

## Miscellaneous.

## Coal Burning Locomotive.

An engine designed by and to be built under the direction of T. Perkins, Master of Machinery Baltimore and Ohio Railroads, is now being constructed in the company's shops, at Mount Clare Depot. The engine is of the largest class, weighing 24 tons, and is intended exclusively for freight, to draw a load of 900 tons. The waist of the boiler is 46 inches in diameter, 14½ feet long, and supplied with 143 flues 12½ feet long, 22-16 outer diameter. The fire box is 48 inches wide, by 94 inches from front to back; and 50 inches above the grate, having 1,132 feet of heating surface. The boiler is horizontal, with outside horizontal cylinders 18 inches in diameter, having 22 inch stroke of piston. The engine is supported by eight wheels, 43 inches in diameter, connected as drivers. The improvements attached to this engine are very important in view of economy in fuel and repairs. The drivers have chilled cast tyres separate from the main part of the wheel, which when worn, can be easily replaced, with comparatively little expense.—The main and side connectings are so constructed as to be of the requisite strength, but much lighter than usually found on large engines; the connectings cannot be deranged by incompetent engine-men. The smoke-box is protected by a space, surrounding it, kept constantly filled with water from the pump. This space in the smoke-box, in connection with a heating apparatus, attached to the engine, serves to heat the water before entering the boiler. The water in the heater is heated by means of a valve under the control of the engineer, who allows any portion of the exhaust steam to ascend the smoke stack, at will, for the purpose of forming an artificial draft; the remainder of the exhaust is passed through the heater, where, by the heat of the boiler, it is raised to the boiling point. This engine is designed to overcome an ascent of 116 feet to the mile on the new road, (grade 16 miles long) already in progress of construction over the Cumberland mountains.

## Singular Hail Storm.

The Western Texian, of the 28th ult., gives the following account of an extraordinary storm of hail with which a large portion of the State of Texas has been recently visited: "About sunset the sky was suddenly overcast with clouds, and in half an hour the hail stones, as large as hens' eggs, were pouring down with a rush. The storm lasted about half an hour. It came up so quick that but little time was left for preparation, and the consequence was, that many windows were broken, and those most exposed were completely demolished. The peach trees in and around the city, which were all in full bloom, were stripped of their foliage and blossoms. We have not yet learned whether the planters and gardeners have suffered to any great extent, but, from the severity of the storm, we fear the damage has been considerable. It is some consolation, however, to reflect that many of our planters have not yet put their corn under ground, and those who have ample time to secure a good crop by replanting.

## Volcanoes.

Vesuvius, the Neapolitan volcano, is yet in its infancy; it only counts thirty centuries of eruptions. The giant Etna which has more than four times its elevation, wasted all its destructive force before the historic times of Sicily and of all Europe. This colossal volcano is now declining in its old age, but the time which will elapse until its total extinction, may be as long as the whole of its past existence.—One may judge from this fact of the prodigious antiquity of those volcanoes which formerly burned in France, of which the fires had ceased a long time before the first eruption of Vesuvius. At the period of the entry of the Romans among the Gauls they found the lava decomposed and converted into productive soil covered with dense forests.

An oak tree, forty feet high, with three tons of soil on its roots, has been transplanted at Graisbury, near Wolverhampton, Eng. The tree was mounted on a timber-carriage, and,

with its branches lashed to prevent damage to windows, passed through the streets, a singular but beautiful sight.

## To Preserve Ham Through the Summer.

Make a number of common cotton bags, a little larger than your hams; after the hams are well smoked, place them in the bags; then get the very best kind of sweet, well made hay, cut it with a knife, and with your hands press it well around the hams in the bags; tie the bags with good strings, put on a card of the year to show their age, and hang them up in the garret or some dry room, and they will hang five years, and will be better for boiling than on the day you put them up. This method costs but little, as the bags will last for years. No flies or bugs will trouble the hams if the hay is well pressed around them, the sweating of the hams will be taken up by the hay and the hay will impart a fine flavor to the hams.

The hams should be treated in this manner before the warm weather sets in, and the present time is about the right season in many places.

