

Mourning Customs.

A French writer gives a summary of the different observances among mankind, relative to mourning and funeral ceremonies, which we think will interest our readers. All the world, says he, are acquainted with the grandeur of the Roman obsequies and funeral games. The Greeks also burnt the corpses of distinguished men, with funeral feasts, and the lamentation of hired weepers, though they generally displayed a less sumptuous grief, and better regulated piety. The Persians buried the bodies of the dead; the Scythians ate them; the Indians enveloped them, for preservation's sake, in a sort of locker; the Egyptians embalmed and dried them, exhibited them on festal days, placed them at the table among their guests, guarded them as their most precious possessions, and loaned and borrowed money on these strange pledges. In our time, the custom of dancing at funerals is only practised in India and among some savage nations; but funeral entertainments still prevail in many European countries. Amongst others the ceremony of interment is solemn and silent, which nevertheless does not interfere with the wish that all may be forgotten as speedily as possible. We observe more ostentatious rites for persons of consequence. Their carriages follow them to the graves, and sometimes their horses are paraded, which having been made to fast seem to partake of the affliction of the occasion. The Orientals, from whom we borrow this custom, went further—they made the horses in funeral processions weep, by blowing a particular kind of powder up their nostrils.

In Italy the mourning was formerly white for women, and brown for men. In China it is white; in Turkey, Syria, and Armenia it is blue; in Egypt, yellow; in Ethiopia, grey. Each of these colors had, originally, its mystical signification. White is the emblem of purity; celestial blue indicates the space where the soul ranges after death; yellow, or the tinge of dead leaves, exhibits death as the end of all human hopes, and man falling like the leaf of autumn; grey represents the color of the earth, our common mother; and black, the funeral costume now adopted throughout Europe and America, is an allusion to the eternal night.

In England, the sovereign never wears black; he is clothed in dark purple as mourning. Till the reign of Charles VIII, white was the funeral garb in France. The Emperor Leopold, who died in 1705, used to suffer his beard to grow in disorder during the whole period of mourning. In this he imitated the Jews. The dowager-empresses never left off weeds, and their apartments were hung with black till their death.

The Chancellor of France is the only person who never wears mourning. The brothers, nephews, and cousins of Popes never wear it; the happiness of having a Pope in the family is too great to allow them to be affected even by his death.

But the most remarkable of all these usages, is, perhaps, that of the people of those ancient nations, who dressed themselves as women when they lost their relatives, in order, it is said, that the ridicule attached to their vestments might make them ashamed of their grief.

The Gorilla—A Natural Curiosity.

In Africa there is a tribe of huge monkeys known by the name of Gorillas. Their existence has been known to white men for some years, but none have ever been taken alive. They generally live in the lonely retired seclusions of the forests and the males are capable of coping in fight with the lion. The skull of one is in the Boston Museum, being sent thither from Africa, by the Rev. Mr. Wilson, a missionary. Last year, the body of one was sent from Sierra Leone to Professor Owen and was packed in a cask of rum. When opened, the body was found to be partially decomposed, but it was taken out to the fields and has been restored and fitted for its

place among the other African quadruman specimens in the museum. The males of the gorillas, have a horrible appearance; they attain to a stature of five feet, with wrists four times the size of a man's; hands double the size, and they are three feet broad across the shoulders. Their strength is prodigious; one can wrench the head off a man with his hands as easily as a person can husk an ear of corn. Its teeth and jaws are as powerful as those of a tiger, as one has been known to bite through a gun-barrel, as if it were a stalk of cane. They feed on vegetables, principally nuts and sugar cane, and are covered with a coat of black hair. The negroes live in considerable terror of them, and well they may, as they are perfectly fearless and very fierce. The specimen which has just been added to the British Museum is the most interesting natural curiosity which has been secured for a great number of years.

Browning Gun Barrels.

The London *Artisan* contains the following directions for browning gun barrels, stated to be those practised at the Government small arms factory, and by "the most celebrated barrel-browners in London and Birmingham":—

"The barrels must be clean and bright, and entirely free from grease, to effect which they are rubbed with pounded lime. They are then rubbed with the following mixture: 6 oz. spirits of wine, 6 oz. tincture of steel, 2 oz. corrosive sublimate, 6 oz. sweet spirits of niter, and 3 oz. nitric acid. When rubbed with this they are placed in a warm room for twelve hours, after which they are brushed. Another similar application is now made, when they are laid aside for six hours longer, after which they are again rubbed with a scratch-brush, and so on for five days the operation is repeated. The barrels are then placed in boiling water, afterwards rubbed dry, and while still warm are rubbed over with sweet oil. The operation of browning should be performed in a dry room heated to 70° Fah."

