NEW YORK, AUGUST 19, 1848.

Scientific Economy and Political Economy.

The political ferment among all classes and in all nations at the present moment, displays not only excited and gnawing appetites for something novel, but affords opportunity to contrast the right with the wrong, and to exhibit by contrast the benefits conferred upon the world by physical, in comparison with political science.

It is not a little amusing to the man who pursues the "even tenor of his way," in the severe pursuits of abstract study, to take up a newspaper and read some of the numerous speeches and orations delivered at public meetings. In them he hears of thrones toppled to the dust and of princes and potentates in exile. He takes up the map of empires and looks for vacant thrones, but he beholds thrones not yet emptied and Europe with not a king less than she had ten years ago. Louis Phillippe takes now his morning cup of coffee as a private gentleman in England, but the Duke of Cumberland now drinks his Port in Hanover as king of the Hanoverians. Louis Phillipe is no less than what he has been, and the condition of all classes in Europe is no better at least, nor different from what it was half a century ago, so far as their condition relates to political science. It is very different, however, with respect to the condition of all classes now in civilized countries, from what it was half a century ago, but the changes have been produced by physical science. No act of Legislature or Parliament ever invented a Printing Press, an engine, a steamboat, a spinning jenny, a loom, a railroad or telegraph, or made any improvement whatever in Science or Art; and *yet is it* not to these discoveries that we are indebted for cheap newspapers and cheap reading, one of the greatest of blessings? The mechanic at the present day wears a finer coat than Bluff Henry VIII. did, and the artisan of New York treads on a softer carpet than did old Queen Bess. Time and space, we may say, are annihilated by the steamboat and telegraph, and not a word about the way to do this can be found in either Smith or Montagu. We do not mean to disparage the services and acts of eminent statesmen, "they are all honorable men," but we feel it to be our duty to bring before the public now and again, the claims that science has upon the gratitude of all men, and especially at this time when the world is drowned with the din of popular harangues and exciting orations that lead one man to look upon his fellow with ill will and hatred. The first great duty of one man to another, is to do unto him as he would be done by. The man who does not do this, should not find fault with others. The next thing is to acquire correct views upon all questions relative to the welfare of man generally, and then to seek by intelligence and moral worth to soar higher and higher towards "perfection's sacred heights."

In reference to what political economists and scientific men (inventors) have done to better the condition of universal man, we may well say that the former have had all the glory, the latter have "done all the deeds,"—political economy treats of something that *may yet be done* to better the condition of men—scientific economy can proudly point to what it has done.

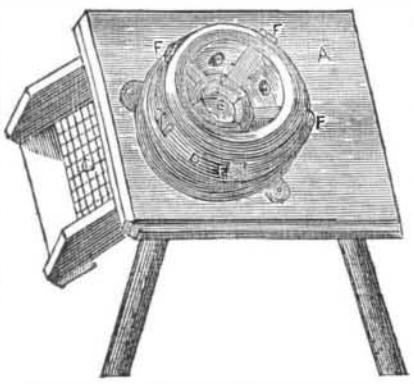
Mechanical Drawings.

In a paragraph, last week, stating that Inventors and others who wished to secure patents, would find it to their interest to have their business transacted through the Scientific American office, we omitted to state that Mechanical Drawings of all kinds are executed by us on moderate terms. Experienced draughtsmen only are employed by us.

Wooden Railroads.

Mr. Clowes, of Sullivan County in this State, has published some essays showing the advantages and economy of building railroads altogether of wood—wooden rails and wooden sleepers. The opinions of Mr. Clowes are good and worthy of attention. Where timber is so abundant and cheap, as it is in our country, we think that railroads of this kind would not only be of great benefit, especially to our farmers in the rural districts, but would be of great benefit to our mechanics and merchants who dwell in our cities and villages also. The roads in our agricultural districts are not good, although the timber is abundant. Now just let some main tracks of strong, deep and broad wooden rails be laid through the most central and densely populated parts of the country, as auxillaries to the main lines of the iron tracks, and let broad wheeled locomotives, built upon the plan of Mr. Sellers described in another page of this paper, be placed upon the wooden tracks, so as to carry at a cheap rate the agricultural products of our farmers to market, and great benefits would thus be conferred both upon our rural and municipal population. It frequently costs more to bring agricultural products to market than the original price at the farmer's dwelling. Every improvement, therefore, that cheapens transit, is certainly a benefit to every class of our citizens.

