

# Scientific American.

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

VOLUME 5.]

NEW YORK MAY 25, 1850.

[NUMBER 36.]

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 and Ohio Railroad.

On Thursday last, at Salem, Ohio, the contracts for the grading and masonry work of the above named road, from the Pennsylvania State line to the intersection of the Cleveland railroad, were let to responsible persons, at rates materially lower than the original estimate of the Chief Engineer. The length of this portion of the road is thirty-four miles, and is to be complete by the 1st of April next. The Pittsburg Gazette says:

With the exception of the work immediately adjoining Allegheny City, the whole of the Eastern Division of the railroad, eighty miles in length, is now under contract. When this part of the work is ready for use, we shall have a continuous railroad communication from Pittsburg to Cincinnati, through Cleveland and Columbus. By proper efforts, this may readily be accomplished next year.

### Reading Railroad.

The North American says:—"We understand that a statement showing the business of the Reading Railroad, from the commencement of the present season up to May 1, will be shortly laid before the public; and gives us pleasure to add that the ascertained results are of such a character as cannot fail to agreeably surprise the friends of this great Pennsylvania improvement. Indeed, all the improvements connecting with our coal regions have been doing an excellent business this season—much above the average."

This is gratifying news, as the Reading Railroad was in a very poor condition two years ago.

### Railroad Jubilee.

On the 12th and 13th of June next there will be a grand railroad jubilee at Burlington, Vt., to celebrate the completion of the Rutland and Vermont Central railroads to that place. There will be a Supper, Levee and Ball in John Wright's mammoth pavilion, which, it is said, will accommodate 10,000 people. It will be floored for dancing, and handsomely decorated for the occasion. Several governors, mayors, editors, and other distinguished persons, will be invited. Tickets, admitting a gentleman and ladies to the levee and ball, will be five dollars each.

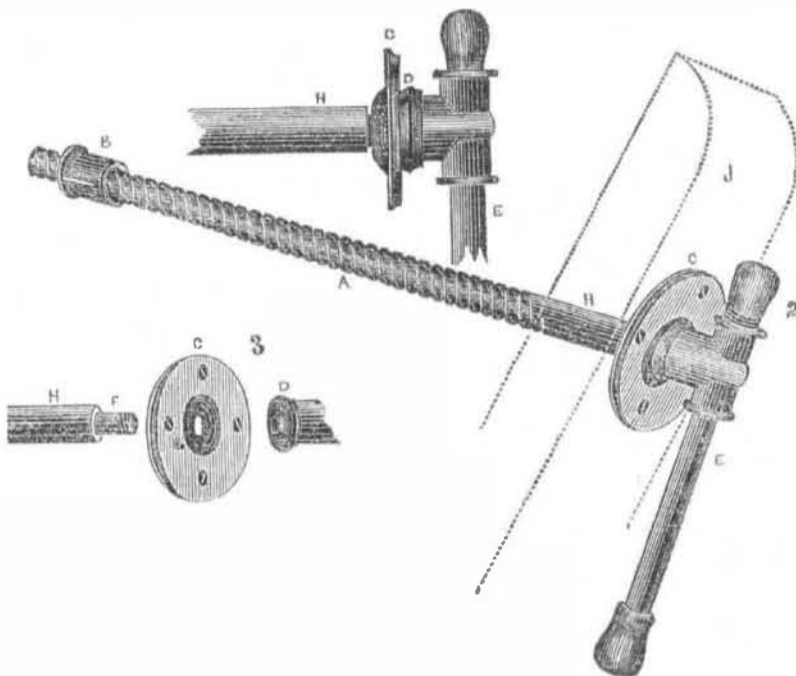
### Connecticut River Railroad.

The business of the first three months of the present year, on the Conn. River Railroad, shows a handsome improvement over the corresponding months of last year. The increase of gross receipts is twenty per cent., and the net receipts much larger. It is believed that after the present year, the entire stock of the road will yield a dividend of eight per cent.

A fire occurred at Woburn Centre last week and burned the wood work of two locomotives belonging to the Lowell Railroad.

The bonds of the Worcester and Nashua Railroad, payable in five years, were sold on the first inst., at 15 per cent discount.

## IMPROVEMENT IN THE SCREW AND COLLAR FOR WOOD VICES.—Fig. 1.

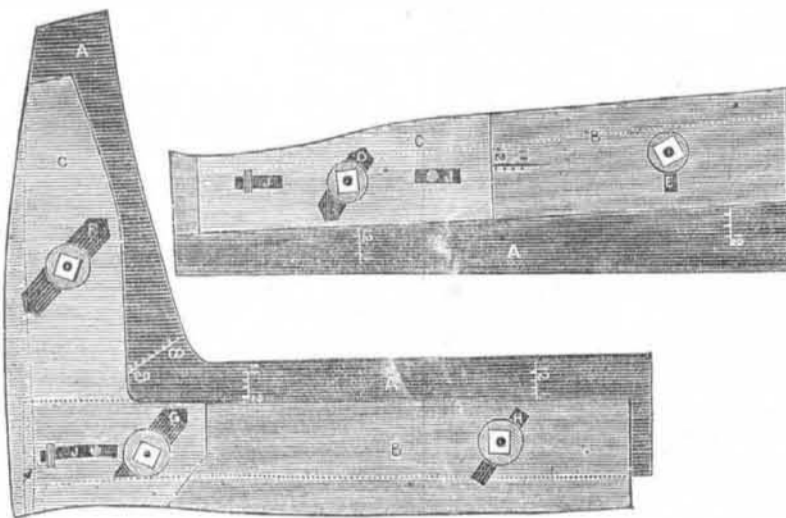


This improvement is the invention of Cyrus S. Tolman, of Hinsdale, Cheshire Co., N. H., who has taken measures to secure a patent for the same.

