



#### A Word with our Contemporaries.

Since the commencement of the present vol. of the Scientific American we have been solicited by 900 different papers published in this and other countries for an exchange, and out of that number we have allowed to be entered in our books as such, over 700 papers and periodicals. The expense of furnishing such a large number of papers weekly, gratis, is quite a tax upon the Publishers, and that we may derive some benefit for so doing, we ask our Country Contemporaries to publish our Prospectus for Vol. 4, in their respective papers four times, which if done will entitle them to a copy of the Scientific American for one year and we will not require that they send us any papers in exchange. Many have volunteered to do so by publishing our prospectus as above specified, and those that have not do not, before a new volume commences, must not feel disappointed if the Scientific American ceases its visits to their sanctuaries after the next number. Many thanks are due our kind contemporaries who have so frequently noticed us during the past year and it will be with regret if we are obliged to part with any of you.

#### Will Gas Explode.

If gas escapes in a confined room, and mixes with the air in the proportion of 1 of gas to 7 or 8 of air, it will explode. If in the proportion of 1 of gas to 5 of air, or 1 of gas to 14 of air, there can be no explosion. Before sufficient gas could escape in a room to cause an explosion, the inmates would be driven out, to avoid suffocation. A gas holder, filled with gas, cannot explode, because there is no air within. Gas will burn only when in contact with the air, otherwise when a burner in a house was lighted, the flame would rush back into the pipes—a thing that never happens. If you were to make a hole in a gasometer, and apply flame, the gas would burn quietly from the orifice, the same as from a burner. The New York Gas Company had a large gasometer destroyed on Wednesday last by the fire; it was filled with gas, yet there was no explosion.

These are facts well known to those who have made experiments in chemistry. The composition fluid or gas, as it is called, used for domestic purposes of illumination and from which so many sad accidents have happened, is only exploded when mixed with a certain quantity of oxygen. There need be no accidents but from the fluid evaporating and mixing with the atmosphere and communicating with the fluid in the lamp. For this reason camphene lamps should be perfectly air tight and have long wick tubes. It is not the flame catching the fluid that is the cause of an immediate explosion, for we have seen this take place twenty times without an explosion but let a certain quantity of the atmosphere be mixed with alcohol and turpentine in a gaseous state and that mixture ignited, an explosion is certain.

#### Washington National Monument.

We are happy to learn that the foundation of this structure is moving upward as rapidly as the nature of such a work will admit. It is eighty feet square, and of solid stone. The masonry is said to be so far, most skilfully and carefully executed, and promises to do great credit to all concerned in the erection of this magnificent memorial of the gratitude of the American people to the illustrious Father of his country.

#### Death of Mrs. Wilkes.

The Newport papers mention the death of Mrs. Wilkes, the wife of Capt. Wilkes, who commanded the South Sea Exploring Expedition. She was spending the season at the Bellevue Hotel, and died during the absence of her husband in the South. Mrs. W. was the sister of Prof. Renwick, of Columbia College, and daughter of Robert Burns' celebrated Blue Eyed Mary.

#### New African Republic.

A benevolent gentleman in Cincinnati, has offered the Agent of the American Colonization Society, for Ohio, the sum of \$2,000, for the purchase of a portion of the African coast, outside the present limits of Liberia, to be paid as soon as the necessary arrangement can be made. His design is to offer the territory to the colored people of Ohio, Indiana and Illinois, for their acceptance, upon which to establish a new State, in connection with the Republic of Liberia. The Agent at Washington, Rev. Wm. M'Lain, recommends that the purchase be made northwest of Liberia, so as to include the Gallinas, and those other "darkest dens of the Slave trade." This purchase would embrace the coast between the Republic of Liberia and Sierra Leone, and forever banish the Slave trade from that region.

#### A Deserted Palace.

The Royal Pavilion, so long the favorite abode of George IV., is now shut preparatory to its being offered for sale. Not a single individual is left to disturb the silence that reigns throughout the building. Every removeable article has been taken away, even to the grates, which have sold for old iron, the keys were delivered up to the Lord Chamberlain, for the purpose of being handed over to the Commissioner of Woods and Forests, who has now the possession of the property. So great was the hurry to lock up the place, that the few remaining workmen were obliged to finish the packing of the furniture upon the lawn.