Simple nitric acid and a little alcohol will answer the same purposes, we believe, as the above mixture. We present this in addition to what we have recently given on this subject, so that our readers may try the experiments, and prove which are the best methods.

Effect of Climate on Nations.

It is certain that excessively hot climates are unfavorable to the population, wealth, civilization, refinement and general prosperity of nations; for although the tropical zone abounds with delicious fruits and other aliments, it is deluged with rains for six months, attended with dreadful hurricanes, and also parched with drouth during the remainder of the year; while the frequency of earthquakes and volcanic eruptions cause the overthrow of many cities and the destruction of many thousand lives, not to mention the pestilential character of the atmosphere. Such is the deleterious influence of the torrid zone on the growth of population, that in the vast continent of Africa it does not exceed 57,000,000, or if we take the estimate of Balbi, 60,000,000, on a territory of 11,000,000 square miles, a large proportion of which is found above north latitude 30 degrees, where the mean temperature of the year varies from 78 to 98 degrees, and where considerable advances have been made in wealth, civilization, arts, sciences and social improvements, as in ancient Egypt, Carthage, and other Phœnician states.—*Metcalf on Caloric.*

A Case of Illness.

A man was taken suddenly ill a short time ago, and the only cause he could suggest was some elder wine he had been drinking. The wine was examined, and was found to contain large quantities of zinc, having been boiled in an iron boiler that had been "galvanized" or zinced. All persons should be cautious not to place any substance containing an acid in any zinc vessel, as it will dissolve, and it is extremely pernicious.

Improved Heating Arrangement.

The heating of buildings by water, while it possesses many advantages over other methods, has still a sufficient number of disadvantages to prevent it coming into general use; and the same may be said of steam. L. W. Leeds, of this city, by a patent obtained this week, proposes to combine the advantages of both systems without having the defects of either, and to heat houses, public buildings, streets, or even cities, in a simple and economical manner. He places water chambers of any proper construction, and provided with air flues, in such a position as to supply a current of hot air to the room or house when the water in the chamber is warmed; and this he warms by steam generated in a boiler at any distance from the water chamber, the steam being conveyed from one to the other by pipes. By this means, one boiler may be made to heat a street or more, by passing the steam through the water chambers in the different houses, and the temperature is always under perfect control.

Feeding Coals to Fires.

The common method of feeding coal to fires in stoves, grates, and furnaces, is by placing the fresh fuel on the top of that which is red-hot. The very opposite method, namely, feeding the coal underneath by Delano's improvement, has been introduced at the Iron Works of Messrs. Corning & Winslow, at Troy, N. Y., and has effected a saving of about twenty per cent in fuel, with the production of a superior quality of iron. The patents for this improvement were secured in Europe through the Scientific American Patent Agency; and as a valuable and profitable invention it deserves the attention of all those engaged in the iron manufacture. By feeding the coals to the fire in this manner, the grate bars are kept clean and free; less power is thereby required to operate the blast, and the furnace can be run for a much longer period.

Cracks in Bells.

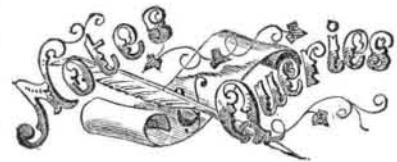
A correspondent of the London *Builder* gives some very valuable advice about bells. He advises that they should be occasionally examined, to observe how much the bell is worn at the places struck by the hammer. If a considerable indentation has been made, the bell should be re-hung, and turned a quarter round, to present a fresh surface to the action of the clapper. Some good bells have become cracked without any extra or violent use, by being worn only at two points. The cost for turning the bell to prevent its cracking from such a cause, is very trifling in comparison with re-casting a cracked bell.

Barbarous Sanitary Law.

When the plague was in Edinburgh, in the autumn of 1569, the "Good Regent" (Moray) ordered that every family in which it appeared should remove their sick to the Boroughmuir, under penalty of death, and actually hanged one tender-hearted husband for concealing the fact that his wife was attacked with the pestilence, and nursing her in his house instead of sending her forth to perish miserably amongst the rest of the unsheltered victims of this barbarous sanitary law.

THE BREECH-LOADING RIFLE CANNON.—The rifled cannon in England, which has recently sent shot crushing through their iron floating batteries as if they were pasteboard, is the invention of Mr. R. Armstrong, of Newcastle, England. It is made of a compound of steel and iron. The interior is steel, this is surrounded by wrought iron twisted in a spiral form like the stub and twist barrels of fowling pieces. Its strength is so great that it easily projects an 18-pounder elongated shot, and yet it weighs no more than an ordinary 9-pounder.

Humboldt answers 2,500 letters annually, and these form only a portion of the number he receives.



