COLORADO ORES.

An esteemed correspondent, Mr. Percival Stockman, in writing on the above subject, agrees with our editorial (published August 12, on page 103 of the present volume), that the enormous and shameful waste is a standing disgrace to technical science. He challenges the accuracy of Mr. John A. Church's statement (October 7, page 228), that "it is apparently impossible to amalgamate Colorado ores," and asks: "Why? The reason is that no process has hitherto been discovered to neutralize and separate the impurities invariably found in combination, not only with Colorado ores, but in all gold, and in different species of silver, ores." He describes arsenic, iron, and antimony, each in various forms, as the chief foreign bodies which cause difficulty, and states that "these impurities, coming in contact with the quicksilver, deaden and destroy its affinity for the precious metals;" but let the obstacles be removed, and then "tell any scientific man that gold and silver will not form an amalgam with quicksilver."

"The various different species of silver ores, that is, native silver, sulphuret of silver, brittle sulphuret of silver, antimonial silver, sulphuretted antimonial silver (red silver), carbonate of silver, muriate of silver (horn silver), and argillaceous muriate of silver, can all be amalgamated without any loss, provided that they are reduced fine enough to separate the metallic bodies. If the ores be not crushed fine, of course there will be loss, as quicksilver will not form an amalgam with the earthy substances."

He further asserts that:

"It matters not what proportions of gold and silver the ore contains, the quicksilver will amalgamate with one metal as well as the other, and both together. First remove its enemies, and give it fair play, before condemning it."

At all events, our correspondent throws light on a most important subject, too little understood by the persons most concerned.

Effect of Exercise upon the Bodily Temperature.

Dr. Clifford Allbutt says: "It seems absurd to tell a man who is toiling up a steep snow slope about 11.45 A. M., under a blazing sun, that, if he thinks he is decidedly hot, he is wholly in error, and that his temperature, if raised at all, is raised in a measure only perceptible to a very delicate thermometer. . . . . I may venture, perhaps, with more impunity to reassert this fact now, as most of my readers are far away from slopes of 45°, and are shivering in their easy chairs under the rigors of an English spring. Men of science have shown that all forms of force, such as heat, light, motion, chemical action, and the like, are mutually convertible, the one into the other. . . . It might be expected, therefore, that a man ascending the Alps would lose in heat what he expends in movement; for, on his arrival at the top, he represents a certain definite amount of force derived from combustion of food in his body . . . . . The average temperature of the human body is about 98·5° Fahr., and it may vary between 97·5° and 99·2°, with a few tenths of indifference above and below. To rise to 100° is, however, to become slightly but decidedly feverish, and temperatures of 105°—110° are positively and rapidly destructive. On the other hand, temperatures below 97° show danger of an opposite kind, and signify a depression of vitality below the limits of health. It is clear, then, that if the body is to survive, its temperature must preserve a constant level, or rather it must move in a definite curve, the place of which is constant for the same hour of every day, or nearly so. . . . . I am disposed to think that no better test could be found than the thermometer' to decide the wholesomeness of exertion in different persons; and if I may reason from myself to others I should say that the effect of hard exercise in a mountainous district is to accelerate the morning rise, to carry it two or three tenths above the average level of health, to favor the somewhat earlier occurrence of the evening fall, if the exertion be ended, to make the fall more rapid, and to carry it again one tenth, or perhaps two, below the usual night level of health. Also, that any depression during exertion signifies either deficiency of food or inefficiency of internal work.'"

Sinclaire's Boiler Fire Extinguisher.

The object of this invention is to put out the fire under a boiler, whenever the pressure has passed, by the slightest amount, the limit of safety, and also whenever the water has fallen so low as to endanger the boiler by over heating.

The first object is attained by means of a weighted lever in a locked and sealed chamber; the weight (to be set by the inspector,) controls a valve that, raised by any pressure beyond that to which the weight is set, opens a part which allows water to flow from the boiler into the furnace and extinguish the fire.

The second part of the invention is a pipe, in which a fusible plug is placed, leading to a plunger in a small cylinder. The pipe in the ordinary working of the boiler is filled with water, but when the water falls below the line of safety, it opens the end of the pipe which was closed by the water, and, the water being displaced by the steam, (the heat of which first melts the fusible plug,) the latter passes on into the cylinder, which forces up the plunger. The plunger in rising raises the weighted lever, and allows the water to flow into the furnace as above described.

The knowledge that neglect on their part will be revealed by the extinguishment of their fires, will tend to render engineers cautious, and thus reduce the number of accidents resulting from negligence.

