Scientific American.

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

VOLUME VII.] NEW-YORK, NOVEMBER 22, 1851. [NUMBER 10.

THE
Scientific American,
CIRCULATION 16,000.
PUBLISHED WEEKLY
At 128 Fulton street, N. Y., (Sun Buildings),
BY MUNN & COMPANY.

Hotchkiss & Co., Boston.
Dexter & Bro., New York City.
Stokes & Bro., Philadelphia.
Jno. Thomson, Cincinnati, O.
Cooke & LeCount, San Francisco, Cal.
Courtenay & Wienges, Charleston, S. C.
John Carruthers, Savannah, Ga.
M. Boullemet, Mobile, Ala.
Sidney Smith, St. Louis, Mo.
Barlow & Co., London.
M. M. Gardissal & Co., Paris.

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.

Government Railroad between New York and Washington.

A reform in the railway between New York and Philadelphia, under the constitutional powers of the General Government to establish post routes, is suggested by a writer in The Washington Republic, seconded by "Observer," the well known correspondent of the Philadelphia Ledger, and copied by the Trenton State Gazette.

The railroads of New Jersey as they are conducted have been the means of calling for this reform. If they were under the same enterprising management as those of New York and Massachusetts, and carried the mails with the same promptness and speed, the above suggestions never would have been cogitated.

The "Observer" spoken of above, advocates a government road between the political and commercial capitals of our country. We understand the subject is receiving a good deal of attention in Washington. We hope the subject will form itself into a veritable fact, not an ideality, not many days hence.

Cleveland and Sandusky Railroad.

The Junction Railroad between Cleveland and Sandusky City, is being pushed forward rapidly. About twelve miles of the road from Olmstead, west, are now nearly ready for the iron, and the substantial bridge over the east branch of the Black River, at Elyria, is about finished. The contracts for building the road west to Sandusky City, have been let, and the contractors are to complete their jobs by the 1st of Jan., 1853.

Cleveland and Pittsburgh Railroad.

The Cleveland and Pittsburgh Railroad is rapidly approaching completion. On and after Monday next, the regular trains will run from Cleveland to Hanover, a distance of 75 miles. The road will be completed to Wellsville by the 1st of January next.

The directors of the Genessee Valley Railroad, N. Y., have determined to postpone commencing its construction until next Spring, and in the meantime to take the necessary steps to secure the right of way.

Dangerous Railroad Bridge.

It is said that the Harlem Railroad bridge in the Fourth Avenue, between Eighty-fifty and Eighty-sixth streets is in a dangerous condition.

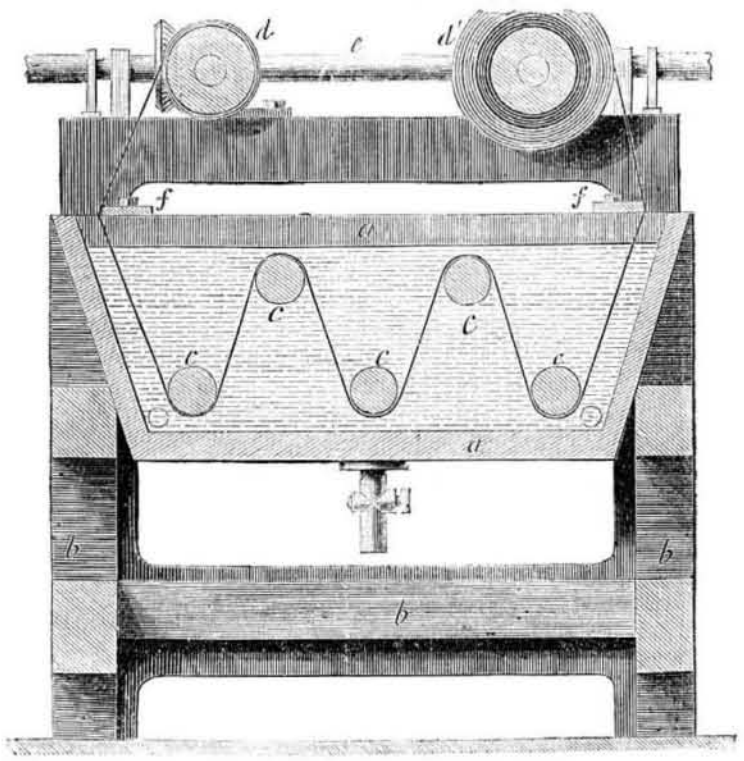
We hope this bridge will be rendered safe beyond doubt at once. Every railroad structure should be made safe to a certainty.

California.

By the latest news from California, we learn that gold is as plentiful as ever. There seems to be no end to the deposits, and the quartz rocks yield as much as the placers; a great deal of expense is incurred at first for powerful machinery, but it is very soon all paid for.

A diving bell has been employed with great success, for fishing for gold in the San Joaquin river: the gold is found in holes near the banks.

APPARATUS FOR DYEING CLOTH.

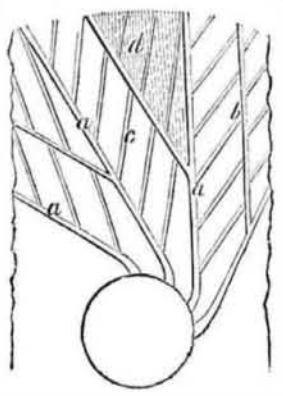


This invention was patented a short time since, in England, as we learn by the "London Patent Journal," to which we are indebted for our information on the subject of the two patents on this page. Presuming they would be of interest to many of our readers, as subjects not often treated on, and also as subjects from abroad, as we like to vary our matter, for our readers, we have got up the annexed engravings, arranged the matter, and described the subjects as suited to our columns.

