

# Scientific American.

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

VOLUME 6.]

NEW-YORK, OCTOBER 12, 1850.

[NUMBER 4.

THE  
SCIENTIFIC AMERICAN,  
Published Weekly, at 123 Fulton, street, N. Y., by  
MUNN & CO.,  
At \$2 a-year; \$1 for 6 months---in advance.

## Rail-Road News.

### Railroad Law.

In the proceedings for an injunction against the Hudson River Railroad, by Hamilton Wilkes, on the ground that in assessing damages for lands taken, the company had proceeded under their charter instead of under the General Railroad act.

Judge Edwards has decided that the charter called for three commissioners, whose residence and the mode of nomination were not fixed. The general act for five, who should reside in the county, where the lands lie, two from the nominations of the land holders, a like number from the nomination of the company, and the fifth by the court.

The court held, delivering an able opinion, that the mode of fixing the damages provided by the charter, stood unaffected by the General Act.

The injunction having been denied, the company will of course proceed with the construction of the road over the lands acquired under these proceedings from Mr. Wilkes, without further interruption. The same order was also made in the case of Mrs. Margaret Livingston.

### Railroad Opening in Great Britain.

It appears that at the end of 1849 there were about 6,030 miles of railway which had been authorised by Parliament, and still remained to be completed; that the principal part of the lines opened during the year were among those authorised in 1845 and 1846, and that the proportion of lines sanctioned in those years, the powers for constructing which have not been abandoned, is very great, being one-third and three-fourths respectively, and a still larger proportion for the year 1847. It is, therefore, to be inferred that no great length of new line has been commenced since last year, and that probably only about 1,000 miles out of the 6,030 miles which still remained to be opened at the end of 1849 were in progress of construction at that time.

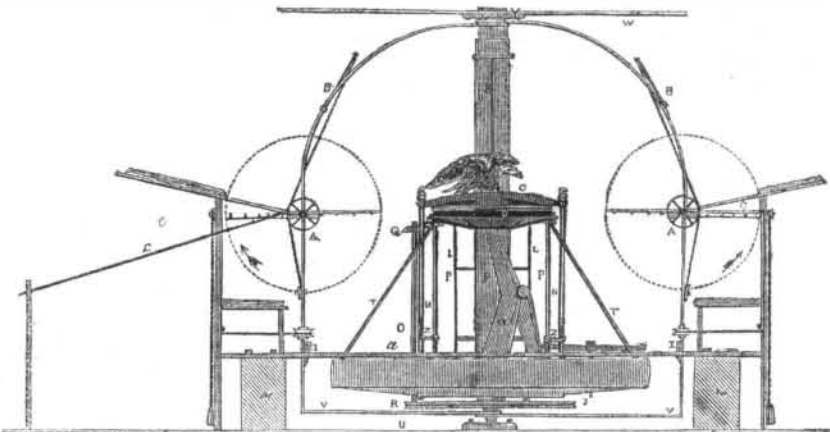
### Michigan and Indiana Railroad.

John B. Jervis, Esq., late Chief Engineer of the Hudson River Railroad, has just been appointed to and has accepted the office of Chief Engineer of the Michigan Southern Railroad, and of the Northern Indiana Railroad, which Companies are together engaged in constructing the continuous line of railroad from Lake Erie to Chicago. It is intended to have the entire line finished within two years, by which time it is believed the road around the south shore of Lake Erie will be completed, and a continuous chain of railroad communication be thus secured from Chicago, and perhaps Galena, to the City of New York.

### The Toronto and Lake Simcoe Railway.

This great project of a road from Ontario to Huron, by way of Lake Simcoe, is being industriously pushed forth. We see it stated that the County Council of Simcoe have voted a grant of £50,000 in debentures, for the promotion of the enterprise, and calls upon the corporation of Toronto to come forward with £100,000, which is the balance needed to make up the £500,000 necessary to insure the completion of the whole line. Towards this subscription solicited from the corporation, several of the most wealthy citizens of Toronto have already contributed about £13,500.

## ROTARY PLATEN PRINTING PRESS.---Fig. 1.



This improved Printing Press is the invention of Mr. Mervin Davis, a practical and ingenious printer, formerly of Boston, but now residing at No. 150 Fulton street, this city. The main principle of this invention is to print on a plane not a curved surface, and yet combine a rotary principle. The rotary principle here combined, however, is horizontal, not vertical circular, and the bed is a plane. It is well known that what is called "good printing" cannot be performed on rotary cylinder presses, but a far greater speed is obtained on them,—hence, for newspapers and other quick work, they stand pre-eminent. This press is intended to combine a greater amount of speed than any which now prints on a plane surface.

Figure 1 is a side view, figure 2 is a view from above, and figure 3 represents a portion of the press running from the under part of the

Figure 2.

