A. D. Brown,

Cotton Press.

No. 7,047. Patented Jan. 22, 1850.

Fig: 1

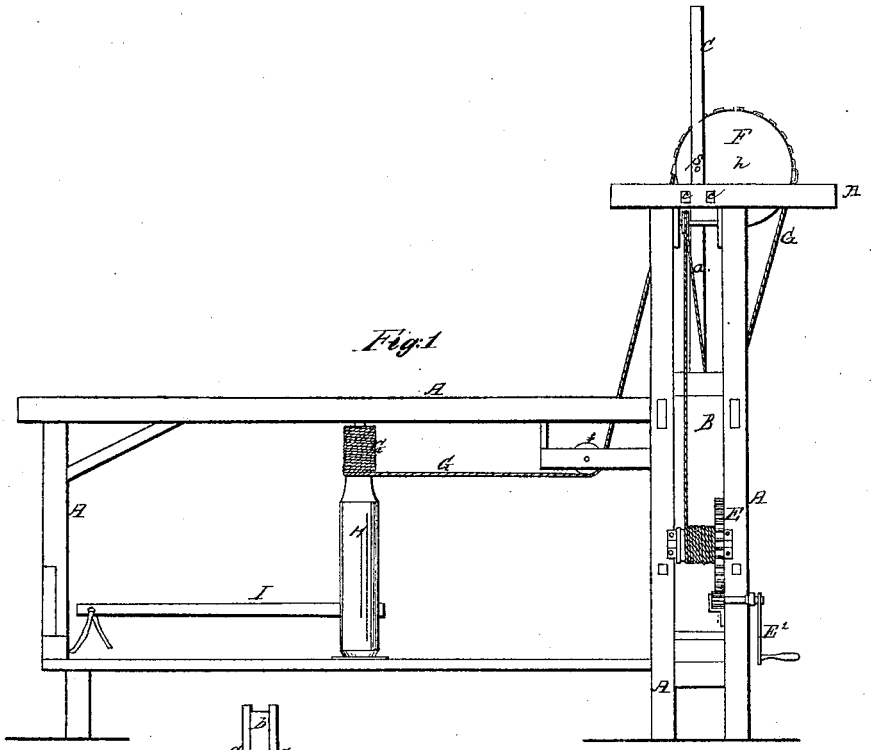


Fig: 2.

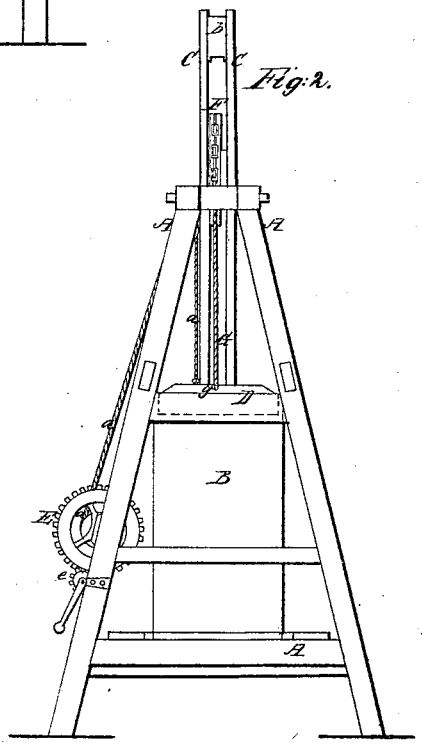
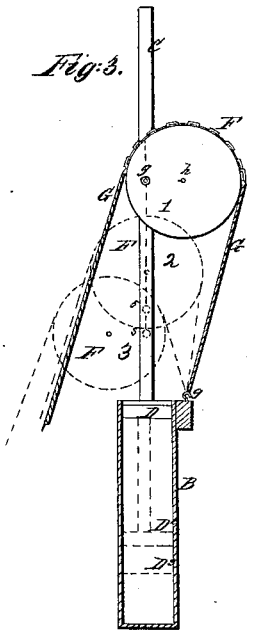


Fig: 3.