Fig. 1 is a sectional elevation; figure 2 is a perspective view; figure 3 is a view of the slot plate, end of the screw, and the ball and socket. The same letters refer to like parts. A is the screw of the common kind; B is the collar plate secured to the fast jaw (not represented); C is the socket plate secured by screws to the moveable jaw, J, (represented by dotted lines.) D is a ball or convex knob on the end of the handle socket; E is the handle; H is the shoulder of the screw; F is a recess or groove cut around the shoulder, H, and it has a screw on the end of it to pass through the slot, G, of the plate, C, and into a thread nut in the end of the ball, D, thus securing the plate, C to

the ball, D, and in the groove, F, as represented in figure 1. The back part of the slot, G is countersunk to allow the plate to rise and fall through the ball D, at different angles, as the jaw is drawn back. The slot, G, therefore, is an oblong slot with rounded ends, to allow the jaw to move on the ball like the socket of a universal joint. It is quite an improvement also to have the plate, C, secured in a groove on the shoulder of the screw, for the jaw will move backwards without the necessity of drawing it back by the left hand, as is done in the usual way; and it can be applied to the parallel vice, and no spring will be required to push back the jaw, as is now the case. It is a useful and good improvement. More information may be obtained by letter (p. p.), addressed to the inventor.

## SAMPSON'S APPARATUS FOR SHAPING BOOT UPPERS.



This apparatus is the invention of Mr. Jas. Sampson, of Hamilton, Canada West, and is patented by him in the Provinces. Its object is to gauge the leather to be cut for the shape of any measured boot, and may be termed a "boot pattern gauge." This engraving represents side views of the apparatus. Figure 1 is to measure and gauge the leather for the back of the boot, and fig. 2 for the front; apparatus for the same purpose have been brought forward before, but they were all defective in one point, viz., shifting on an anatomical principle

to gauge the uppers uniformly, to fit them for feet of different measurements. Mr. Sampson has constructed his apparatus in such a way that it will shift, to bring the crown of the heel of the upper, in height, half of the height of the instep and on a line always, (it makes no matter how it is shifted) with the apex of the angle formed at the instep, and the point of the angle of the heel. This makes the uppers formed by this apparatus, fit for boots of different sizes upon a general mathematical principle. Figure 1 is made of three plates of

zinc, A B C. A is fixed; B has a lateral motion to widen the upper by the screw working in the slot E; C has an up and down slide motion by working in the slots, J J, on guide pins, and it has also a lateral motion on the axis screw pin, D fig. 1, and the screw pins G F and H, fig. 2. This allows the outside plate to be moved up and down, and sideways also. The following are the rules to be observed in the use of the apparatus:—Figure 1, back,—Move plate B until it intersects the line in the upper scale, for leg, and fasten the upper screw. Then move plate C until it intersect the line in the centre scale for the instep and spring. Then move the plate B until it intersects the line in the lower scale for the heel, and the lower screw is then fixed. Figure 2, front,—Move plate B until it intersects the line in the upper scale, for leg, then screw down. Move plate C till it intersect the lower scale for instep; then move plate B until it intersect the line of the centre scale, then screw down. This apparatus answers every purpose required by the bootmaker, and the inventor has succeeded in all that he anticipated from it as a thoroughly practical instrument for the purpose set forth.

Letters addressed (p. p.) to Mr. Sampson, care of J. Winen, druggist, Hamilton, C. W., will meet with prompt attention.

## Useful Receipts.

### To make Whitewash.

As this is the time for cleaning up door yards and white washing buildings and fences, we give a receipt for making whitewash, which is said (in the Horticulturist) to be one of the best and most durable character.

Take a barrel and slack one bushel of freshly burned lime in it, by covering the lime with boiling water. After it is slacked, add cold water enough to bring it to the consistency of good white wash. Then dissolve in water, and add one pound of white vitriol (sulphate of zinc). To give this wash a cream color, add one-half a pound of yellow ochre in powder. To give it a fawn color, add a pound of yellow ochre, and one-fourth of a pound of Indian red. To make the wash a handsome grey stone color, add half a pound of French blue, and one-fourth of a pound of Indian red; a drab will be made by adding one half pound of sienna, and one-fourth pound of Venetian red.

Some people put salt into their lime, but we never could see any reason for doing this, as salt absorbs moisture and is therefore more injurious than beneficial. The sulphate of zinc is an excellent drier—it being about one of the best known; the use of it, therefore, is important.

### Substitute for Coffee.

The ripe seeds of the okra burned and used as coffee is said, by the St. Augustine News to be a good substitute therefor, and cannot be distinguished from it and that the drink is very healthy. It is the common okra so easily grown in the South, and whose excellence in soup is universally known.

### Artificial Snow.

The theatrical machinists of Paris have invented a beautiful "snow" for stage effects. The "flakes are seen drifting and agitated by the wind in a manner altogether magical."—The appearance, as the snow covers the ground, perfectly resembles nature.

### Plank Road Dividend.

The Waterville and Utica plank road company have declared a dividend of 15 per cent. payable on the first Tuesday in May, 5 per cent. in cash and 10 per cent. in stock.