#### High Life Amusement.

Two English gentlemen in high life have arranged a wager for one thousand guineas, that one of them shall sell one million boxes of lucifer matches in the space of two years, and not sell more than four boxes for one penny, and not exceed more than six pennyworth to any one individual; to commence on the 24th day of July, 1848, at York, and finish in Hull, 24th of July 1850.

They ought to be made to mount a four story ladder with brick for three years. That's the kind of work to take the aristocratic fun out of them.

#### A great piece of Art.

Geneva in Switzerland is certainly the place at which watches are brought to the highest perfection. M. Andre Liodet, who resides close to the Hotel des Bergues, has just produced a master-piece in this branch of the useful arts: it is a watch, which in size does not exceed in dimensions a five sous piece of France. This minute production is the result of seven years' application, and goes as correctly and as long as an ordinary watch. In 1843 M. Liodet had the honor of presenting to the king of the French several chef-d'œuvres, and among them a very small watch, which was admired by the whole court, though much larger than that now alluded to. Even at the present day we cannot comprehend how the Egyptians were enabled to move, raise, and place the enormous blocks of stone of which the pyramids are constructed. Will it be more easily comprehended how so many microscopic pieces have been so put together as to mark the time with a precision equal to the most complete and finished watch.

#### Ohio Iron.

Few persons are acquainted with the extent of the Iron interest in Ohio. It is now becoming a very important branch of manufacture and a large amount of capital is invested in the business. It has been steadily growing in Ohio for some years past. The great seat of iron manufacture of the State is in the neighborhood of Hanging Rock, on the Ohio River. Within a radius of 20 miles there are 30 furnaces. Twenty of these are in Ohio and ten in Kentucky. 60,000 tons of iron are annually manufactured by these furnaces.

#### Moving Buildings.

The moving and raising of buildings is a sight so uncommon and considered such a great feat in England, that one of the late numbers of the London Illustrated News had two or three engravings of a house that was lately moved in England. In Yankee land such things are common every day occurrence.

#### Thimbles.

The manufacture of many articles of daily use is the result of a series of labors that would surprise a person who had never given a thought to it. And very few imagine the amount of actual work expended on such articles. If a lady could see the process through which her thimble passed, from the solid bar of silver to the convenient instrument she uses, she would be astonished. The bar of silver is welded into a long ribbon, which is cut into small pieces, each piece to make the barrel of a thimble. The top is cut out of another strip of iron or silver.—The rim is hammered around a bar of iron and soldered, and after the top is soldered in, the whole thimble is placed on a turning lathe and chiseled inside and outside—it is then marked with the needle holes, by a little roller pressed against it and ornamented by various instruments.—We have omitted several of the processes through which it passes. Altogether they cannot be less than twenty, and after all the thimble is sold at a very small advance on the weight of the silver.

#### Turf Pressing Machine.

It is well known that many of the inhabitants of Ireland and Scotland depend entirely upon dried turf, or peat, as it is called, for fuel. This is just the vegetable productions of the bogs or mosses, cut with a peculiar kind of spade and dried in the sun. It is excellent fuel when well dried and the peasantry in the Highlands have their regular seasons for cutting, drying and carrying home their winter's peat. Three years ago, the people of Ireland and the West of Scotland experienced two great calamities from a wet season, viz. a blight of potatoes and the want of fuel. As necessity is the mother of invention we perceive that Lord Willoughby de Eresby has just secured a patent for an improvement on a machine for pressing turf on his estates in Scotland, so as to be somewhat independent of a wet season (no phenomenon there where it rains 364 days in a year.) It will be a great blessing to the poor peasantry, who get the use of it for little or nothing. It is a subject of wonder that such a machine was not invented before. We are glad to see the lord fraternising with inventors, that is showing smartness enough to attain to such an honourable distinction. It is certainly a rarity.

#### The Power Loom.

The much boasted invention of the power Loom is not so modern as some suppose. It is related by G. Lancellotti, before the middle of the seventeenth century—that an engine that would weave four or five webs at a turn—that would move itself and work night and day, had been erected at Dantzic. But the invention was then suspended because it was feared that it would prejudice the poor people of the town.