## Knitting.

We saw a few days ago to model of a very ingenious machine for knitting, the invention of Mr. Holland, of Pennsylvania, who has an application for a patent now before the Commissioner. It does work, and may, by the labor of one person, be made to do as much as from twelve to twenty fast knitters can achieve. A good knitter can now make from fifty to seventy-five cents per week, by close and steady work. All ladies who think their services worth more than this should thank Mr. Holland for his excellent improvement in the art.—[Washington Republic.

[The above machine may be a very good one, and there may be something patentable about it but not because it is a "knitting machine," for Mr. E. North of No. 58 Lewis st., this city has had a gang of 8 improved "knitting machines," in operation for some time.

## Washington's Address.

James Lennox, Esq., of this city, has just presented to the Mercantile Library Association, of this city, a beautiful printed copy of Washington's Farewell Address, being a fac simile of that document, and illustrated by two portraits after Peale and Stuart. Mr. Lennox last winter purchased the original manuscript of this address for \$2,000, and has printed 54 copies folio and 175 quarto, for presents.

## Artful Device.

A printer of Greenock, Scotland, having been fined for printing news on un-stamped sheets of paper, now prints upon cloth, which is not specified in the act, and calls his journal the Greenock 'Newsloth,' in allusion to that material. In the debate on the paper duties on Monday night week, Mr. Gibson handed a copy to the chancellor of the exchequer.

## Texas.

Railroads, plank roads, and steamboats are attracting much attention, and for a plank road \$60,000 have been subscribed to open an improved communication between the Brazos and Houston. A canal is also proposed between Galveston Bay and Brazos. We are happy to witness these evidences of improvement, and with them a corresponding interest on the course of education.

## Chattanooga Railroad.

The Chattanooga, (Ga.) Gazette, of the 10th inst. announces that the great tunnel on this railroad has been completed, and that cars were run through it, for the first time, on the day previous. This gives an uninterrupted thoroughfare between the navigation waters of the West and the Southern Atlantic Ocean.

The Box Tunnel, on the Great Western Railway, Eng., which is 3,192 yards in length, was an object of great interest on the 9th of April, as on that morning at 25 minutes past 5, the sun shone through it. The only other periods that such an event occurs, are the 3d and 4th Sept.

## Opium.

Over 50,000 chests of opium are shipped annually to China, taking off in return thirty

five millions of dollars. This trade is under the British government.

## Tortoise-Shell Pontes.

Colonel Davidson, in his "Diary of Travels and Adventures in Upper India," mentions having seen at the great fair of Hurdwar, a number of very curious ponies, from Uzbek Tartary. "They were under thirteen hands high," he says; "and the most curious compound of color and marks that can be imagined. Suppose the animal pure, snow white; cover the white with large, irregular, light bay spots, through which the white is visible; in the middle of these light bay let there be dark bay marble spots; at every six or eight inches plant rhomboidal patches of a very dark iron-grey; then sprinkle the whole with dark fleabites; there's a phooldar (flour-market,) as they call them." Some of our circus managers would do well to procure a span of these ponies. A visit to the fair of Hurdwar would afford it without much trouble.

There are many ponies in Denmark which are spotted and striped, and the very dogs in that country seem to prefer being piebald to any other arrangement of colors.

## Discovery of Mineral.

The Pottsville Mining Journal says:—We learn that in digging a well on Levis farm, in Mooreland, Montgomery county, Pa., some time since a quantity of copper ore, of good quality, was taken out, and within a few days indications of the existence of copper ore to a considerable extent, has been discovered on other parts of the farm. Black Lead or Plumbago, has also been discovered on that and the adjoining farm of John R. Hallowell, of an excellent quality.

## Sir John Franklin Discovered.

A "spiritual rapper," (a distinct profession, now-a-days,) in Cortland county, N. Y., has been telling all about Sir John Franklin. She says he is still living, has found a Northwest passage through Bhering's Strait, and went to Yongtong, which is somewhere in Japan. Here he was attacked by the natives, part of his men killed, and he and the rest placed in confinement, where they have been for eleven months.

["Wonders will never cease."

## Deaths in New York.

By the Annual Report of the City Inspector, we learn that the number of deaths in the city last year was 23,773, of these 5,071 were by cholera, and 2,086 by consumption. These diseases claimed the greatest number of victims. The mortality of our city appears to be yearly on the increase, but not among the native population, for more than two-thirds of those who died by cholera, were foreigners, Ireland furnishing 2,219 victims. Thousands of emigrants land at this port, and become objects of charity at once. This is the cause of great expense to our city, but how is the evil to be remedied? that is the question.

