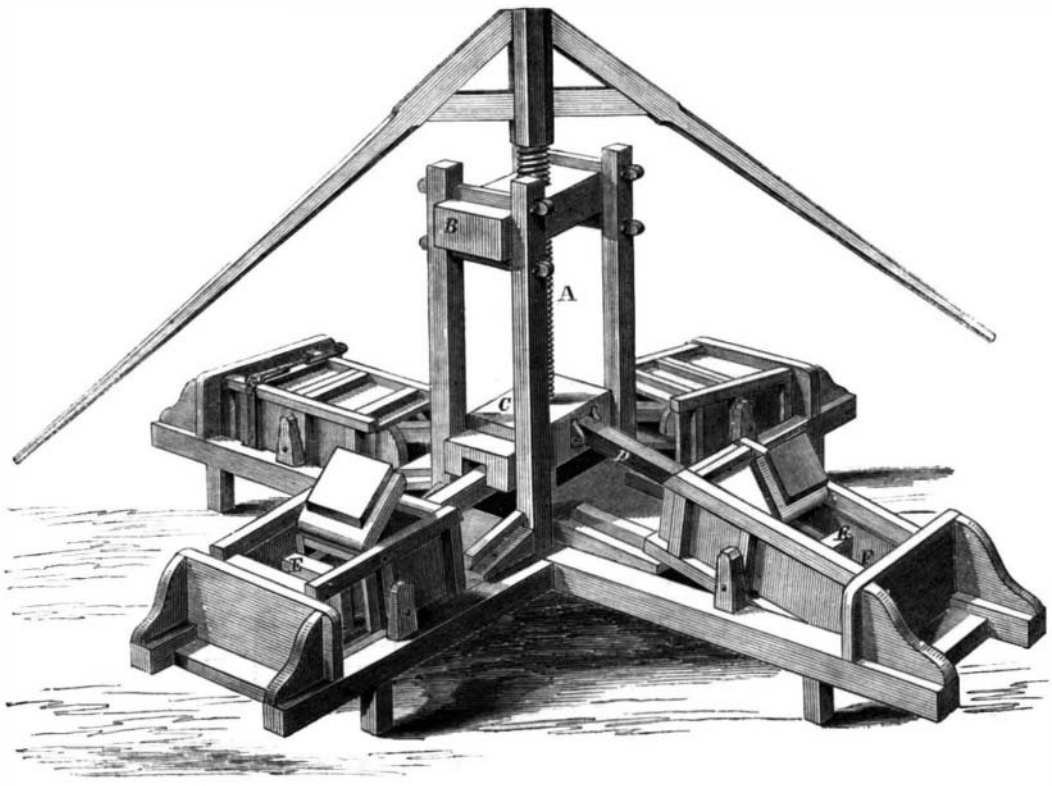
Improved Toggle Joint and Screw Press.

The transportation of such a bulky flocculent material as cotton would be practically impossible but for the existence of presses which enable the producer to pack it in a small compass, so that hundreds of pounds can be stowed away in a comparatively small bale.

It is obvious that for plantation use, where unskilled labor is employed—that of negroes—any thing like cumbrous machines, delicate adjustment, or mechanical accuracy, is entirely useless. Force is the one thing needful, and to get this other considerations must be laid aside.

In this engraving we have shown a cotton press which is well designed for its purpose, being strongly built and put together, and without any details that cannot be put in place as readily as an ox can be yoked.



GRIFFIN'S TOGGLE JOINT AND SCREW PRESS.

It consists of a strong screw, A, working in a nut, B, through which it is driven by horses or mules attached to the sweeps. The end of the screw is connected to a bed piece, C, in which four toggle arms, D, are jointed, the other end of said arms being fastened to a sliding head, E, working in the box.

It is not necessary to multiply phrases to show that, as the screw is forced down through the nut the bed piece is carried before it, which extends the arms and the slidinghead with terrific force, determined by the pitch of the screw, its velocity, and the approach of the arms to a straight line. As the cotton is placed in the compartment, F, it meets the full pressure of the ram or sliding head, E, which speedily reduces it in bulk. Any substance of a similar nature can be compressed, such as hay or straw.

Patented Jan. 8, 1861, through the Scientific American Patent Agency, by Isaac B. Griffin, Milford, Ga.; address him for further information.

One of the Lost Arts Found.

Fifty years ago the hand-loom was a household institution. Linen, flannel, carpets, and other domestic goods were wrought in a majority of families. In process of time the hand-loom was neglected, and finally became an obsolete affair. The power loom at the factory and excessive importations seemed to remove the necessity for hand-wrought fabrics. Here and there one held fast to the old custom, and covered the bed with snowy linen and the floors with honest, home-wrought carpets. But these were so rare as to become rather objects of curiosity than the fruits of ordinary industry.

