

## Improvement in Cotton and Hay Presses.

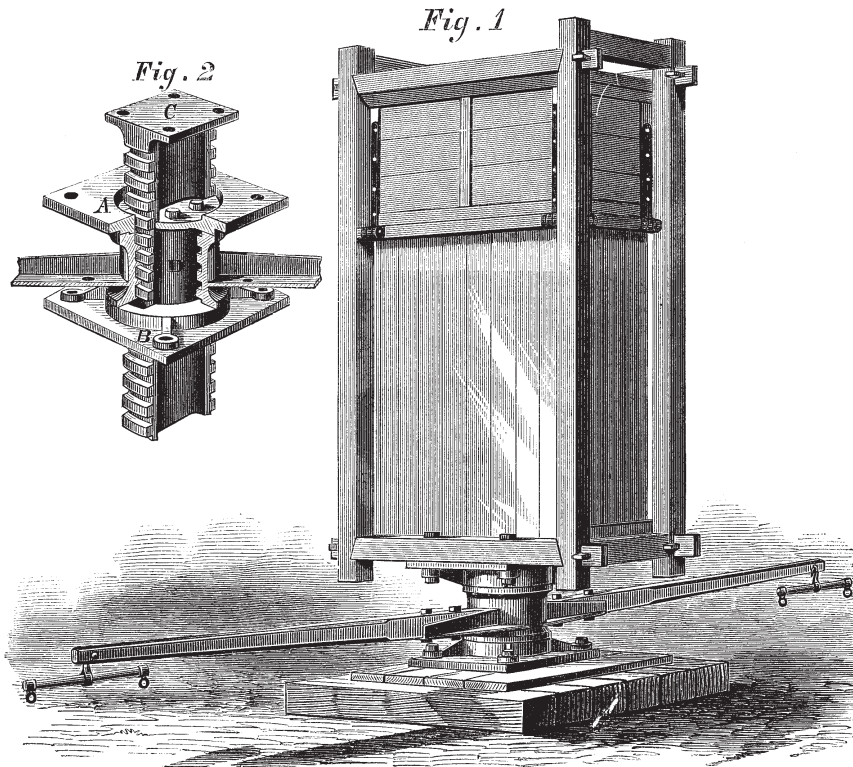
The simplest device for pressing and baling cotton is the screw, usually of wood, and is employed on three-fourths of the Southern plantations. It has generally a diameter of from sixteen to twenty inches, with a pitch of thread of from six to nine inches, and is operated by two long levers extending from the top of the screw at an angle until they nearly reach the ground, to the ends of which horses or mules are attached for working it. Various attempts have been made to supersede these presses, which are rude and cumbersome, work with great loss of power from friction, and, as they cannot be housed, wear out more from exposure to the weather than from actual use; and a great many presses have been invented, none of which has realized the anticipations of their inventors. They worked too slow, were too weak to give the enormous pressure required to bale cotton, could not be repaired, if broken, by means at hand on the plantation, or, perhaps, more than from any other reason, were too expensive. The wood screw has these advantages, which overcome in a measure its many disadvantages: It can be built entirely from material to be found on the plantation, requires but little iron work, works with great power, and is not complicated with levers, ropes, pulleys, and windlasses. Owing to its coarse pitch but few turns are required to run it up and down, a very important matter when it is considered that the horses move in a path from thirty to forty feet in diameter. Of late years the cast-iron screws have found favor, as the planter has only to purchase the iron work, and the wood work is done, as heretofore, on the plantation; and many forms of adapting these screws to their work have been devised, some of them having great merit.

The objections to the common cast-iron screws are these: They cannot be made of a diameter large enough to receive the coarse pitch of thread that is required to save the travel of the horse, and bale the cotton rapidly; and being of cast iron and small diameter are liable to be twisted off, as the screw presents the greatest length when the strain is the heaviest. The design of the screw here shown is to be obviated as far as possible the objections against both the wood and iron screws.

The receiver is a box, or pentstock, in the usual form, having at its upper part hinged sides or doors for removing the bale. A follower traverses the lower portion, being connected with the elevating screw. The whole is supported on a pedestal composed of two plates of any required size and form, one bolted to the receiver and the lower one to a suitable platform. They are represented in Fig. 2 by A for the upper plate and B for the lower. The follower is bolted to the end, C, of the screw. The screw is a double or triple segment of threads—in the engraving double—recessed below the depth of the thread on either side. Segments of a cylinder, D, forming portions of the plates, A and B, and hollow, admit bolts through to secure the two plates together. Between these plates turns a nut, outside the segments of the cylinder, which represent the size of the screw, the nut being furnished with sockets for the reception of levers to the outer ends of which the power—animal—is attached. It will be seen that the pedestal is the entire support of the superstructure, and the power being applied directly, near the ground, and the screw traversing through a fixed column, no unnecessary torsion or twisting of the fabric occurs.

The screw, however, may be secured to the top of the press, or, in other words, the press be inverted, if desired, although the friction and consequent power required will be greater. It will be seen that the screw cannot receive any twist, being firmly held by the pedestal at the point where the power of the nut is received by the screw, and the only strain that the screw receives is in the direction of its length. By relieving the screw from twist, the following important advantages are secured: The screw can be made very light in comparison to the weight that would be required for a cylinder receiving the twist, and any desired pitch, however coarse, can be used. There is no friction of the follower on the sides of the press box. The nut is supported by, and revolves entirely on the body of the pedestal. The iron work can be made and shipped to the plantation, and the wood work of the press made there as heretofore.

This press was patented December 15th, 1868, by James M. Albertson, of New London, Conn., to whom all letters for information regarding the manufacture and sale should be addressed.



ALBERTSON'S PATENT SCREW PRESS FOR BULKY MATERIALS.

