attributing such an age as 80,000 years to the relics of our race, whether discovered in the diluvial deposits of France or any other part of the world. We have examined drawings of the old flint arrow-heads of the pre-historic European races, and find that they correspond in similitude to the flint arrow-heads of the living aborigines of the American continent—particularly those inhabiting the regions in the Straits of Magellan.

SOME FACTS CONCERNING REPTILES.

Of old, when the waters that covered the earth had subsided, there were, according to tradition and the limited discoveries of geologists, left stranded amid the ooze and mud certain monsters or reptiles which were hideous and repulsive in form. These are said to have been *chelonians* or those belonging to the tortoise family; *saurians* or lizards and *ophidians* or serpents. Reptiles do not undergo any change of nature and are always air-breathers, although cold-blooded; they have neither mammæ nor breasts for suckling their young, nor yet hair or feathers. By the two former peculiarities they are distinguished from fishes and batrachians, and by the two latter from mammals or those which do not suckle their young, and from birds. Reptiles breathe air by lungs, like birds and mammals, but the pulmonary circulation is incomplete, only a part of the blood being sent to the lungs; while from the ventricles of the heart a mixed arterial and venous blood is sent to the other organs. The number of species of reptiles is set down at 2,000, or less than that of mammals or birds; most of them are terrestrial, but some, it is said, can sustain themselves in the air. Some reptiles live habitually in the water, swimming by means of flattened fins (as the turtles) or by a thin tail, as in crocodiles; others dwell in subterranean burrows.

Every degree of speed is found among reptiles, and while some are fitted for running over dry sand, others are better adapted to climbing trees or ascending smooth surfaces. The means of defense with which nature has provided reptiles are many, and, although their appearance is sufficient to terrify most animals, yet they are furnished with other safeguards, which render an attack upon them, to say the least, unpleasant. The crocodile and turtle are sufficiently protected against ordinary assaults; the agility of the lizard serves him well, for he darts into his hole at the expense, possibly, of his tail, which is soon reproduced. The great boas can prevail over every foe but man, and the poisonous fangs of other serpents and the bristling spines of the horned lizard are amply sufficient to guard them from the attacks of predaceous and other ill-disposed members of the animal kingdom. Reptiles are very useful to man in various ways; some fulfill the law of their being by catching insects, while still others serve as food, or supply material useful in the arts. The muscles of reptiles are red, though paler than in mammals and birds; they preserve their irritability for a long time after death. Tortoises have been known to live eighteen days after their brains have been removed. Life seems in a marked degree independent of the brain, as they vegetate rather than live; and being comparatively insensible to pain, they grow slowly, live long, and are very tenacious of life. The sense of touch is dull, whether exercised by the skin, toes, lips, tongue or tail; taste must also be dull, as the food of reptiles is swallowed without mastication. Reptiles eat and drink comparatively little, and are able to go a long time without food; most of them are oviparous, their eggs being hatched by the heat of the sun. The young when born are able to provide for themselves, and are generally indifferent to the mother, who has neither the joys nor the sorrows of maternity.

THE REACTION.

As was natural under the circumstances, immediately upon the restoration of law and order in this city, benevolent citizens, pitying the abject condition to which the colored population had been reduced, set about raising a fund to relieve their immediate wants, and to see those who were unable to help themselves properly provided for. All classes of our citizens have vied with each other in this act of charity, and men of all political creeds (among them Hon. Thurlow Weed who generously gave $500), have nobly responded to the call made upon their generosity. Eminent merchants of this city have made speeches, voted money, and adopted resolutions promising relief and protection to the colored people, who stand in sore need of it. To this material aid, may be added the offers of assistance made by the first lawyers in New York to the outraged and despoiled negroes. The city and county are as liable for damages inflicted on the colored people of this metropolis, as they are for all other losses suffered by our citizens during the late riot, which amount in the aggregate to $447,100. It is the intention of the lawyers aforesaid to prosecute the claims of any colored person who may desire it, without delay, and without charge. The Produce Exchange have also taken prompt and creditable action in the matter. The sums now subscribed already amount to many thousands of dollars, and there is no question but that the money will be judiciously applied. This energetic and philanthropic action of the merchants and business men of the city, goes very far to redeem the stain cast upon our good name by the infamous acts of the rioters, and the miserable politicians who were concerned in the late demonstration. They will now see, and let them learn a lesson from it if they can, that the majority of the citizens of this metropolis, so far from siding with them in their acts of rapine and murder, instinctively loathe them, and hasten to relieve the sufferings of their poor victims by all the means in their power. The wildest savage that ever existed in Abyssinia would scorn to descend to the depths of depravity exhibited in this city during the late riot towards a helpless people, whose only offence was that their faces were not so white as those of the black-hearted assassins who attacked and murdered so many in our public thoroughfares. The relief extended toward the colored population has also been bestowed upon the families of those policemen and soldiers who died in the performance of their duty. To the bravery of these men we unquestionably owe our present security; and we are glad to learn that nearly $20,000 have been collected for this most worthy object. The daily press is full of accounts of the courage and efficiency of the Metropolitan Police force; and the high state of discipline which distinguishes it, with the appearance of the men, individually and as a body, amply bear out the encomiums lavished upon them.