UNITED STATES PATENT OFFICE.

A. D. BROWN, OF CLINTON, GEORGIA.

IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 7,047, dated January 22, 1850.

To all whom it may concern:

Be it known that I, A. D. BROWN, of Clinton, in the county of Jones and State of Georgia, have invented a new and useful Improvement on a Press for Baling Cotton, &c.; and I do hereby declare that the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 is a side and longitudinal elevation; Fig. 2, a front or end view; and Fig. 3 is a side geometrical section showing the eccentric pulley in three positions, together with the pressing-block in the bale-box.

The same letters of reference refer to like parts in all the figures.

The nature of my invention consists in providing an eccentric grooved pulley in combination with the pressure-block, chain, and capstan or gin, the whole being so combined that the eccentric pulley will move in such a manner that the velocity of the follower will be greatest when the least power for compressing is required, and the velocity of the follower least or less when the greatest amount of compressing force is required with a uniform velocity of the lever of the capstan.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

A is the frame. It is made of upright, transverse, and longitudinal timbers.

B is the bale-box wherein the cotton is compressed. It is made in the usual way, and need not be further described.

C is the stock or follower of the pressure-block D, which block fits snugly into the bale-box. The follower C is composed of two upright pieces connected to the block D by screws or otherwise, and united above to the tie-block *b*. This follower slides up and down between guides or checks *c c* on each side, which are made in any manner, to guide the follower in a perpendicular direction to the bale-box. The follower and the pressure-block are raised up, when the bale is pressed, by a rope or chain, *a a*, which is attached to the block D, as represented in Fig. 2. This rope *a* is operated by a windlass, E, which is turned by the pinion *e*, placed upon the axle of the crank-handle E^2. This need not be the subject of more description. Between the sides of the stock or follower C there is placed a pulley, F. This pulley has a groove cut on its periphery, in which and around part of the said pulley passes the chain G. This chain or rope is secured at one end to a staple, *g*, in one of the transverse beams of the frame A on a level with the top of the bale-box. The chain G extends from the staple *g* to the capstan or gin H, passing over the pulley F and under the fixed pulley *f*, as represented in Fig. 1. The capstan is operated by power applied on the lever I, which, by winding the chain on the capstan, presses or draws down the follower C and the pressure-block against the cotton in the box, thereby compressing the cotton in the same. The pulley F is placed in the stock C on an axis eccentric or nearer to the periphery than the center.

S is the axle of the pulley F. It passes through the sides of the follower and through the said pulley, as represented. *h* is the center of the pulley F. The axis S represents that point on which the power applied on the lever I is directed to compress the cotton in the bale-box. The space through which the follower moves in a given time is indicated by the circles in Fig. 3. It is intended that the pulley F should make only one-half a revolution in compressing the bale of cotton, &c. In Fig. 1 is indicated the position of the pulley F at the period when the act of compression is about to take place. The dotted lines F^3 indicate the position of the pulley when it has made one quarter of a revolution, during which the pressure-block and follower descend through the space from D to D^2; and F^3 indicates the position of the pulley F after it has made the second quarter of a revolution, during the period of which the pressure-block descends only through the space from D^2 to D^3, having finished the compression of the bale, after which the bale is prepared for taking out in the usual way.

In compressing cotton but little power is required to act upon the cotton in the box at first. Therefore the greater space through which the follower passes at the early stage of compressing is advantageous. With the said

velocity of the follower, however, there is less power exerted in compression if the prime-mover is transmitting the power through the chain G in a uniform ratio. To increase the speed of the follower when little power is required to compress, and vice versa, is the object and office of the eccentric pulley F, as herein represented and described.

Having thus explained my invention, I claim—

The pulley F, with its axis S, eccentric to its center, in combination with the stock or follower of the pressure-block D, to compress cotton, &c., in the bale-box, in the manner substantially as herein represented and described.

A. D. BROWN.

Witnesses:

RICHARD H. HUTCHINGS,

WILEY B. POPE.