This invention was patented Sept. 19th, 1871, through the Scientific American Patent Agency, by Thomas B. Sinclaire, of New York city.

Curiosities of Life.

Lay you finger on your pulse, and know that, at every stroke some immortal passes to his Maker; some fellow being crosses the river of death; and if we think of it we may well wonder that it should be so long before our turn comes.

Half of all who live die before seventeen.

Only one person in ten thousand lives to be one hundred years old, and but one in a hundred reaches sixty.

The married live longer than the single.

There is one soldier to every eight persons. and, out of every thousand born, only ninety-five weddings take place.

If you take a thousand persons who have reached seventy years, there are of

Clergymen, orators and public speakers	43
Farmers	40
Workmen	33
Soldiers	32
Lawyers	29
Professors	27
Doctors	24

These statements are very instructive. Farmers and workmen do not arrive to good old age as often as the clergymen and others who perform no manual labor; but this is owing to the neglect of the law of health, inattention to proper habits of life in eating, drinking, sleeping, dress, and the pr per care of themselves after the work of the day is done. These farmers or workmen eat a heavy supper on a summer's day, and sit around the doors in their shirtsleeves, and, in their tired condition and weakened circulation, are easily chilled, laying the foundation for diarrhœa, bilious colic, lung fever or consumption.

Pringle's Improvement in Oars.

By the use of these improved oars, the oarsman may either sit with his face in the direction he is rowing, or with his back to it, in the ordinary way of rowing.

The oar is made in two parts, their adjacent ends being pivoted to and between two plates, upon the outer sides of which are formed pivots or journals, by which the oar is connected to the oarlock. Upon the adjacent ends, of the two parts of the oar, are attached segments of gear wheels, the teeth of which mesh with each other.

By this construction, the handle and blade of the oar both move in the same direction when the rower desires to sit with his face in the direction toward which he is rowing.

By a peculiar construction of the rowlock, this movement does not prevent feathering the oar.

By the insertion of a pin, the toothed segments are prevented acting, and the oar is then used exactly like the ordinary oar.

The inventor of this improvement is Mr. Thomas G. Pringle, of New York City.

Extract of Horse Chestnut Wood.

For dyeing heavy black upon silk, an extract of horse chestnut wood has recently acquired great importance. It is preferred to nut galls or divi divi for this purpose. To what particular principle in the wood is to be ascribed the important property, of which use is now made, has not been determined with certainty, but it appears to be ascertained that the extractive matter of horse chestnut wood now plays an important part in the silk manufacture in Europe. The question is not one of so much importance in this country as as it is in France and Germany, but it ought to occasion a search to be made for some suitable substitute. We doubtless have in our forests trees that would yield a similar product if they were to be examined. There is a weed growing in great abundance in New England known as *hard hack*, which ought to be examined with reference to its possible use in dyeing and tanning, It is a nuisance as it now exists, and if it could be used for anything, could be had in immense quantity.

To Transfer Ornaments for Carriages, Wagons, etc.

This beautiful art is now practiced by many painters, who are either in a hurry with their work, or for economy's sake.

Pictures expressly designed for carriages are now sold at the leading periodical stores, and the amateur painter is enabled thereby to finish a job of carriage painting in fine style.

These pictures may be stuck on, and the dampened paper carefully removed, leaving the picture intact upon the panel, requiring no touching with the pencil. The proper way to put on decalcomine pictures is to varnish the picture carefully with the prepared varnish (which can be obtained with the pictures,) with an ornamenting pencil, being sure not to get the varnish on the white paper. In a few minutes, the picture will be ready to lay on the panel, and the paper can be removed by wetting it, as already described; and when thoroughly dry, it should be varnished like an oil painting. Be particular to purchase none of those transfer pictures, except those covered with gold leaf on the back, for they will show plainly on any colored surface, while the plain pictures are used only on white or light grounds. They may be procured at any stationery store, and the cost is trifling.—*Painter's Manual.*

TO TAKE BRUISES OUT OF FURNITURE.—Wet the part with warm water; double a piece of brown paper five or six times, soak it in warm water, and lay it on the place; apply on that a warm, but not hot, flat iron till the moisture is evaporated. If the bruise be not gone, repeat the process. After two or three applications the dent or bruise will be raised to the surface. If the bruise be small, merely soak it with warm water, and hold a red hot iron near the surface, keeping the surface continually wet—the bruise will soon disappear.

EDITORIAL SUMMARY.