* PERSONS who write to us, expecting replies through this column, and those who may desire to make contributions to it of brief interesting facts, must always observe the strict rule, viz., to furnish their names, otherwise we cannot place confidence in their communications.

We are unable to supply several numbers of this volume; therefore, when our subscribers order missing numbers and do not receive them promptly, they may reasonably conclude that we cannot supply them.

G. L. M., of Mass.—Silver is placed on brass by a solution of cyanide of silver and one of Smee's electric batteries. You can also silver brass by a powder composed of precipitated silver powder mixed with two parts of cream of tartar and common salt. It is rubbed on the brass with a piece of leather moistened with water. After it is silvered over, wash it in warm water, and wipe dry with a soft cloth.

J. F., of Vt.—Hydraulic cement is excellent for aqueducts and cisterns; indeed, there is no other so suitable for such purpose. Soluble glass would not be of the least benefit to mix with it. There are no objections to the use of good hydraulic cement, as it is durable and safe.

G. W., of Mass.—The only remedy for your kettle is to have it tinned or enameled inside. Had the iron been good at first it would not have rusted so soon.

W. J., of Mass.—Sal-ammoniac is the substance used in galvanizing iron with zinc. You will find the process described on page 269, Vol. XII, Sci. Am.

R. O. B., of Maine.—"Dick's Practical Astronomer" treats of the manufacture of telescopes, and contains the information you want. Large object glasses are costly, and those of first-rate quality are few and far between. We do not know their prices.

H. A. F., of N. Y.—You are perfectly right, there are ores of gold; and again, you are wrong, for gold is a simple element. We believe that every book on chemistry mentions the fact that gold can be crystallized by the use of nitric acid. From the style of your letter we suspect you are rather fond of alchemy. We should advise you to give it up, and read some good recent works on pure chemistry.

G. A. W., of Vt.—A license from a patentee to sell his invention in any State does not exempt you from the license laws of the States in which you sell. Each State is sovereign in itself, and has the power to regulate the mode in which articles shall be sold within its jurisdiction.

R. A. W., of Md.—The American Condensing Steam Engine, published by us some years since, is out of print.

H. B. M., of N. Y.—The work to which you refer, by Colburn and Holly, is published by Wiley & Halstead, 351 Broadway, this city. We believe it is a good work.

L. T. S., of Ohio—A minor can obtain a patent in his own name. In transferring it to another, however, it would be necessary for the father or guardian to give a signed consent to the transfer, otherwise the sale would not be legal.

N. D., of K. T.—The machine on exhibition at Barnum's Museum is supposed by many to be a perpetual motion, but it is not. It is, however, very skillfully constructed, and the secret of action is difficult of discovery. Glass can be cemented with a composition of isinglass dissolved in mastic varnish.

M. K., of Mass.—Gas would not be improved by passing through or remaining in contact with a thin layer of oil. We should think that corks impregnated with india rubber would be very good stoppers for bottles containing volatile fluids.

J. H. T., of Mass.—The mineral specimens which you have sent us can be picked up by the cartload from the boulders found in this locality. They are of no value whatever; they are bastard brittle garnets.

F. M. S., of Mo.—The water pipe should always be at the back end, and the steam pipe at the front end of a boiler.

J. C., of Mo.—A piece of hammered cold steel is larger after being tempered than before. You can easily try the experiment.

W. P. W., of N. Y.—Sulphurous water generally contains saline matter in solution, and is not good for steam boilers.

N. D. O., of Ky.—"The Sawyers' Companion" is a guide book for sawyers. There is little or no difference in the power of an engine having a 4½-foot pitman and another a 7-foot pitman, both being of 2-foot stroke. There is a little more friction on the pin of the short than the long pitman, but this is all.

R. L. S., of N. Y.—Two cubic inches of air elevated to 491° Fah., will exert a united pressure of 30 lbs. on the square inch.

J. J., of Ct.—If you wish to preserve thin steel knife-blades from warping when you have cast-iron handles on them, we advise you to cast them in iron chill-molds and not in sand. We do not know any other plan to effect the object you desire.

A. L. L., of Ill.—The moon moves round the earth in a spiral orbit. Some meteorologists assert that it does influence the weather, while others as positively assert it does not. There are a variety of conflicting opinions among learned men on this topic, and it will require a long course of observation to harmonize them.

H. G., of Mich.—Brass castings are rendered clean by pickling them in an acid solution. Use equal parts of sulphuric acid and water, and when the article is steeped a sufficient length of time to remove the black oxide, take it out and wash in clean rain water, then dry it in warm saw-dust.

D. R., of N. C.—It would be of no advantage to tin your copper still inside to prevent the action of chlorine gas on the latter metal, as it has a great affinity for the former, and would soon destroy it. Lead is not