

## New Inventions.

### New Sewing Machine.

There has been exhibiting for a few days past in the Merchants' Exchange in this city, a complete Yankee invention of a Sewing Machine, invented by Messrs. J. B. Johnson and Charles Morey, of Boston. The machine is very neat and portable—one that can sew as fast as six seamstresses might be carried in the inside of a common hat. Without a drawing, (we may be able to give one at some future period,) we cannot convey a correct idea of its mechanical construction, but we will endeavor to explain its principle. The machine is a small box with an axle passing through the middle of it. This axle is turned by a small wheel or crank and drives all the machinery, which is very simple. There is a traversing bar which carries the seam to be sewed gradually forward to be punctured by a needle passing through a small orifice of the box into the inside. This needle has an eye near its point which carries the thread through the cloth and orifice to the inside of the box where it is caught by a traversing fine hook which catches, and lets go, loop after loop, hooking the one loop over the other along the whole seam like the loop and stitch operation, so well known in knitting. In fact it is the principle of chain knitting applied by machinery to sew garments. The thread is supplied to the needle from a spool and it need not be threaded during the sewing of a thousand yards of cloth. The machinery to carry out this principle of sewing must be exceedingly correct, not a loop must be missed in a seam by the needle or hook.

The invention and machine does great credit to the inventors, as a screw cam on the axle spoken of moves all the machinery—the needle carrying the thread and piercing, the hook catching, and the seam bar by its rack traversing, each correctly in its proper place and at its proper time of operation.

Messrs. Johnson and Dyer, the proprietors for this State, exhibited this machine to us, and we saw it operate successfully at the rate of 500 stitches per minute.

### New Gauge Cook.

Mr. John Adams, a practical mechanic, in the employ of the Auburn and Rochester Railroad Co., has invented a new Gauge Cook for boilers, which is represented to answer the purpose of three such as are in common use. It has been commended by some engineers, who we know are well able to judge of its merits. Measures have been taken to secure a patent.

### New Railroad Brake.

Mr. W. O. Stone, of Charlestown, Mass., has invented a new Railroad Brake, for which we are informed he has taken measures to secure a patent. Mr. Stone we learn has offered the use of his Brake to one of the Eastern railroads for the purpose of its introduction.—We have seen a model of the invention, and models have been sent to various Railroad offices for a thorough investigation of its merits. Many who have seen the model have highly commended it.

### A New Signal.

Mr. Henry Sands, of Louisville, Ky., has invented a new Signal Lantern, for which he has applied for a patent, and which promises to be an exceedingly useful article, especially for vessels navigating the Mississippi, so as to prevent collisions—evils which so often occur on our Western waters. A large lantern is placed in front of each funnel of the steamboat exhibiting a light in each. If two boats be meeting each other, the pilot changes the single light, by pulling a cord, to four lights of different colors to show what course each must take. These colored glass signals are to be understood by the pilots so that the ascending and descending boat will take each its right course, and as soon as the boats have passed, the colored lights are moved back.

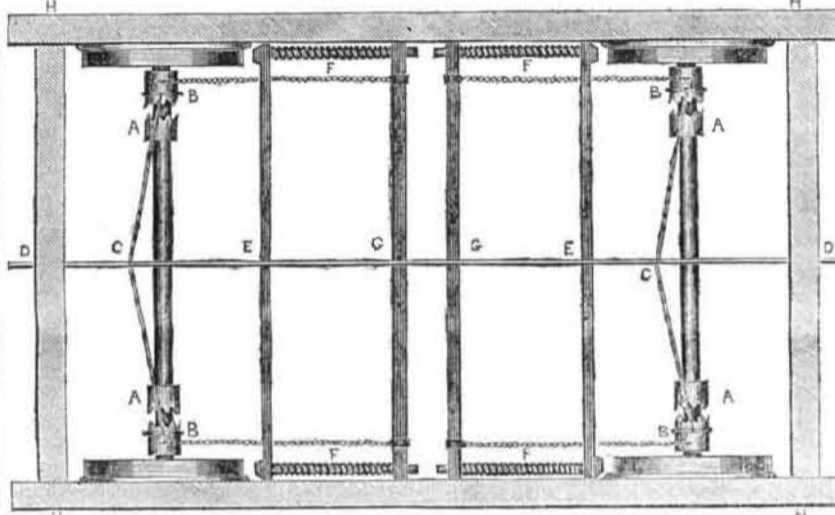
### New Brick Machine.