The inventor of this improvement is Mr. J. Richardson, of Halifax, Yorkshire, England.

The engraving represents a sectional elevation of the machine employed for facilitating the dyeing process. It consists of a vat or cistern, *a*, for containing the dyeing liquor; this cistern is mounted upon a framing, *b*, and within the cistern are mounted the rollers, *c c c*, two of which are near the upper part of the cistern, and three of them near the bottom. Above the cistern are mounted the rollers, *d d*; the bearings upon which these revolve are in the end framing of the machine; these rollers are connected by means of toothed bevel gearing, to the horizontal shaft, *e*, but that connection is effected through clutch-boxes, so as to throw either of them into gear with the horizontal shaft, as required, and thereby give motion to either of the rollers. The two clutch-boxes are connected together, in opposite directions, by means of a rod, so that when one is thrown into gear, the other is thrown out simultaneously. The operation is thus: several pieces of the fabric to be dyed are sewn together, end to end, to make up the length required to be operated upon at a time; this is then wound upon one of the rollers, as *d*; the end is then passed under and over the rollers, *c c c*, in the cistern, and thence to the other roller, *d'*, to which the end is made fast. The fabric, in passing between the rollers, *d d'*, and the rollers, *c c c*, in the cistern, passes over the edges of fixed plates, *f f*, secured to the top of the cistern. The fabric being thus arranged in the machine, it is set in motion, the fabric being unwound from the full roller, and wound on to the other, until the whole is passed over, the fabric passing, in this operation, through the dyeing liquor in the cistern, and thereby becoming saturated with it. In most cases, passing the fabric once through the dyeing liquor is not sufficient to complete the process; therefore it may be again passed through any number of times required, and to effect this, when the whole is passed through, the clutch-boxes are moved, throwing one bevel wheel out, and the other into gear. By this, the rotary movements of the rollers, *d d'*, will be reversed, and the fabric immediately commence to return back to the other roller, passing again through the dyeing liquors, as before. Near the bottom of the interior of the cistern are placed perforated pipes, and through these steam is admitted, for the purpose of heating the dyeing liquor during the process. The invention is nearly like some plans in use here.

Dressing Stones for Grinding Wheat.



This is the subject of a patent recently granted to P. A. Le Comte De Fontainemoreau, of Paris. It refers to portable mills, and for a new mode of dressing the stones, which is thus described. The figure is an enlarged section of the stone to show the dressing.

a a a are the master furrows, and *b b* secondary ones, parallel to some of the furrows, *a*, at an angle, and coming into some of the others. A number of small parallel furrows, *a* and *b*, to the periphery, it being observed that the furrows, *c* and *d*, are not in the same line. The part of the stone between the furrows, *a* and *b* is further dressed, as shown at *d*. The result of this system of dressing is, that the air having free admission at the eye, double the volume will enter compared with the wheat ground.

New Kind of Skating.

At a large beer drinking house in Berlin, Prussia, the customers are waited upon by female skaters. The instant a customer takes his seat, one of the damsels darts from the end of the room, skims over the floor describing graceful curves, and in a moment is at his side, and requests to know his wishes. One of these female waiters will collect a number of orders in her round, or carry her beer vessels to her customers without ruffling their snowy froth. The motions performed resemble skating, and strangers are likely to be deceived, but the act is performed by employing small iron rollers let into the soles of strong but neatly fitting boots. This is all the mystery. It takes time and practice to execute the movements well, and the work is somewhat fatiguing. The floors over which they glide are made of smooth hard wood boards.

American and East India Cotton.

The Southern States of America have increased their shipments of cotton to England since 1800 from 16,000,000 to 600,000,000 pounds, while British India has but swollen her exports from 6,000,000 to 80,000,000 pounds.

As regards the progress of the supply of raw cotton in British India for local use and export to other countries, it is estimated in round numbers to be at the present day 450,000,000 pounds annually, of which fully two-thirds are worked up in the country for local purposes. Of the remaining one-third, China takes nearly one-half, leaving about one-sixth of the entire produce of the country at the disposal of Great Britain.

That there are vast tracts of land in each of the three Indian presidencies capable of being brought under cotton cultivation, as also a dense population at disposal for working such lands, there appears to be little doubt; but the evidence before the House of Commons goes to prove that it is the quality more than quantity that is wanted, and as yet the East has not at all been able to compete with America in this respect.

Much has unquestionably been done in the way of improving the growth and preparation of Indian cotton; the East India Company has spent largely in importing seed, implements, and experienced hands from the cotton growing States of America, as well as in prizes for the best and largest samples of fine cotton produced within the presidencies, for shipment to England. In 1824, there existed a difference of 2d. per pound between the average price of upland American cotton and the average price of Indian cotton at Liverpool. In 1836, there was a difference of 3d. per pound in the same qualities, whereas since 1844 the difference between them has only varied from 3-4d. to 1d per pound.

So long since as 1788, the Court of Directors called the attention of the Indian Government to the cultivation of cotton in India, with a view to its encouragement.

Between 1830 and 1840, various new cotton farms were established, seed and machinery were introduced from the Brazils and Egypt, and an officer in the company's service was despatched to America for the purpose of collecting information, and experienced cultivators, with seed and implements.

In 1840, ten American planters arrived under the care of Capt. Boyles, and were in the following year stationed in various parts of the three presidencies, to test the practicability of applying the American mode of culture to the soil of India. To the present time these experiments have been continued with varying degrees of success. In the Doab, at Agra, and at Gorruckpore, the result appears to have been unfavorable; but elsewhere there is good reason to believe that, although no immediate and important improvement in the quality of the crops seems to have taken place, a better system has been gradually introduced.