INTERNATIONAL COMPETITION OF STEAM FIRE ENGINES.

A series of important trials with steam fire engines took place at the Crystal Palace, near London, on the first three days of the present month. The engines were divided into classes, consisting of machines not exceeding 60 cwt. (6,720lb) in weight, and over 30 cwt.; and smaller engines not exceeding 30 cwt. (3,360lb) in weight. The premiums consisted of £250, and £100 for the first and second best engines of each class. The conduct of the competition and awarding of the prizes, were under the management of a number of noblemen and gentlemen, the Duke of Sutherland being chairman; and some of the ablest engineers and practical mechanics in England were on the committee, among whom we notice Messrs. Fairbairn, Nasmyth, Maudsley, Crampton, McConnel, and Appold.

The contest was open to the steam fire engines of all nations. Six English, and three American, engines were entered. Shand, Mason, & Co., entered one of each class; as also did Messrs Merryweather & Sons. Easton, Amos, & Son, entered a large engine; and W. Roberts, one of 37 cwt., which had to compete with the large ones, though about one-third lighter. The American engines were the "Victoria" (large class), and the "Alexandra" (small class), built by the Amoskeag Manufacturing Company, at Manchester, N. H.; and the "Manhattan" (large class), built at New York—belonging to Messrs. Lee & Larned. This fire engine unfortunately met with an accident, from being overturned on the day prior to the trials, by which it was partially disabled, and was unable to compete on fair terms with its antagonists.

Two of the principal objects to be ascertained by the trials were—the quantity of water discharged in a given time—and the distance it could be thrown by each engine. A set of targets and tanks were prepared for the purpose. These targets consisted of canvas hoods having openings six feet in diameter, with a conduit attached to each, through which the water was conducted into a gaged tank standing below, and from which the quantity delivered within the opening of the target could be read by means of a graduated index. The committee were also to take into consideration the general efficiency of the engines: such as rapidity in raising the steam; the quantity of water delivered in a given time; also the simplicity and apparent durability of the mechanism.

On the first day, five engines of the first class competed; making two trials, and elevating the water into a tank 80 feet in height, through 60 feet of hose. They were to commence when the steam was raised to 100lb pressure. Shand, Mason, & Co's. and Merryweather's, were the most successful in filling the tanks in the shortest space of time after the fires were kindled. The "Alexandra" was the American machine which competed on this occasion. Easton, Amos, & Son's engine did well on the first trial; but the former was injured and it was withdrawn. Three engines of the second class competed, in ten trials, on the first day, viz: one of Messrs. Shand, Mason, & Co's, one of Merryweather's, and the "Victoria"—American. The engine of the first company filled the tank first on both occasions.

At the second day's trial the ordeal was that each engine should work for two hours without stopping, drawing its supply of water 18 feet, and forcing it through 500 feet of hose, laid up a steep incline to the top of the water cascades of the Crystal Palace. It is stated that the "Victoria" was unable to accomplish this achievement; and that Messrs. Shand & Mason's, and Merryweather's went through with the trial.

On the third day, the engines competed in throwing vertical streams. The "Victoria," it is stated, was not in proper order, and only threw a stream to a height of between 60 and 100 feet; while Shand's engine threw a steady stream to an elevation of 190, Merryweather's 170, and Roberts' 140 feet. A great victory is claimed by the English papers for the English engines; but the committee had not reported nor the prizes been awarded when the steamer which brought this news of the trial left Liverpool. In all probability, their report will modify the florid account given by the London *Times*.

RECENT AMERICAN PATENTS.

The following are some of the most important improvements for which Letters Patent were issued from the United States Patent Office last week. The claims may be found in the official list:—

Gold and Silver Amalgamator and Pulverizer.—The object of this invention is to obtain a device of simple construction, which will cause a thorough incorporation of the quicksilver with the pulp containing the metal, so as to insure a perfect amalgamation of the former with the latter. To this end the invention consists in the employment of a pan provided with a bottom, having on its inner or upper surface a series of curved plates, so shaped and disposed as to form curved grooves which extend from its center to its periphery, and using in connection with the bottom, thus provided with plates, a rotary muller having similar plates on its under or face side, but placed in a reverse position; said muller also being provided at its edge with spiral flanges and hung upon its shaft by an universal joint. There are also attached to the iuner side of the pan, spiral flanges, similar to those on the edge of the muller, but having a reverse position thereto. The invention also consists in the employment of curved plates which are placed in the pan just above the muller, and arranged in such a manner as to be capable of being adjusted higher or lower. By means of the rotary muller and the bottom of the pan, the pulp is made to pass in a continuous current, or flow over the top and underneath the muller so as to insure a perfect or thorough amalgamation of the metal contained in the ore with the quicksilver, while the curved plates are designed to prevent the pulp or ore being thrown out from the pan by the centrifugal force generated by the rotation of the muller. Zenas Wheeler, of San Francisco, Cal., is the inventor of this improvement.