By our valuable exchange, the Hamilton, C. W. Gazette, we learn that a Mr. Butler of Toronto, has recently patented a Brick Machine in Canada, and is about making application for a patent in the United States and England.—The construction of the machine appears simple, although it does not appear to do so much work as some of our machines here, such as Grant's, Adams's and others, yet its work may be very superior. The machine is of a square form, and the length of the sides is four feet six inches. Its appearance is that of a large box. In the centre of the machine is a perpendicular shaft, to which is attached four knives, of equal length from the centre, making eight points or blades between two and three feet in length. These grind and prepare the clay, which is thrown in at the top of the machine. The clay moves to the bottom partly by its own weight, and partly by the peculiar form of the knives. An apparatus for pressing the clay into the moulds, is placed underneath the knives, with which it revolves, being also attached to the perpendicular shaft. In the bottom of the machine are two cast iron plates, placed at opposite sides, and in each of these there are five holes in the shape of the moulds which are placed under the frame of the machine. Through these holes the clay is pressed into the moulds. Both sets

of moulds are filled every time a revolution is made by the knives and the instrument that presses the clay into them. The machine is worked by means of a forty foot lever attached to the top of the shaft. The moulds are put in at the side of the machine, and they press one another out at opposite sides and at right angles to the side at which they are put in. Alternately, one set being filled, and brought out by each half circle of the horse. A man stands at each side to receive them, who empties the moulds and reaches them to the person who puts them in, while two other men, one at each side of the machine, carry the bricks away. It requires two men to put the clay into the machine, and a boy to drive. Seven men and a boy are the compliment of hands required to work the machine efficiently. The horse will make about two revolutions in a minute, producing 20 bricks in that time, 1200 an hour, and 14,400 in a day of twelve hours. The inventor is of opinion that they will be able to make from 15,000, to 20,000 a day. Seven men would mould by hand, about half the former quantity of bricks of equal quality, and it would require at least seven boys to run them off.

It is very evident that with more power, it can double the amount of bricks stated above, yet this would be less than Adams's machine described in number 18, of this vol. Scientific American.

## IMPROVED RAILWAY BRAKE.



The above is a representation of an improved Railway Brake, the novelty of which consists in its causing the cars, by the mere push of a lever instantly to check themselves, without being dependent upon the main force of the brakeman to effect the same. The plan is very simple and effectual. H H, is the common truck frame resting upon the end of the axles. The axles revolve with the wheels as usual. A A, are halves of the clutches placed near each wheel. These halves are either made with the axles or firmly fastened upon them afterwards. B B, are the other halves of the clutches and are made to slip upon the axles. E E, are the rubbers which are connected by the springs F F, to the cross-bars G G. C C, are levers fastened at one end to slipping rings which are fitted in a groove in the clutch halves, and at the other ends to the long rod D D, which passes the whole length of the truck. This rod is moved back and forth by upright bars placed on the platforms of each car, as in the common manner.

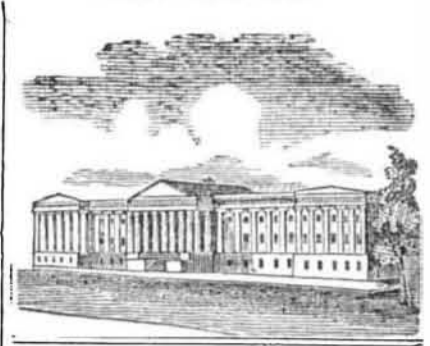
When a car is in motion and it is desired to stop, the brakeman throws forward the rod D D, which causes the levers C C, to bring up and join the clutch halves B B with A A. The clutches being joined, the chains are of course

instantly wound up, drawing with them the bars G G, and pressing the rubbers E E, by means of the springs F F, with tremendous force against the wheels. This force constantly increases until the wheels are so firmly blocked that they cannot turn. The wheels are released by throwing back the rod D D, which operates the clutches, and the springs F F, fly back. The springs are intended to counteract the sudden jerk with which the brake would otherwise act. The rod D D, passes the whole length of the car operating both brakes at the same moment. It can easily be arranged to operate them separately, or, the rods of a whole train can be connected and made to work together and the cars be thus instantly stopped by the engineer. This brake is the most effectual of any we have seen and will prove of great importance provided the parts can be made sufficiently strong. It only remains to be well tested on some of our large cars. The inventor is about trying it on the Long Island or some other railroad and we shall then lay the result of the experiments before our readers. Measures are in progress to secure patents in this country and Europe. Any further information may be obtained at this office.