#### Color.

Colors are only the rays of light reflected by different prisms. Two nearly colorless substances can make a most sparkling red, namely: sulphur and mercury. The sulphate of mercury is a most beautiful pigment, vermilion.

#### The St. Louis Post and the Mystic Family.

We would just hint to our mystic brother, to be somewhat more generous in giving us credit for our original articles. We like the practice as well as the profession of F. L. and T.

The grains of minerals are so small in some rocks, as not to be distinguished from each other, and then these rocks are said to be compact. When the grains are distinguishable from their magnitude, the rock is said to be granular in its structure. When the parts composing the rock show plane and brilliant surfaces on being broken, they are said to be crystalline. Rocks are said to be slaty, or to have a slaty structure, when they split in their layers like common slate.

A boiler exploded lately in Albany, N. Y. injuring 4 men severely. It was owing to too great a pressure of steam—it was not supplying the engine at the time. The safety valve must have been useless.

#### Massachusetts the Starting Point.

Old Massachusetts has ever taken the lead in what is great, good, useful and profitable.—She established the first school in the United States, the first academy, and the first college. She set up the first press, printed the first book and the first newspaper. She manufactured the first cloth and the first paper.—She planted the first tree and caught the first whale. She coined the first money, and hoisted the first national flag. She made the first canal and the first railroad. She invented the first mouse-trap, and washing machine, and sent the first ship to discover islands and continents in the South Sea. She produced the first philosopher, and made the first pin. She fired the first gun in the Revolution, gave John Bull his first beating, and put her hand first to the Declaration of Independence. She invented Yankee Doodle, and gave a name forever and ever to the "universal Yankee nation."

And where is she now? Reaping the reward of her energy and perseverance. It is no exaggeration to state that the people of Massachusetts are at this moment better fed, clothed, educated and governed, than any other nine hundred thousand persons, taken collectively, on the face of the globe.

#### Fancy Telegraph Posts.

At Portsmouth, Ohio, the people have exhibited some classic taste in the erection of their telegraph posts. The posts which pass through the village are planed and painted, each of which is surmounted with an original design emblematic of the telegraph. On the top of one is an Indian mounted on a full-blooded mustang, bounding at the height of his speed, as if the bearer of some important intelligence. On another, which stands opposite the post office, is perched a carrier dove, in seeming anxiety as regards the further disposition of the *billetdoux* that is attached to its neck. On a third may be seen a rider, mounted on the boiler of a steam engine, keeping far in advance of a streak of electricity, while his hat is left far behind streaming in the wind, and the hair of his head appearing to make several ineffectual attempts towards a "repeal of the union."

#### Destructive Crickets.

There has been great suffering among the Mormons at Salt Lake California, on account of a want of provisions, being obliged to kill their working cattle for food, and their stock of breadstuffs was nearly exhausted. Their wheat and barley crops have been entirely destroyed by crickets, which appeared in astonishing numbers, and, like the locusts, destroyed every kind of vegetation in their path.

The Famine in Newfoundland is disappearing before abundant harvests and productive fisheries. The Labrador fisheries have been very successful.

Lord Ashley has opened a poor man's library and reading room in one of the poorest parts of London, with courses of philosophical lectures, at a subscription of three half pence per week.

A vote was taken in the English House of Commons on the 9th of last month on the expedience of electing members by ballot. The motion was carried by a majority of 9 for vote by ballot.

There are now in this city alone over three thousand common grogeries. These spread misery and death around like the poisonous blasts from the Upaia vale.

It is perhaps not generally known that the great wooden Bridge of Derry in the North of Ireland, was erected by an American architect and American mechanic.

Forty eight seamen on board the American ship of war Jamestown, have been flogged in the short space of two months.

The population of the United States is now estimated at 20,746,000, and the whole personal and real property at \$3,594,560,000.

There were manufactured at Harper's Ferry, during the year ending 30th June, 1848, 11,000 percussion muskets, and 2,502 percussion rifles.

Doctor C. Morrill has made an aerial voyage in his balloon from Boston.