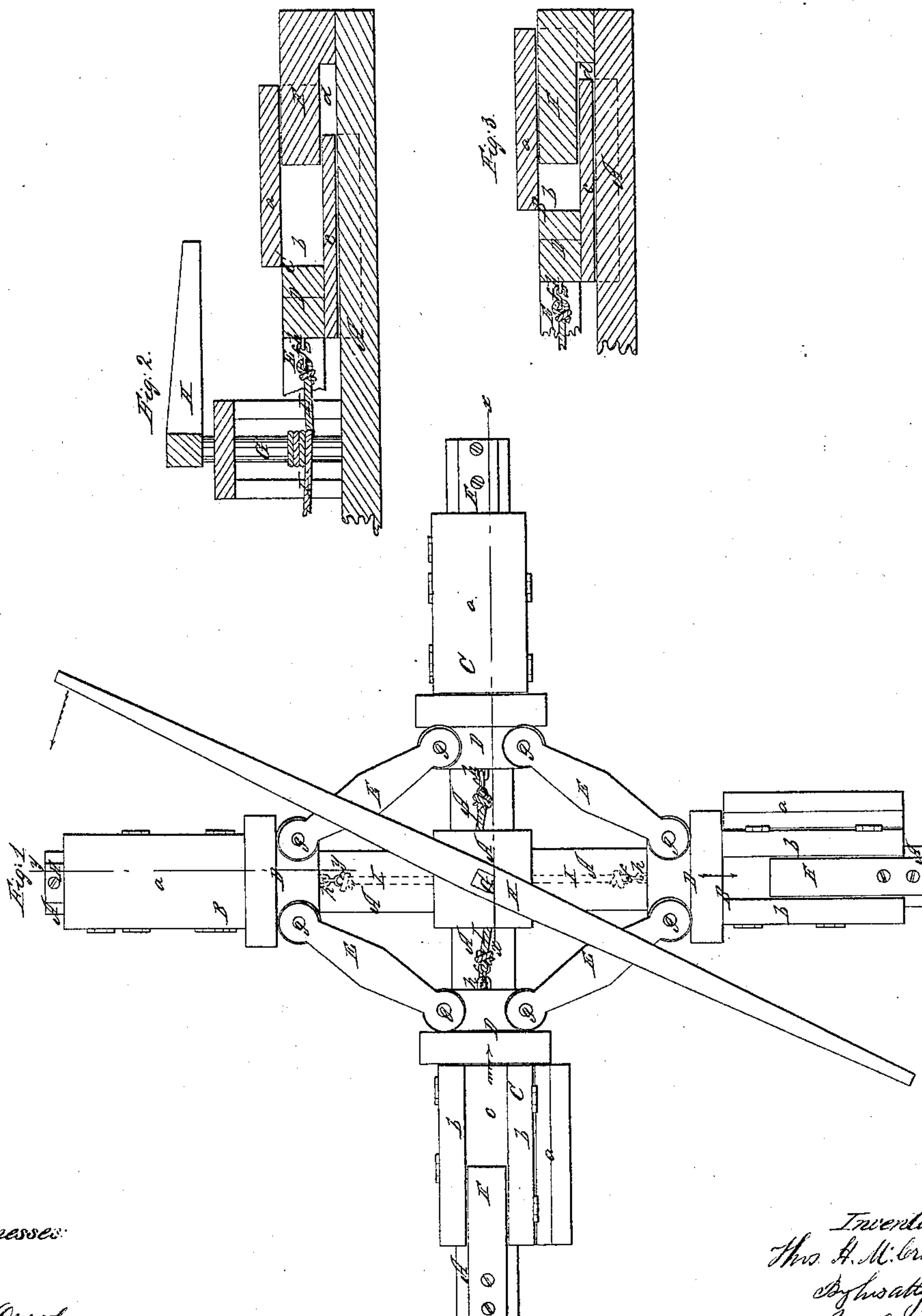


*T. H. McCray,*

*Hay Press.*

*N<sup>o</sup> 27,459.*

*Patented Mar. 13, 1860.*



*Witnesses:*

*R. F. Wood  
C. H. Smith*

*Inventor:  
Thos. H. McCray.  
By his atty.  
J. S. Brown*



# UNITED STATES PATENT OFFICE.

THOMAS H. McCRAY, OF TELlico, TEXAS.

## IMPROVEMENT IN COTTON-PRESSES.

Specification forming part of Letters Patent No. 27,459, dated March 13, 1860.