The Buck-Eye Corn Sheller.



This is a new Corn Sheller which has been sent to us from the inventor and patentee, Mr. John R. Warrington, of Damascoville, Ohio. It is constructed with a cast iron bed plate containing a series of inclined radial grooves in which are placed cast iron self-adjusting sliding strippers, and a circular opening E, in the centre, placed over a corresponding opening in a bench A, as seen in the cut, in which is placed a tube that passes through the screen C, attached to the lower side of the bench. The bed plate is enclosed by a cast iron dome-shaped curb D, containing a series of square holes for the projection of the upper ends of the strippers represented by F. The operator takes ears of corn and puts their small ends in the circular holes G G, formed by the lower ends of the strippers when the strippers are moved so as to suit the increasing diameter of the cob. As the cob descends the corn is taken off by the strippers and inclined back to the holes G in the bench through which it falls upon the screen C, and passes off at the lower end into a vessel, free from the chaff and dust. The machine is very simple, weighing only about five pounds, and can be sold for a trifling sum, and the inventor assures us that it will shell with one man from 4 to 7 bushels of corn per hour.

Application for rights and other particulars, may be made to the inventor at the above mentioned place.

New Volcano.

A volcano is stated to have broken out at Awargura, an island in the Pacific, in the Friendly Group, and about twenty miles east of Vavau. Violent shocks of an earthquake have been felt at Vavau, at intervals of fifteen or twenty minutes, and other phenomena of a volcanic eruption have been observed. A gentleman named Williams, visiting the spot a few months since, observed a little above the sea-level, a vast crater from which boiling lava issued in torrents and spread over the neighboring plains, but such was the violence of the action that he was obliged to return without having ascertained the fate of the unfortunate inhabitants.

Information respecting Reaction Water Wheels.

To the Editor of the Sci. American.

Dear Sir.—In some notices of our improvments in your journal, I observe that you have stated that we were the first inventors of the reaction water wheel. This may give a wrong impression to those who are not acquainted with the subject, though you no doubt referred to the invention of our improvement.

"Barker's Mill," is strictly a reaction wheel, and has been known for nearly a century. And reaction wheels in some respects similar to ours were invented in the United States previous to 1795; and they are mentioned by Oliver Evans in his "Millwright's Guide," published at that time. He speaks of them as being wasteful of water; but thinks they have a value on account of their running under water.

Reaction wheels were used at Zanesville, Ohio, as early as 1807, and have continued to be used there without intermission to this time: and previous to our invention, considerable improvements had been made in them, at that place.

Up to 1828 these wheels were uniformly erected on vertical shafts. The wheel consisted of a solid disc or head, attached to the shaft near the lower end: and on the outer verge of this disc a series of "buckets," so called, were placed round the whole circumference. These buckets were of considerable thickness, and made of such form as to leave apertures between them for the discharge of the water, in the form of a series of jets. The number of buckets and apertures in a wheel of the common size (6 to 8 feet diameter,) was usually from 12 to 18. On these buckets an annular rim was attached, of equal outer diameter with the disc and of such width as just to cover the buckets, leaving between it and the shaft an annular space for the admission of the water into the wheel. The wheel being placed under the penstock, the water was conducted into it from a circular opening in the latter, through a short cylinder, of a diameter equal to the inner diameter of the annular rim.

In the earlier wheels the angle of discharge of the jets or issues was intermediate between a tangent to the outer diameter, and a radius, or 45° from the tangent; but in the later and more improved wheels the discharge was at angle (generally) of about 30° to 35° from the tangent. The general method was to place a the wheel beneath the penstock and supply it by passing the water downwards into it; but in some instances the water was conducted in a covered flume and passed through the cylinder in the same manner, upwards into the wheel. In all cases, previous to 1828, the water passed into the wheel moving in a direction parallel with the shaft.

