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MECHANICAL NONSENSE.

The avidity with which the "popular press" seizes upon every mechanical statement, and the readiness with which it gives it a place in its columns, without ever investigating it by the light of mechanical knowledge, or even common sense, receive, frequent illustration. It seems to make no difference whether the truth or falsity of a statement, or the value of a professed improvement, can be verified by observation, inquiry, or an effort of memory, or whether the circumstances are beyond the reach of the journalist; in either case the humbug is started on its rounds, and transferred to the columns of every paper in the country. We copy one such bit of mechanical nonsense to illustrate these statements. We have before us now no less than four copies of this paragraph, which we had the curiosity to clip as they met our eye:—

An ingenious application of the process of molding blocks of concrete for building purposes was patented recently in England. The inventor proposes to erect houses by literally casting them of concrete in the place they are intended to occupy. An ordinary concrete foundation is first laid, and upon the foundation horizontal frames, constructed of boards lined with zinc or other metal, are set up on edge so as to form a kind of trough for receiving the concrete. By the insertion of suitable cores, holes for the insertion of the joists, or for other purposes, may be molded in the concrete as the work proceeds. The proprietor of the patent is now in Paris, superintending the erection of some houses on this principle, and we believe it is the intention of the French Emperor to build some laborers' cottages of this kind at one of the imperial farms. This invention will be illustrated at the Paris exhibition.

This "ingenious application, recently patented in England," is the identical method which has been used in this country ever since building by concrete came in vogue. We have heard of the manufacture of blocks of artificial stone for building purposes, but all the structures of concrete we ever knew were built by filling plank troughs, which, for the time, were external walls, with the mixture, and moving them up as the work progressed. In this way houses are built by "literally casting them of concrete in the place they are intended to occupy."

This giving notoriety to worn-out mechanical ideas, without a particle of investigation, or the exercise of discretion, we regard as a serious evil. It belittles the noble work of the mechanic, and brings the labors of the scientific man into contempt. Neither of the classes to which these men belong spend their time or exercise their talents on nonsense; at least they intend to make progress when they apply themselves to the labors of their respective departments, and although an invention may be re-invented, or a discovery be re-discovered, the exertions of our mechanics are not directed to the rehash of old and well-known devices, or the investigations of scientists to the elucidation of physical impossibilities.

The department of the mechanical arts is a department of progress. It is not a dull, unvarying round of endeavor, ending where it began, like the serpent symbol of the Aztecs. If it proceeds in a circle, yet is the completed round a spiral—the termination of an inquiry resting on a higher plane than its beginning and affording the basis for another. But, judging from the record of discoveries and improvements in the arts furnished by our popular journals, the mechanic and the experimentalist in physical science must be little more than dolts or triflers. We protest against this abuse of the high mission of our useful men and this belittling of their work.

To form a tolerably correct estimate of the value of a professed improvement in the mechanic arts, does not necessitate an intimate knowledge of natural science, or a practical acquaintance with mechanics. The laws which govern the science of mechanics are easily learned and understood. Almost any elementary work on natural philosophy will afford the necessary information to enable the paragraphist to form a correct judgment on these matters, and this carelessness, exhibited in giving currency to old, obsolete, or impracticable devices, is really inexcusable, discreditable to the journalist and unjust to the mechanic.

THE INFLAMMABILITY OF PETROLEUM.

There can be no doubt that petroleum, as obtained from the earth in this country, is one of the most inflammable of substances. The numerous fires in the "oil region" of Pennsylvania, where its procurement from the bowels of the earth makes the region a text or guide to a proper estimate of the combustible qualities of this mysterious product, establish the fact that greater care and consideration should be exercised in its handling, transportation, and storage, than is usually bestowed. The destructive fire in Jersey City on the 19th, is a recentlesson. The fire was caused by the ignition and explosion of the gases from a cargo of petroleum, fired by the lighting of a match. It resulted in the destruction of about two million dollars worth of property, and the loss of a number of lives.

