

# Scientific American.

THE ADVOCATE OF INDUSTRY, AND JOURNAL OF SCIENTIFIC, MECHANICAL AND OTHER IMPROVEMENTS.

VOLUME 5.]

NEW YORK JUNE 15, 1850.

[NUMBER 39.]

THE  
Scientific American,  
CIRCULATION 14,000.

PUBLISHED WEEKLY.  
At 128 Fulton Street, New York, (Sun Building,) and  
13 Court Street, Boston, Mass.

BY MUNN & COMPANY.

The Principal Office being at New York.

Hotchkiss & Co., Boston.  
Geo. Dexter & Bro., New York City.  
Stokes & Bro., Philadelphia.  
R. Morris & Co., Southern.

Responsible Agents may also be found in all the  
principal cities and towns in the United States.

TERMS—\$2 a year—\$1 in advance, and  
the remainder in 6 months.

## Rail Road News.

### Pennsylvania Railroad.

In pursuance of adjournment the Committee of Three Hundred met at the office of the company, in Philadelphia, on the third inst. The meeting was largely attended, and that spirit of energy and determination evinced which is always the precursor of success. Owing to the large number of circulars issued, soliciting subscriptions, and the necessarily brief time allowed to forward them to the parties addressed, comparatively few answers have been received. The amount reported to the Committee, together with that pledged by members present, reached 2309 shares, leaving only 2926 shares to be taken.

### Bellefontaine and Indiana Railway.

The line of the central road from Bellefontaine to Sydney and thence on to Doramic's Creek has been put under contract, in all thirty-two miles. That portion from Marion to the line of the Columbus and Cleveland line has also been let, and it is to be pushed forward as fast as possible. The line from Greenville to the Indiana line near Winchester, it is expected will be let an early day.

The Cayuga and Susquehanna Railroad is now completed from the depot on the hill, and the passenger trains have commenced running over the new part to the steamboat landing.—The passenger trains run to and from the Express trains on the N. Y. and E. R. R. and the steamboats on Cayuga Lake.

The Railroad Journal states that at least ten thousand miles of road will be built in the United States within the next ten years. Besides the iron required for the new structures, a considerable amount will be needed for relaying worn out tracks and repairs. Over 100,000 tons will be purchased annually.

### New Route to California.

The Minnesota Pioneer devotes a long article to the establishment of the fact that the best route to the Pacific is along the dividing ridge between the basin of the Arctic Ocean on the north, and the basin of the Mississippi on the south, to the head waters of the Columbia river; thence by sea to California.

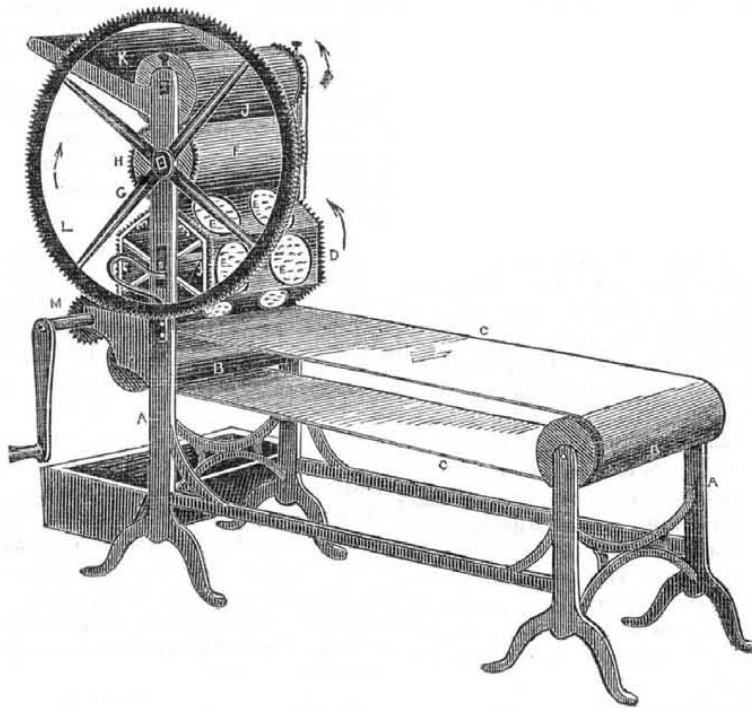
### Pacific Rail Road.

On the 24th ult., Mr. Kirkwood, Surveyor and Engineer of the route of the Pacific Rail Road, with Mr. Kingsley, and two other competent assistants, commenced their labors, beginning at St. Louis. Under the energetic superintendence of Mr. Kirkwood, this route will soon be surveyed.

### Cave in California.

During a recent tour in the region bordering on Stockton, California, a cave or grotto of great extent was discovered by a Mr. Lane and a Mr. McKinney. They found that it contained large quantities of stalactite, and saw evidences of gold. The Indians who accompanied these gentlemen were horror-stricken at the audacity of our friends when they entered a cave, which tradition said no man returned from alive. Mr. Lane found the skeleton of a human being some distance from the opening.

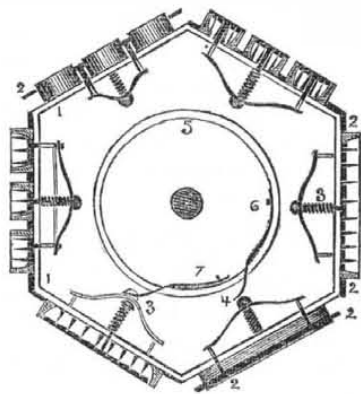
## CRACKER AND BISCUIT ROLLING AND CUTTING MACHINE.