## The Trades.

Almost every trade in the City of New York has formed a Mutual Protection Association.—They hold regular meetings and their object seem to be to maintain, or secure good and fair wages, and a reform (in a number of cases) of working hours. The Bakers seem to be the greatest sufferers from working irregular and long hours. To carry out any reform of this kind a high moral courage and determined perseverance is necessary.

## Speed on New York Railways.

The annual returns of the New York railroad companies for 1849 show the following as the average speed of passenger trains, on the leading railroads of New York:—Hudson River 30, miles per hour; Attica and Buffalo 26, Utica and Schenectady 28, Auburn and Syracuse 26, Syracuse and Utica 25, New York and Utica 22.

## Insurrection in Cuba.

A number of adventurous and rash men have gone to create a revolution in Cuba, with Gen. Lopez at their head. The scheme cannot be successful, for Cuba is an Island and can easily be cut off from outward resources by a fleet which Spain has, and Lopez has not. The government has taken the most energetic measures to head off the Cuban revolutionists.

## Notice to all Interested in Inventions.

Inventors having business to transact at the Patent Office will find it much to their interest to consult the editors of the "Sci. Am." before taking any steps towards making an application. All business connected with this branch is strictly confidential, and with a corps of examiners, second only to the one connected with the Patent Office, we are enabled to dispatch a large amount of business, and in such a manner as to insure the inventor against fraud and mal practice. Application should always be made to Messrs. Munn & Co., by letter presenting a clear and explicit description of the nature of the invention. In most cases a well described drawing or a model had better be sent—this facilitates the examination very much, and decreases the liability of judging incorrectly. Our charges are such that inventors in indigent circumstances can readily avail themselves of them and proceed without delay in securing their rights.

## More About Paine's Light.

A correspondent to the Boston Journal named E. L. Browne, states that he visited Mr. Paine's apparatus at Worcester for the purpose of witnessing its operations and says, "while there, we saw, in one hour, three pints of pure water decomposed into its component gases, without the consumption of acid or metals, and with the use of no motive agent, save the descent of a weight of 67 pounds, a distance of a little over two feet; the gases evolved from which amount of water were employed, in our presence, both for purposes of heat and light, and which were absolutely produced without any other cost than the interest on the cost of the machine, which is about three hundred dollars."

As some of our readers wanted to know the amount of water it decomposed in a given time, the above will give them the information desired.

## The Reform of the Patent Laws.

If we can judge correctly by the debates in the Senate, the Bill for amending the Patent Laws, will pass this session. The main reforms proposed, if carried, will make patentees exceedingly careful about their first specifications, as it will be morally impossible to get a re-issue to correct specifications, for the Bill proposes that all applicants for additions, re-issues or extensions of patents, shall publish notices of the same in three daily papers published at Washington, the first publication of which shall at least be 60 days before the re-issue &c., is obtained, Congress must therefore be applied to for a re-issue. Well this would cost more one way and another than the whole patent would be worth. Inventors after this must never ask for a re-issue, but make all snug at first, and the Patent Office officers must be brought to the mark for they do not do right in fulfilling their general duties, by taking charge of inventors' consciences, as they often do. There must also be a reform in the Patent Office.

The amendment to the Laws, requiring additions, and corrected specifications to go before Congress, will have an injurious tendency, for new additions are now passed upon as new inventions, and every re-issue that claims more than was in the first patent, is null and void in the opinion of our ablest jurists.—The only thing which a re-issue should cover, is to render claims and descriptions more definite and intelligible, and this is all.

## Explosions on Railroads.

During the twenty years steam has been used on railroads in this country, there have been but eight explosions, viz:—New England, 1; New York, 1; Pennsylvania, 2; Maryland, 2; Louisiana, 1; and one in South Carolina.

On Saturday last the wheel of the second class car of the train broke on the Norwich Railroad, Mass., a few miles from Worcester, and a number of passengers had their limbs broken.

A gentleman named McNice received a box last Monday, and thinking it a torpedo affair took it to the Police Office where it was put in a basin of water for half an hour, and then opened, displaying the destruction of two beautiful daguerreotypes of two young ladies.