*To all whom it may concern:*

Be it known that I, THOMAS H. McCRAY, of Tellico, in the county of Ellis and State of Texas, have invented a new and Improved Press for Pressing Cotton, Hay, Tobacco, and other Similar Materials; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification—

Figure 1 being a plan of the machine; Fig. 2, a vertical section of a portion thereof in the plane indicated by the line *x x*, Fig. 1; Fig. 3, a vertical section of a portion thereof in the plane indicated by the line *y y*, Fig. 1.

Like letters designate corresponding parts in all the figures.

Suitable bed-pieces, A A, are secured together in the form of a cross, on the four arms of which are respectively mounted four bale-boxes, B B and C C, substantially as represented in the drawings. The bale-boxes, instead of being stationary, as in ordinary presses, are arranged so as to slide forward and backward on the arms A A, and stationary bed-blocks F F are firmly secured on the ends of the arms, said bed-blocks entering the bale-boxes as the latter are moved toward the former, the outer ends of the bale-boxes being left open for that purpose. Spaces *d d* are left under the stationary bed-blocks sufficient to allow the bottoms *c c* of the bale-boxes to slide therein, as represented in Figs. 2 and 3. The bottoms *c c* of the bale-boxes have ledges, one on each side thereof, projecting downward over the sides of the arms A A, as shown in dotted lines, Figs. 2 and 3, to suitably guide the bale-boxes and keep them in place. The sides *b b* of each bale-box are hinged to the bottom *c*, and the top *a* of each bale-box is hinged to one of the sides *b b*. The inner ends of the bale-boxes are respectively closed with heads D D D D, which are strongly and firmly secured thereto. Thus arranged, when the bale-boxes are filled and then forced outward, the substance therein is forced against the ends of the stationary bed-blocks F F, and is compressed there. In this lies an especial advantage of the moving bale-boxes over the ordinary arrangement of moving followers, for, since the compression mostly takes place at a stationary point, there is not nearly so much side pressure and consequent friction

against the sides of the bale-boxes and rolling up and matting of the substance (especially of cotton) as there is with the old arrangement, in which the point of principal compression is at the end of the followers, and consequently in continual motion. At the same time there is but little, if any, more weight to be moved in this than in the other arrangement, since the principal mass of material here is at the stationary compressing-point, while in the other arrangement the main mass moves along. There is also here an advantage in greater steadiness and freedom from friction and less complication than in presses wherein the follower has to be securely guided to keep it in place and in a straightforward direction.

The bale-boxes are actuated in the following manner: In the center of the frame A is located a simple vertical shaft, G, to be turned by a sweep, H, or otherwise. A rope or chain, I, winds around this shaft, and its ends are attached, by hooks *f f* thereon, (or otherwise,) to staples *h h* (or their equivalents) on the inner ends of two opposite heads, D D, of the bale-boxes, as seen in Fig. 1. The inner corners of these four heads D D D D are respectively connected by four toggle-arms, E E E E, turning on pivots *g g g g*, substantially as represented in Fig. 1. Then suppose the two opposite bale-boxes, B B, to be drawn in and filled with the substance to be pressed, by attaching the rope or chain I to the heads of the other pair of bale-boxes, C C, and turning the shaft G, so as to wind up the said rope or chain, said bale-boxes will be drawn in, and their action on the toggle-arms E E E E will force the bale-boxes B B outward with constantly-increasing power of pressure and press the substance therein. Then, while the bales in the bale-boxes B B are tying the bale-boxes C C are filling. Then the rope or chain I is shifted to the bale-boxes B B, as indicated by red lines in Fig. 1, and on turning the shaft G again the pressure is, in like manner, produced in the bale-boxes C C, while the bale-boxes B B are by the same action drawn in again. Thus the pressing is continued alternately in the two opposite pairs of bale-boxes, and one set of toggle-arms performs the whole work. In this way a very rapidly-working and convenient press is produced, which is also very simple and cheap.

I disclaim the employment of double bale-

boxes or pairs of bale-boxes, acting alternately. I also disclaim the employment of toggle-arms or levers for pressing; but

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The arrangement of the toggle-arms E E E E, so as to connect all the four bale-boxes, as described, in combination therewith, whereby the same action of the power applied will both effect the pressing in one pair of bale-boxes and bring back the other pair of bale-boxes ready for pressing again, substantially as specified.

2. The employment of movable bale-boxes, in combination with stationary bed-blocks, substantially in the manner and for the purposes herein specified.

In witness that the above is a true specification of my improved cotton, hay, and tobacco press I hereunto set my hand this 10th day of October, 1859.

THOMAS H. McCRAY.

Witnesses:

JOHN A. MOODY,

C. L. PICKENS.