



## LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending September 11, 1849.

To Abijah J. Williams, of Utica, N. Y.—For improvement in Machines for making Wire Heddles. Patented September 11, 1849.

To George Webber, of Portland, Me.—For improvement in Cam Hooks. Patented September 11, 1849.

To Stephen R. Parkhurst, of New York, N. Y.—For improvement in Cotton Gins. Patented September 11, 1849.

To David W. Lyon, of West Troy, N. Y.—Machine for forming the Eyes of Hinges. Patented September 11, 1849.

To Samuel S. Walley, of Philadelphia, Pa., for improvement in Jointed Pawls. Patented September 11, 1849.

To Thomas & Edward Burrell, of Seneca, N. Y., for improvement in Straw Cutters. Patented September 11, 1849.

To Asa Munger & Royal C. Tallor, of Auburn N. Y., for improved Machine for Polishing Knives. Patented September 11, 1849.

To Charles, F. Tuttle, of Williamsburg, N. Y., for improvement in Registers for Hot-Air Furnaces. Patented September 11, 1849.

To Wm Wurdemann, of Washington, D. C. for improvement in Parallaetic Instrument for measuring distances. Patented September 11, 1849.

To Isaac S. Hershey, of Hagerstown, Md, for improvement in machines for Breaking Hides. Patented September 11, 1849.

To William M. White, of Pittsburg, Pa. for improvement in Atmospheric Churn Dashers. Patented September 11, 1849.

To Michael Burney, of Syracuse, N. Y. for improvement in Cars for Dumping Earth, &c. Patented September 11, 1849.

To William Ward, of Zanesville, Ohio, for improvement in Horse Powers. Patented September 11, 1849.

To John B. Read, of Tuscaloosa, Ala, for improvement in Pumps for raising water. Patented September 11, 1849.

To Philip Rollhaus, of New York, N. Y. for improvement in Cooking Stoves. Patented September 11, 1849.

## RE-ISSUES.

To Erastus B. Bigelow, of Clintonville, Mass, for improvement in Looms for Weaving Carpets and other figured fabrics. Patented May 1, 1842—Re-issued September 11, 1849.

To Erastus B. Bigelow, of Boston Mass., for improvement in Brussels Looms. Patented March 20, 1847. Re-issued September 11, 1849.

## DESIGN.

To A. C. Barstow & Co., (Assignees of Apollos Richmond,) Providence, R. I. Design for a Portable Grate. Patented September 11, 1849.

NOTE.—In the above list of patents no less than six of the applications were made through the office of the "Scientific American"

## Influence of the Animal Spirits upon the Mind.

It is hard to free our judgement from those prejudices and extreme mutations which it is subject to receive from the different cares and state of our animal spirits. Thus sometimes, when the body is vigorous and gay, it shuts out that measure of fear which is necessary to make us wise; and it suffers us not to see that sin we are guilty of, and that lies at our door.—And, on the other hand, when the spirits are dejected and low, they often let in such an excess of fear as betrays the succors of reason, and makes men cruciate themselves with the apprehensions of sin, even where there is really none. And hence we have sometimes seen it come to pass, that a cordial medicine has quieted a mind, and set a grieved conscience at rights.

## Against the Crank.

MESSEURS. EDITORS.—Much has been said and written concerning the *Crank* as used in our reciprocating steam engines, and many arguments, tables and drawings have been adduced designed to prove that the whole power of the steam applied to the piston is, through its medium faithfully transmitted to produce a rotary motion of the shaft. This is at present the universal belief. But notwithstanding all the arguments, tables and drawings which have been adduced to support this belief, and the contempt and ridicule heaped upon those who have dared to question its soundness. I must say that I am still unconvinced of its truth.