THE wire rope works of Messrs. John A. Roebling & Sons are the largest in the United States, occupying an area of about ten acres, located on the Delaware and Raritan Canal and connected with the Camden and Amboy Railroad. Bright wire, steel, and galvanized wire rope in all sizes and lengths are made, and the machinery is capable of making as large wire rope as can be manufactured. One piece, 5,870 feet feet long, weighing 65,000 pounds, was recently made for the Lehigh and Susquehanna Railroad, costing $10,540. The business was first started in 1849, and now employs 125 hands and three engines, giving in all 350 horse power. A rolling mill in connection with the works has a capacity for forty tuns of wire per week. A new building, to be 200x40, is now being built for a galvanizing house.

SALT LAKES IN AUSTRALIA.—An interesting description of the salt lakes of Australia is given by a writer in the Sydney *Empire*, who, speaking of the salt lakes and mineral springs on the Paroo, says: "These wells are a real curiosity to many, if not to all. Mounds of earth rise about ten or fifteen feet over the surface, no doubt thrown up by the force of the water; they form a kind of oasis in the wilderness, and have saved the lives of many weary wanderers. These mounds can be seen for miles. The water is very clear and soft. It is impregnated with magnesia, soda and alum. It is very palatable to drink, and I think very wholesome. The water does not flow after touching the surface; but, as soon as it overflows the fort like basin, it sinks into the earth. The alum and soda crack under your feet, as you walk around these wells, like frozen snow."

In the estate of a lady of Wilmington, Del., recently deceased, says the *Printers' Circular*, there is a silver punch strainer, which is referred to as follows in the lady's will: "A silver punch strainer, belonging to my maternal grandfather, James Parker. Its history is briefly this: Dr. B. Franklin and my said grandfather were printer boys in Boston, and saved a silver dollar from their first earnings by selling newspapers in that city. They had these dollars made into punch strainers, and exchanged with each other, so that this strainer is made out of the dollar earned by Dr. Franklin. This is bequeathed to the Smithsonian Institute."

WEST POINT MILITARY ACADEMY.—The post of Professor of Engineering at the national Military Academy has been given, by the Secretary at War, to Major Junius B. Wheeler, a native of North Carolina, who graduated at West Point in 1855. He served his country with great credit during the rebellion, and has since been Assistant Professor of Mathematics in the Military Academy aforesaid. The appointment will have the approval of the military profession and the public, as well of the cadets, with whom Professor Wheeler is already popular.

INEXTINGUISHABLE LAMP.—A new light, which seems fitted to be of use in submarine construction of works, is in use in England. It is a cylinder of tin, with a top filled with a phosphide of calcium, prepared by the inventor, a Mr. Holmes. When the lamp is thrown into the sea or river, the water, entering the cylinder, decomposes the phosphide of calcium, phosphuretted hydrogen results; the latter escaping in great quantities ignites spontaneously, and burns with a brilliant light.

LARGE WELL IN OHIO.—A correspondent, Mr. John Boger, Jr., informs us of a large well near New Franklin, Ohio. It is nine feet by sixteen feet in superficial area, and is sunk to a depth of 140 feet, costing, in construction, $18,000. The well, as will be seen from the above figures, is capable of holding about 150,000 gallons. Our correspondent does not say how full the well is, but that "it has a constant supply of water."

THE FIRE AT CHICAGO.—The area burned over by this almost unparalleled fire, approximates 4 square miles. Ten thousand buildings were destroyed, two thousand of which were business houses. The total loss as gathered from various estimates, cannot be much less than $ 200,000,000. The people rendered homeless by the disaster number probably not less than 100,000.

TEA LEAVES A REMEDY FOR BURNS AND SCALDS.—A poultice of tea-leaves applied to small burns and scalds, afford immediate relief. The leaves are softened with hot water, and, while quite warm, applied upon cotton over the entire burned surface. This application discolors and apparently tans the parts, and removes the acute sensibility and tenderness.

IT is a noble and great thing to cover the blemishes and to excuse the failings of a friend; to draw a curtain before his stains, and to display his perfections; to bury his weaknesses in silence, but to proclaim his virtues upon the ho usetop.

CEMENT FOR STOVES.—Wood ashes and salt, equal proportion in bulk of each; reduce to a soft paste with cold water, and fill cracks when the range or stove is cool. The cement will soon become hard.

JUSTICE consists in doing no injury to men; decency, in giving them no offense.

OUR own heart, and not other men's opinions, forms our true honor.

AN honest death is better than a dishonest life.