The concentrated and powerful heat generated by the combustion of petroleum is surprising. Some of the cars on the track at the Jersey City fire were only partially consumed, but the wheels and iron work of a car truck, on one side of the car, were melted into an indistinguishable mass, while the wheels on the other side retained their form. The rails, also, where the burning oil flowed, were crooked, twisted, and lifted from their places by the intense heat. In June, 1865, traveling over the New York Central Railroad, the train was delayed by the burning of a car load of oil in barrels. On viewing the scene we were struck with the appearance of the track wherever the oil had run along the road. The rails for several rods on either side of the car were twisted and contorted in every shape, and so nearly fused as to lose their definite form, while the flaming car could not be approached for the heat.

The constituents of petroleum are all highly combustible. Few combinations offer such uniform facilities for producing a high degree of heat. It is well known that a paraffine candle or a kerosene lamp gives more powerful results with the common blowpipe than a tallow candle, whale, or vegetable oil, alcohol, or gas. When ignited the flames of petroleum cannot easily be quenched. Water has no effect, and the only way to conquer the conflagration is to smother it with earth by excluding the atmosphere, or to allow it to burn itself out.

But there are other qualities which make crude petroleum still more dangerous. The naphtha which it contains evaporates into a highly inflammable and explosive gas, unless secured in air-tight receptacles. Mixing with the external air, this vapor is almost, if not quite, as dangerous as gunpowder. In consequence of this quality, carelessness in managing petroloum has caused some of the most serious and destructive fires.

There are two remedies for this evil. One is to store and transport the crude oil in metallic vessels hermetically sealed, which is costly and in a measure impracticable. The other is to deprive it at the wells of its explosive constituents. This, we learn, will probably be attempted. The explosive principle, naphtha, is very volatile and can be removed by a low distillation, and condensed, to be managed separate from the body of the oil. A coil of pipe placed in a suitable vessel and conveying the waste steam from the engine, could be used to sufficiently heat the oil to volatilize the naphtha, when the oil would give out no vapor, and could be safely transported or stored in barrels, if they were not perfectly air-tight.

The subject is one of great importance and should receive immediate attention. It is to be hoped that measures will be taken at once to render the management of this substance as safe as that of any other article of commercial and domestic value.

BREATHING—OUT OF DOORS AND IN THE HOUSE.

When a man draws a breath of air into his lungs, the numerous little cavities of the lungs are filled with the air, which is a mixture of oxygen and nitrogen. A portion of the oxygen passes, by the mysterious action of the endosmosis, through the membrane of the lungs, into the blood, which has been distributed on the opposite side of the membrane to receive it. The blood, having absorbed the oxygen, carries it, through the arteries, all over the system into the minute capillary blood vessels, and here it is brought into immediate contact with the food, which, after its digestion, had been poured into the blood. A portion of the carbon of the food combines with the absorbed oxygen, forming carbonic acid, and generating precisely the same amount of heat that the same quantity of carbon would generate if burned in the state of coal in a furnace. It is this heat which keeps up the temperature of the system, and it is the fundamental condition for all those vital actions which constitute life. Life depends upon the perpetual filling of the lungs with oxygen; hence if the windpipe is closed by a rope around the neck, or if the mouth and nostrils are immersed in water, death quickly ensues.

The air that is breathed out of the lungs is mostly nitrogen and carbonic acid, with but little of that oxygen which is the life-giving element. If a person is sitting in a room where the air is confined and still, when a volume of air comes from his lungs it fills the space about his mouth and nostrils, and the next breath that he draws in is mostly this air which has just previously passed through his lungs. As he continues to breathe the same air over and over, it becomes more and more deprived of its oxygen, and more and more surcharged with carbonic acid; consequently his vital functions become less and less vigorous.

On the other hand, if a man is walking in the street while he is breathing, when he throws out a quantity of air from his lungs, his head is carried along away from it before he draws in another breath, and he thus gets a fresh supply of air with its full richness of oxygen at every breath. Hence the vigor imparted to the system by exercise in the open air, and hence the importance of perfect ventilation to those confined in houses.

Besides combining with carbon in the blood, oxygen also combines with iron, changing it from the brown protoxide to the red peroxide—the rouge of the silversmiths. It may be that the more perfect oxidizing of the iron in the blood is one reason for the rosy cheeks of those who live out of doors.

THE "DUNDERBERG."—We publish on another page an interesting history of this formidable ironclad steam ram. She is now ready for her trial trip, and it is expected that she will be able to make 12 knots per hour. The trial of the engines at the dock has proved quite satisfactory.