Of the arguments adduced, they appear to me but "reasoning in a circle;" and the tables and drawings, but a description of the *modus operandi* of the crank engine. For instance: when it is objected that the crank has no lever and therefore can transmit no force in the direction of rotation at the neutral or "dead power" points, they answer that at those points there is no steam expended, and therefore none wasted or lost, and that at every other part of the stroke the power of the steam is in proportion to the quantity expended: that at the commencement and termination of each stroke when the crank has but little lever, there is but a small expenditure of steam; and that when the leverage of the crank increases, the quantity (and in that the power) increases in the same proportion, and therefore the effort produced corresponds fully with the cause producing it. This, I think, is a fair statement of the argument in favor of the crank engine. Now where is the error or fallacy of this argument? In the first place, I say that it is no argument: it is but a simple description of the *mode of operation* of the crank engine. In the next place I say, if argument it may be called, it is a *petio principi*, a begging of the question—an *assumption* that the same quantity of steam transmitted to the shaft by any other agency would produce *no greater* effect. And in the last place, I say that, to contend that when there is no steam expended, there is no power lost, is "reasoning in a circle," and being carried into practice would never carry us out of it, or, indeed, move us out of our track. The question of *gain or loss* in mechanical powers resolves itself not only into the *quantity* of steam or force applied to produce a given result, but includes also the *time* within which that or a greater result can be effected. Throw out of the calculation the *time* employed to make a revolution of the shaft, or the time consumed in passing the "dead power" points, and the engine which makes a revolution once in a year, or consumes six months in passing her "centres," is just as good and economical as the best in use. Now it is assumed by the advocates of the crank engine that all the steam expended, and all the time consumed in passing the "dead" power points, must necessarily be expended to produce the same or equal result. By this logic I can prove that a man is as strong as a horse. Reject all comparison with every other mode of conveyance and you can prove that a bull can carry a load farther and quicker than a locomotive.

Because there has not hitherto been produced an engine superior to the crank, is to my mind no argument that the crank engine is the perfection of mechanical power in that line, as its admirers dogmatically pretend. From much observation and conversation with the most celebrated engineers and engine builders in this city, I boldly venture the assertion that you cannot get any three to agree in their answer to the following simple question: What is the average lever of a crank four feet long? I should like an answer through the columns of your valuable paper from yourselves, Mess. Editors, and three others; viz.: from the Novelty Works, Secor Works, and the Allaire Works. That there may be no complaint of misapprehension of my question, I will explain what I mean by "average lever." The crank as used in our steam engines is a lever,—a rigid, inflexible lever—through the agency of which a rotary motion is communicated to its shaft. Its extreme working length being

four feet, what is its average length, (expressed in inches,) towards rotation, during one revolution of the shaft?

In return for the trouble given in answering this simple question, (which I consider as lying at the very bottom of the crank engine,) I promise, when answered, to give my answer to it, and to show, by comparison, that the now highly lauded crank, is a very *inefficient, bungling and wasteful contrivance*. PULLEY.  
New York, Sept., 1849.

[Mr. Pulley is not content with the old scriptural plan of having a matter established by the mouth of two witnesses, he must have four. As he has "fought and conquered ere a sword was drawn," it may be difficult to find opponents to measure swords with him, especially, when he tells them that for the trouble of answering his questions, he designs to pay them back with three extinguishing thrusts from his *unconquerable blade*. Nevertheless, we will publish an answer to this, if it comes in courteous language, is brief and clear; and we will not look for an answer to his question, by the "rules of *Polemics*," unless the person who answers chooses to do so; for the scholastic rule of debate, excludes the asking of questions by the attacking party. This is right—no General who is attacked, has any business to take up his position on ground recommended to him by his adversary. The commander who acts on the defensive takes up the position that suits himself best, while the one who takes the initiative, is bound to draw or drive him from his position, if he can.] E.C.

## Experiments with the Cotton Gin.

The following experiments with the cotton gin communicated by a correspondent of the Southern Cultivator, will be interesting to many of our Southern readers. The writer says:—Being much troubled by my gin not dropping the motes and trash, I closed both ends at the bottom. This, by lessening the current of air under the gin, was of some service; but not sufficient. The brush-wheel was made in the ordinary way, by drawing the bristles double through bars about 1 1/2 inches wide, under which bars was a lining of osnaburgs. Being satisfied that the wheel created too strong a current, I cut strips of osnaburgs just wide enough to reach from one row of brushes to another, and tacked them on the *outside* of the bars; thus destroying the fan and leaving nothing but the projection of the bristles to create a current. This was still sufficient to throw out the lint, while the motes and trash fell behind the mote board. Instead of having, as formerly, to clean out the trash and motes once a day, it now had to be done every hour. Finding the experiment succeeded, I had the brush wheel taken out and the spaces between the bars closed with thin plank; thus converting it into a drum-wheel. The cotton which the gin now makes is worth from 1-4 to 1-2 cent. more than that made by the same gin before the alteration.

