of the same substance, as well as a large part of the abdomen. We learn that he was formerly employed in supplying a steam engine with coal and in an explosion of the boiler was most horribly mutilated. Dr. Kemble succeeded, almost by a miracle in saving his life, and made him what he now is—Almost an artificial yet breathing man.

One Way to Make a Fortune.

An individual recently deceased in France, who gained the liberal sum of 300,000 francs as follows:—possessed of a small patrimony, at thirty years of age, he retired to the country to improve his few acres of ground. Not content with this industry, he turned his attention to trafficking in sheep, and thereby enriched himself. Every time he bought a sheep he cut off its tail, which served as a meal for his family. The animal after its wool was a little increased in weight was resold at a slight advance. It was thus, that in time, he succeeded in gaining his 300,000 francs. It is true that many sheeps tails must have been swallowed, but the result was not the less satisfactory.—*Boston Bee.*

Singular Circumstance.

A friend of ours, says the Albany Knickerbocker, a few weeks ago, lost a valuable Newfoundland dog. For days and days he searched high and low, but nothing of "Lion could he find." At last we hinted to him the propriety of whistling for him in front of one of our cheap sausage shops. He did so, and with the happiest results. The very first blow he gave, eight bellonas, two head-cheeses, and eighteen pounds of "links" jumped off the stall, and chased him down street, as if Old Nick, was after them. This will learn our domestic butchers to keep their sausages chained.

Baggage of a Man of Simple Habits.

Though the Governor General of India is looked upon as a man of simple habits and manners, when moving on a progress his baggage is described as being carried by one hundred and three elephants, one thousand and three hundred camels, and eight hundred wagons drawn by bullocks, and these escorted by two regiments, one of cavalry and the other of infantry!—*Ex.*

[A friend of ours remembers going to the same Academy with the present Governor General of India when his father was Governor of Canada. At that time he carried all his baggage buckled together with a leather strap, over his shoulder! His habits too were then as simple as now, for he was noted for hitting harder with his fist and firing a snowball with a more unerring aim than any of the young sovereigns with whom he associated.

Was it Ether or Chloroform.

In Middleton's tragedy of "Women beware Women," written in 1657, occurs the following passage.

"I'll imitate the pities of old surgeons
To this lost limb, who, ere they show their art,
Cast one asleep, then, cut the diseased part."

The Wife.

It is astonishing to see how well a man may live on a small income, who has a handy and industrious wife. Some men live and make a far better appearance on six or eight dollars a week than others do on fifteen or eighteen dollars.

Employ Your Minutes.

Life is too short to be frittered away in trifles. Let no moment pass unemployed. Sleep for the renewal of exhausted nature, awake to live to the duties of life. Beware of ever indulgence in meet or drink. Intemperance brings no recreation, but serves to exhaust the powers of both body and mind.

The number of poets in the United States is estimated by the Chronotype at 5023. Greece had only one. This shows the fertility of our soil when poudrette is added to it.