The first revolution and the war of 1812, quickened the energies and inventive talent of the people for all sorts of home productions. It is interesting to note that the late rebellion has not been void of the same salutary influence. All textile fabrics commanded excessive prices during the war, and productive industry hardly kept pace with consumption, while so much of the industrial energy of the nation was swallowed up in that great contest. Necessity brought out the old hand-loom, stored away in forgotten garrets. But as the world had been progressing for fifty years, it was hardly up to modern ideas of handcraft. It has been reconstructed with many modern improvements, so that the new loom is a light, comely and ingenious piece of mechanism, fit to adorn any household. It is now manufactured with various improvements under different names, by two or more of the leading iron workers of Cincinnati, and we presume is produced in some of the other large cities of the Eastern States. Whether it will have such universal introduction into families as the the old loom obtained, may be an open question. But we should suppose, that in the present time of high prices, a hand-loom which a child can operate, capable of turning out from fifteen to thirty yards of linen or woolen goods per day, readily adapted to all sorts of light and heavy fabrics, and afforded at moderate cost, would still be a most desirable thing. In new countries, remote from market, where there is an abundance of cheap raw material, it would add greatly to the comfort and independence of the household. The people of the Pacific slope are quick to find out and utilize any new invention, and are fertile in all inventive expedients. We lack machinery to supply home necessities. The factories now in existence here supply but a tithe of the fabrics needed. Our raw material is sent out of the country and we buy it back again in manufactured goods at an advance of 300 or 400 per cent. and often with no little discouragement of home industry. The hand-loom may be set up with little capital, and if it should become popular, one of the nearly lost arts would be restored. A little skill and patience in this development of our resources would add greatly to the wealth of the State.—*San Francisco Bulletin.*

DEMBOIS'S CULINARY VESSEL.

The wise saw says, "a watched pot never boils," but the modern instance shows that it does—it boils over.

When milk that is scalded on the fire suddenly rises up and foams over on to the stove, a stench is created that is exceedingly unpleasant. So with other culinary processes, as when sirups are boiled.

The engraving annexed represents a cooking utensil so made, as to its cover, that it cannot boil over. The vessel may be of any shape, having a flaring rim, A, and a cover, B, fitting tightly as usual. The cover has a central tube, C, which communicates with the interior, and also holes, D, all round the outer edge. The inventor says that when the fluid gets so hot as to boil over, it rises up through the central tube and falls over on the cover, which lowers the temperature so much that the ebullition on top ceases, and the fluid subsides, which is the end he desires. This, it is claimed, will save much time and material.

It was patented through the Scientific American Patent Agency on March 27, 1866, by F. W. Dembois, of East Saginaw, Mich.; for further information address him at that place.

A STUBBORN ENGINEERING JOB.

To make use of a trite figure of speech, it would appear, from recent reports, that the ancient Commonwealth of Massachusetts had bargained for, and made a considerable advance on account of, a very large elephant, known as "the great bore," or Hoosac Tunnel. It appears that the whole cost of the road and tunnel, when completed, was estimated at a trifle over five million dollars, but owing to high prices and other unforeseen difficulties, it is likely to reach nearly, if not quite, twelve millions.

The total length of the proposed tunnel is $4\frac{66}{100}$ miles, or 24,586 feet. The total length of the bore or excavations in the main tunnel, to Nov. 1, 1865, was 3,598 feet, leaving nearly four miles unfinished. The size of tunnel proposed by the Commissioners requires an excavation of 433 cub. feet to a lineal foot. For the entire tunnel the excavation required would be 10,645,738 cubic feet. But there had been excavated, before the work was assumed by the State, 565,848 cubic feet, leaving over ten millions of cubic feet to be excavated when the Commissioners commenced. Of this amount the Commissioners have excavated 108,000 cubic feet, or a fraction more than the one-hundredth part of the whole, and yet they have expended about $1,500,000 in two years of actual work.

When we consider that this is the total progress made in the tunnel, which was to have been completed in anticipation, from time to time, in from three and one-half to five and one-half years; and when we consider that the State has had undisputed control, with unlimited means at her command, for a time, that should complete it some time during the coming year, we are satisfied that the plan of constructing a road over the mountain is entitled to favorable consideration.

We have not had much experience in tunneling mountains for railroad purposes, and it is not strange that miscalculations should be made in such gigantic enterprises. There is a great deal of pluck in Massachusetts, and the work must be very formidable to deter its final accomplishment.

Our Boston friends, it appears, have been imposed upon by the ice companies, and they threaten a terrible vengeance. They propose to go out to sea, hook into a few icebergs, and then tow them into the city. Mountains of ice cream, and seas of root beer and lemonade, and a good hitch on the ice companies, are in prospect. On the other hand the ice companies, of course, warm up in the discussion of the subject, and denounce the scheme as a cool swindle.

M. Torreggiani recently informed the Academy of Sciences that after repeated experiments he had proved that a pile, in which the positive pole was represented by metallic lead, and the negative by carbon, and which contained a saline solution (an alkaline acetate), gave a large quantity of pure carbonate of lead besides electricity, which might be profitably employed. M. Torreggiani considers that is an easy and innoxious way of making white lead.