This machine is the invention of Mr. W. R. Nevins of 87 Eldridge st., this city, and patented by him a few years ago but never before presented to the public, and as a new machine the first on the principle for a large manufactory, is to be sent South in a short time, this was deemed a good opportunity to present it to the public. Its operation is on the rotary principle, but it cuts by a flat surface, to allow for what is termed the contraction of the dough.

Figure 1 is a perspective view, and figure 2 is a transverse enlarged section of the hexagon cutting roller. A is the frame, made of cast metal and bolted together; B B are the rollers of the endless apron C C, which carries the cut dough forward from the cutters towards the person who attends the oven. D is the hexagon cutting roller; E E are the cutters on it. F is the driving and one of the feed rollers; J the upper feed roller. These rollers feed in the dough, carrying it from the feed table K, to the cutters, and roll it to the proper thickness

FIG. 2.



to be cut, for the different kinds of crackers and biscuits. Set screws are placed above the journals of the top roll, for that purpose. The driving roller has cog rims, G, which mesh into like rims on the cutting roller, and a like rim on the top roll to give motion to the same. L is a large driving cog wheel, on the axle of the roller F, and M is a pinion to drive it by crank handle, or by band and pulley, if driven by steam or water power. The arrows show the motion of the rollers.

Figure 3.—This shows the cutters placed on a hexagon, so that each set of cutters are placed

on plane surfaces, allowing the cut dough to leave the cutter more readily than if the cutters had been set radially, because the dough is an elastic substance, and the arrangement of the cutters connected with the springs, ejects the dough and always cleans the cutters, an important consideration, especially in machines which have a rotary motion. 1 1, is a plate of sheet iron, the size of one of the faces of the hexagon; it is attached by thumb screw. The cutters are formed of steel and made of any form required, and they are fastened to the sheet iron plate. A plate of metal within the cutter box, is also riveted to the sheet iron, and it has openings in it, to allow the punches to pass freely through them. 3 3 3, are bolts with spiral springs around them. These bolts are firmly screwed, and the springs keep the followers close to the bottom of the cutters; 2 2 2, is the waste follower; it is a plate of metal outside of the cutters, with perforations for the cutters to pass through. This plate is secured to two bolts for each plane surface, which are connected to springs, as shown at 4. In the interior of the hexagon are two hollow cylinders, 5, secured on the shaft. A number of strong springs are riveted to the inner surface of these hollow cylinders, which project outward through openings at 6 and 7, which act upon the ejector when the dough is cut, to clear the cutters.

In figure 1 it will be observed that the dough is carried round on the roller F, and the cutters cut on the roller, then carry the cut dough till the angle clears the roller, when the cut dough is deposited on the apron below. To allow the hexagon rack to mesh into the teeth of the steel rim G, a strong spring is secured on the outer ends of the hexagon journal, and it is moved up and down in slots in the side of the frame. A box below receives any of the waste dough. The required speed, either fast or slow, may be given to the rollers by changing the driving pinion, a slot being made in the bearings to accommodate pinions of different sizes, to mesh into the large cog wheel. The claim on this patent, is for placing the cutters on plane surfaces on a revolving roller, and for the manner of freeing the rollers from the dough. Any communication, post paid, addressed to Mr. Nevins, will be promptly attended to.

We know of no man who has done so much at inventing in the line of such machines, who has been so poorly rewarded, or circumvented in obtaining a liberal compensation for his inventions, than Mr. Nevins. He has sown, and others have reaped.

## Useful Receipts.

### To Kill Rats.

In or near the places frequented by these pests, place upon a slate some dry oatmeal, lay it thin, and press it flat, so that you may easily know what has been taken away. The rats if not disturbed, will come regularly to feed upon this. Supply them thus with fresh oatmeal for two or three days, then add two or three drops of oil of aniseeds, stir the mixture well together, feed them well with this for two or three days, then for one day give them half the quantity they have usually eaten, and on the following day place the following mixture:—To four ounces of dry oatmeal, scented with six drops of oil of aniseeds, add half an ounce of carbonate of barytes pounded, mix this well with scented oatmeal, then lay the mixture on the slate as the oatmeal has been placed, and allow the rats to come and eat of it without interruption. A few hours after partaking of this meal they may be seen running about as if drunk or paralytic, retiring to their haunts to die. Rats are extremely sagacious, therefore when they have eaten only a small portion of the mixture, it should not be disturbed for some time. The oil of aniseed is disagreeable to dogs and many other animals, but, in small quantities, alluring to rats.

### How to Exterminate Roaches.

Sprinkle corn meal in a plate, covering the entire surface and over that sprinkle powdered sulphur—not so much as to cover entirely the meal, but lightly. Then place shallow vessels or saucers containing water near by. In a few days the roaches will disappear. This has been tried and found effectual.

[We believe that there are no greater pests on earth to the human family than rats and roaches, and every particle of information we receive on the subject we like to present it to our readers. We cannot vouch for the entire correctness of the above, but we publish them so that any one who chooses may try the experiment. We have received, at one time and another, quite a number of receipts to exterminate rats, but we do not know but what they were all worthless. To kill roaches, if arsenic is mixed with potatoes, they will eat it and be destroyed, but as arsenic is dangerous to use in any case, we should like to know some safe and effective way to rid the world of the vermin. If the above is effective, its simplicity is of great consequence.]

### To Get Rid of Grain Weevils.

The Agriculturists who wish to get rid of weevils have nothing to do but, as soon as he is aware of their presence, to pitch the surface of some old boards and place them in his granaries; the pitch must of course be renewed several times in the course of the year, in order to keep the insects away. The mere fumes of the pitch is disagreeable to the weevils, and will prove fatal if long inhaled.

### Cure for Cancer.

It is said that olive oil, gently boiled for a considerable time in a copper vessel newly tinned, is an effectual cure for cancer. The oil must be brought to the consistency of ointment, and then constantly rubbed on the part affected for two or three weeks or longer.