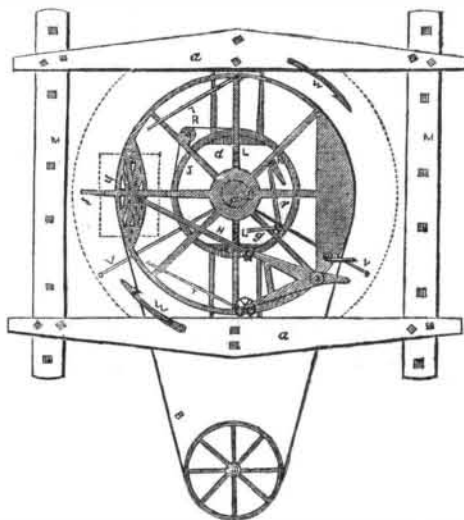
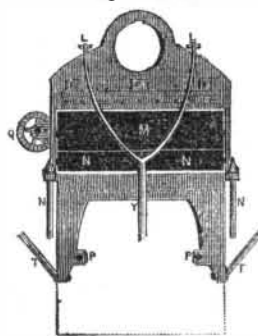


Figure 3.



from the projecting parts of the platen to the segment of the large wheel, are connected by joints with the latter, and made to oscillate by the spurs, Z Z, fastened to the sliding rods, P P, to the upper ends of which the bed is secured. The upper ends of the rods, N N, are thrown back by the descent of the bed, to allow the sheets of paper to pass between the bed and the platen; but while the sheets are receiving impressions, these rods connect the platen with the segment of the larger wheel; they occupy a position similar to that of the rods or bars running through the columnar part of the frame of a "Washington" or "Smith" press. The levers, G, below the bed, are moved by the levers, H, shown in fig. 2, which are worked as the large wheel revolves by the cams a a, fastened to the beams, M M; these beams, which raise the cams slightly above the upper edge of the rim of the large wheel, are firmly bolted to the floor

of the room. The inking rollers, D, (fig. 1,) are thrown on and off the form by the levers, L L, connected with the lever, r k, by the rod, g, a portion of which is shown in fig. 2. The lever, r k, is moved by the cams, d, within the stationary wheel, J; this wheel is held in its place by the arms on its sides running below the cams, a a. The letters L L show where the lower ends of the levers, designated by the same letters in fig. 1, rest on the arms of the large wheel. The distributors, shown by the letters M and N, in fig. 3, are driven by the cog-wheel, Q, fastened to the shaft, O, in fig. 1, on the lower end of which the wheel, R, is located. A band runs from this wheel to the stationary wheel, J, which being much larger in diameter, renders the distribution of the ink perfect. The letter, Y, (fig. 3,) shows a portion of the forked-arm, in which the inking rollers are placed. The upper ends of the oscillating rods, N N, and of the braces, T T,

are shown in this figure. The dotted lines show the location of the bed, and the letters, P P, are the holes through which the sliding rods of the bed run.

The sheet-catchers, A A, (fig. 1) are held in the frames, V V, which are connected at the top and at the lower end of the large shaft. These frames have a reciprocating motion, being caught alternately at the points, I I, by the spring, i, (fig. 2), and moving with the large wheel until the sheet receives an impression, when they return to their original positions. The springs, B B, then give the sheet-catchers a semi-revolution, throwing off the printed sheet and throwing on a blank one simultaneously. C C are sheet-flyers; W W, (fig. 2) are prongs, which disengage the frames, V V, after the sheet has received an impression. The large wheel is driven by the band, B.

### To Imitate Rose Wood.

Take half a pound of logwood, boil it with three pints of water till it is of a very dark red, to which add about half an ounce of salt of tartar; and, when boiling hot, stain your wood with two or three coats, taking care that it is nearly dry between each; then, with a stiff flat brush, such as you use for graining, make streaks with a very deep black stain, which, if carefully executed, will be very near the appearance of dark rosewood.

The following is another method: Stain your wood all over with a black stain, and when dry, with a brush as above, dipped in the brightening liquid, form red veins in imitation of the grain of rosewood; which will produce, when well managed, a beautiful effect.

A handy brush for the purpose of veining may be made by taking a flat brush, such as you use for varnishing, and cutting the sharp points off the hairs, and making the edge irregular; by cutting out a few hairs here and there, you will have a tool which, without any trouble, will imitate the grain with great accuracy.

### To Imitate Black Rosewood.

The work must be grounded black; after which take some red lead well ground, and mixed up as before directed, which lay on with a flat stiff brush, in imitation of the streaks in the wood; then take a small quantity of lake, ground fine, and mix it with brown spirit-varnish, carefully observing not to have more color in it than will just tinge the varnish; but should it happen, on trial, to be still too red, you may easily assist it with a little umber, ground very fine, or a small quantity of Vandyke-brown, which is better; with which pass over the whole of the work intended to imitate black rosewood, and it will have the desired effect: indeed, if well done when it is varnished and polished, it will scarcely be known from rosewood.

### To make Effervescent Lemonade.

For one dozen of bottles, take of sugar 4 ounces, essence of lemon 36 drops, bicarbonate of potash six drachms, and dissolve these in clean water sufficient to fill the bottles; then add 35 grains of citric acid in crystals to each bottle, and tie down the cork instantly. It is fit to drink next day.

### Suspension Bridge at Lewistown.

This work, we are informed, which will be the most stupendous of its kind in the world—exceeding, by more than one hundred feet, the span of that at the Falls, seven miles above—is being rapidly completed. The abutments or pillars on which the wire ropes are drawn, are nearly finished on the British side. The bridge occupies a commanding point upon the river, and from it is presented one of the grandest and most picturesque natural scenes upon the globe. Mr. Serrell, C.E., of this city, the engineer who is erecting this structure.