### New Determination of the Sun's Distance from the Earth.

It appears from the report of the Committee on Naval Affairs, made to Congress on the 13th ultimo, that an effort is now making for a new determination of this very important element of all our tables of astronomy and navigation. Two methods, it seems, have been already tried. A third method suggested by Dr. Gerling, a distinguished German astronomer, remains as yet untried. The committee recommend a small appropriation for the purpose of making observations at some

of our Southern Naval Stations, in connection with the observations of the Northern hemisphere. The object is to test the correctness of the former measures of the sun's distance, and to make the measure anew. The reputation acquired by our Rittenhouse in his labors on this subject, in the last century, are alluded to in the report. An enterprise of such immediate importance to the interests of commerce and navigation, we hope will meet with the approbation of members of Congress from all parts of the Union.



## LIST OF PATENTS

ISSUED FROM THE UNITED STATES PATENT OFFICE.

For the week ending April 25, 1848.

To Frederick C. Smith, of Harper's Ferry, Va., for improvement in Ploughs. Patented April 25, 1848.

To Stephen Holmes, 2d., of Kingston, Mass., for improvement in Ship's Windlasses. Patented April 25, 1848.

To Joshua Graves and William L. Gordon, of Bridgewater, Mass., for improvement in casting Rolls. Patented April 25, 1848.

To Samuel Hall, of Pittsburgh, Penn., for improvement in Ploughs. Patented April 25, 1848.

To Faulkner J. Norton, of Lower Sandusky, Ohio, for improvement in Horse Powers. Patented April 25, 1848.

To Asa Whitney, of Philadelphia, Penn., for improvement in annealing and cooling cast iron Car Wheels. Patented April 25, 1848.

To Gustavus A. Nicoles, of Reading, Penn., for improvement in Locomotives. Patented April 25, 1848.

To A. P. Norton, of Pittsburg, Penn., for improvement in Mills for crushing and grinding. Patented April 25, 1848.

To C. H. Brand, of Williamsburgh, N. Y., for improvement in manufacture of Velluted Cloth. Patented April 25, 1848.

To Joseph G. Isham, of New York City, for improvement in Sand Paper. Patented April 25, 1848.

To Charles Goodyear, of New Haven, Conn., for improvement in making hollow articles of India Rubber. Patented April 25, 1848.

To Charles D. Wright, of East Haddam, Conn., for improvement in Tail Blocks of Saw Mills. Patented April 25, 1848.

To Patrick Connelly, of Cincinnati, Ohio, for improvement in Spark Arresters. Patented April 25, 1848.

To Charles F. Durant, of Jersey City, N. J., for improvement in dissolving and softening Gutta Percha and Caoutchouc. Patented April 25, 1848. Ante-dated Oct. 25, 1847.

To William B. Hill, of Grand Rapids, Michigan, for improvement in Balance Valves for Steam Engines. Patented April 25, 1848.

## INVENTOR'S CLAIMS.

### Husk Mattresses.

By Adrian Olcott, of Newark, N. J. Improvement in machinery for preparing husks for Mattresses. Patented 20th Nov. 1847.—Claim.—What I claim as my invention and desire to secure by letters patent, is the combination of the machinery by which the husks are knobbed as herein described, and also the combination of the machinery by which the husks are slit and cleaned as described.

### Mills.

By Edward Harrison, of New York. Improvement in Mills for Grinding. Patented 20th Nov. 1847. Claim.—Now what I claim as my invention and desire to secure by letters patent, is the combination of the Fan-drum, with the stationary grinder and casing in a manner substantially as herein described, to cool the grain.

### Bog Cutters.

By Robert Cummings, of Lima, Ind. Improvement in Bog Cutters. Patented 20th Nov. 1847. Claim.—What I claim as my invention and desire to secure by letters patent is the combination of the angular knives and revolving knives in the manner described. I also claim the hooks constructed and operating as described. And I claim lastly the combination of the roller with the hooks and knives.

Of all bodies steel is the strongest. It requires a force of 115,000 lbs. to tear asunder a steel rod the area of which is one inch.