There is still an objection to the brush-wheel. The bristles, as is the usual way, are drawn in double, and as all hair is bearded in one direction, half the beards are necessarily turned down and serve to catch lint; rendering it necessary frequently to open the gin and clean off the brushes by hand. If the brush-wheel be made of narrow strips of plank, just as wide as you wish the rows of brushes apart, and the bristles be glued to pieces of tape, or narrow strips of homespun, or to the edges of the plank itself, with the small end of the bristles turned outward, they may, on putting the wheel together, be confined in the joints, so as to hold them fast, and the beards being all turned outwards the brush will keep itself clean.

I will farther add that the breast of every gin should be closed below the seed-board; leaving, of course, sufficient room for the seed to fall. The breast can be as easily hoisted, when necessary, by small knobs as by the under edge of the breast-board.

## Worcester Mechanic's Fair.

We exhort all those who desire a treat, in viewing beautiful machinery, to visit the Worcester, (Mass.) Mechanic's Fair, this week:

## Sympathies of Sound.

It is owing to the sympathetic communication of vibrations, says Herschel, that persons with clear and powerful voice, have been able to break a large tumbler glass, by singing close to its proper fundamental note. We have heard of a case where a person broke no fewer than twelve large glasses in succession. The sympathy of vibrations, or tendency of one vibrating body to throw another into the very same state of vibration, shows itself remarkable in the case of the running of two clocks fixed to the same shelf or wall. It was known, near a century ago, that two clocks set going on the same shelf will effect each other. The pendulum of the one will stop that of the other and the pendulum of the clock which is stopped, after a certain time will resume its vibrations, and, in its turn, stop that of the other clock. Mr John Ellicot, who first observed these effects, noticed that two clocks which varied from each other ninety six seconds a day agreed, to a second, several days when they were placed on the same rail. The lowest of these two clocks, which had a slower pendulum set the other in motion in sixteen minutes and a half. These effects are clearly produced by the small vibrations communicated from one pendulum to the other, through the shelf, or rail or plank on which they both rest. It has been found that two conflicting sounds produce silence, as two converging rays of light produce darkness.

## Receipt for Washing.

To one pint of soft soap add two table spoonsful of spirits of turpentine. If the soap is thin, it may be mixed cold, but if the soap is thick it must be warmed while stirring it together. The above quantity of soap is sufficient to do a common washing. Half a pint of the soap is to be put into as much warm water as will cover the clothes to be washed as warm as washing suds in the ordinary way of washing. Let them then stand thirty minutes, then wring them out, and put them immediately in clean, cold water—rinse well, put them then in boiling suds—to this suds add one half pint of the above compound—let them boil fifteen or twenty minutes, take them through the sudsing water and through rinsing water and whiter and cleaner clothing cannot be had. This arrangement saves completely all rubbing, which is the laborious part of the operation in washing of cloths.

[A receipt as above, we received sometime ago but did not publish before. We cannot vouch for its superiority, and we do not see what virtue there is in the turpentine. A fair trial with and without the turpentine, (every other way the same) would test its merits.

It may be superior, although why and wherefore we cannot see, but "the proof of the pudding is the eating of it."

## The Orange Tree.

The Gazeta of Havana states that a young man of that city has made a discovery of a specific, which in a very short time destroys the insect which threatens to make the orange plantations of Cuba valueless as those of Florida have become. This person, who lives at No. 50 *calle del Castillo*, in the barrier of Horcon, offers to all persons who may apply to him the use of his remedy, under the following limitation: He promises to ensure a certain number of trees, from four to five hundred, without demanding any remuneration for one year, a time completely sufficient to restore the health of the fruit. The remainder of his terms are made known on application to him. This discovery will be of immense importance to Cuba, as during the last few years the vast orange groves of that island have almost become barren, and would certainly triple in value the lands of Florida, which would, but for the same pest, be now the great orange producing country of the world. Unless we are mistaken a large reward has been offered in Florida for the discovery of a practicable means of exterminating the fly.

It is said, that hemlock makes excellent hedges, if planted young in rows, and kept properly trimmed for some years.