Our invention consists in the following changes and new principles 1. A modification of the wheel by bringing the angle of discharge nearly to a tangent direction, reducing the number of buckets and apertures to 6 or 7, and in greatly reducing the proportionate width of the annular rim, in the first invention, and in still further increasing the inner diameter of the rim and changing the form of the buckets and issues as an improvement.—2. In combining any number of those wheels on a horizontal shaft in pairs, for the purpose of increasing power without enlarging the diameter. 3. In passing the water into reaction wheels, (thus modified and combined, or the common) with a lively circular spiral, or vertical motion in the direction in which the wheel moves. 4. In placing reaction wheels (modified and combined or common,) in air-tight boxes or cases called "drafts," by which they may be placed at any height within the height of the head of water without loss of power.

All the reaction wheels alluded to except Barker's, are capable of running when immersed; and a rise in the stream does not affect any of them only as it reduces the head of water.

The economical value in the use of water of the different stages of reaction wheels mentioned appears to have been Barker's Mill about 50 per cent. (though estimated variously); the reaction wheel as first used in the United States previous to 1800, about 25 per cent; as first used in Ohio, about 28 to 30 per cent, and previous to 1828 they were gradually improved to 40 and 45 per cent; our improvement as first put into operation, about 55 to 60 per cent; as improved at the present time, 70 to 75 per cent.

Zebulon Parker.

Philadelphia, August 4, 1848.

Angora Wool.

The city of Angora or Engurize, was formerly the centre of the production of the celebrated Eastern shawls and carpets made from the silky hair of the Angora goat. About 200,000 persons, including the manufacturers and merchants, were employed, or derived a living from this business, and the yearly exports of the article amounted to about 30,000 pieces of one or the other kind. Some years ago the Turkish Government abrogated the law prohibiting the export of the raw material; in consequence of this the population of this flourishing city has decreased considerably, for European capitalists have bought up the raw article in large quantities and produce an article superior to that made at Angora.—Austrian and English speculators have hitherto been the principal operators.

In our country, where there is every variety of soil and climate, we see no reason why we should be behind in the manufacture of fine articles of apparel. At present there is not a fine shawl made in the United States.—We could breed both the Angora goat and the silk worm to make the finest of fabrics. In our Southern States, there are fields more prolific of profits, than the cotton or tobacco.—Who will break up the fallow ground?

A New Depository of Columbite.

From near Limoges, France, we have specimens of this metal. It is altogether a new locality, and the specimens furnished have a bluish black-colour, and a density of 7,651. Its combination is columbite acid, oxide of tin, oxide of iron, oxide of manganese (a trace) and silica. It occurs in a yellowish-white feldspar, in a quarry near Chauteloub. [It will be remembered by many that Columbium, of which Columbite is the ore, was first discovered in an oxide found in Connecticut, near the house of Governor John Winthrop at New London, and by him transmitted to Sir Hans Sloane, by whom it was deposited in the British Museum. The same metal was afterwards discovered in Sweden and called tantalum, and its ore tantalite; France also, it seems, has now become another depository of it.]

A new locomotive lately put on the Portland Railroad, Maine, run at rate of 60 miles per hour for a short time between Saco and Portland.

Unprecedented Demand for Old Papers.

At the commencement of the present volume of the Scientific American we had nearly one thousand complete setts of the preceding volume on hand. Since that time we have had 500 copies of thosesetts bound, and the balance have been ordered by mail and sent in sheets. We are now obliged to inform our patrons that we are unable any longer to furnish *complete* setts in sheets, and that we have but fifty more copies left, which are bound. The price of the remaining fifty copies which are left will be hereafter $3 per copy (neatly bound,) or we can furnish a few more copies in sheets, minus Nos. 1, 10, 16, 17 and 46, at $2 per sett. All the numbers of the third volume can be had yet, at the subscription price.

THE
SCIENTIFIC AMERICAN.

Persons wishing to subscribe for this paper have only to enclose the amount in a letter directed (post paid) to

MUNN & COMPANY,

Publishers of the Scientific American, New York City.

Terms.—$2 a year; ONE DOLLAR IN ADVANCE—the remainder in 6 months

Postmasters are respectfully requested to receive subscriptions for this Paper, to whom a discount of 25 per cent will be allowed.

Any person sending us 4 subscribers for 6 months, shall receive a copy of the paper for the same length of time