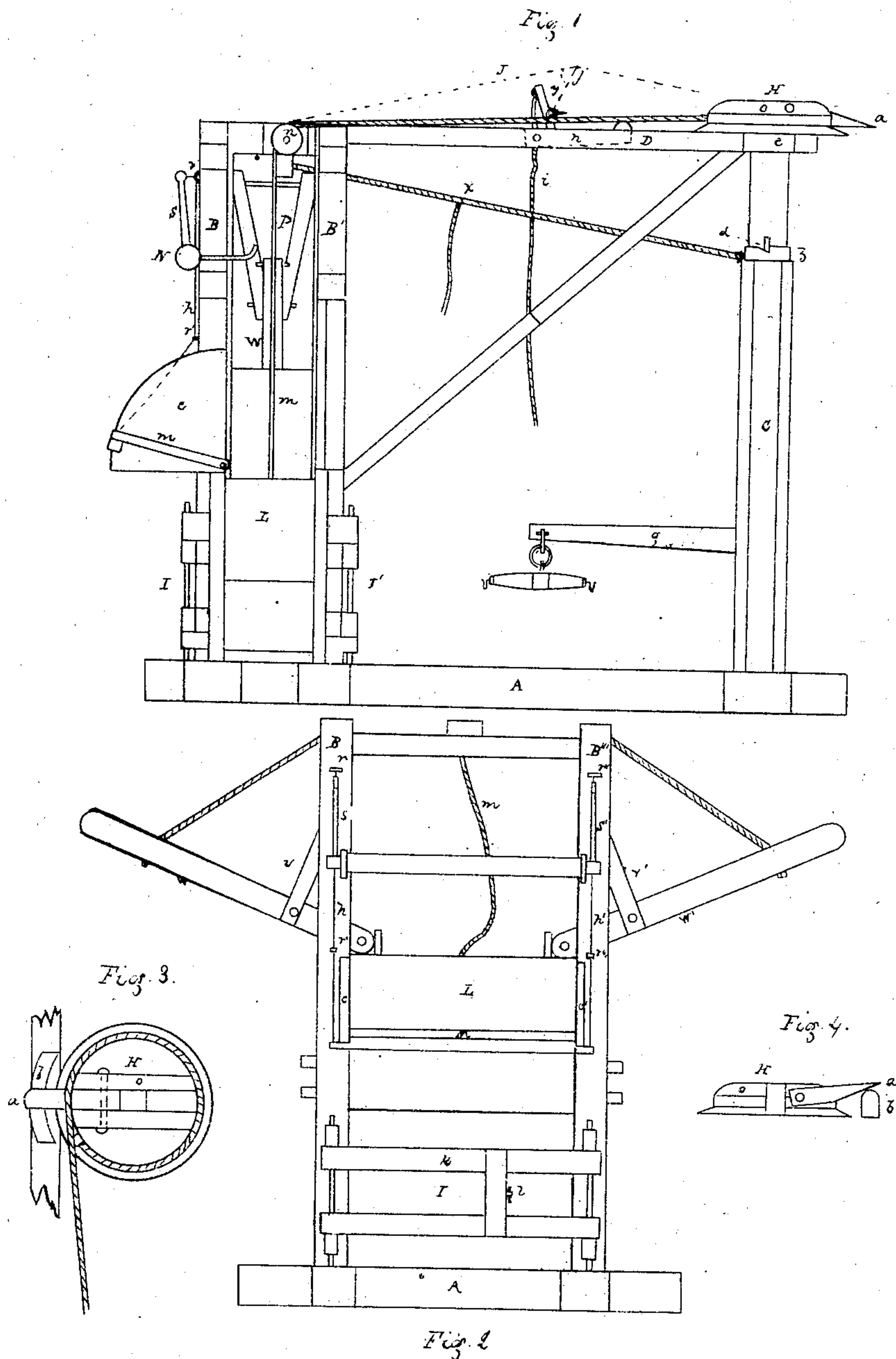


G. Ertel.

Compressing & Beater-Press.

N^o 76063

Patented Mar. 31, 1868.



Witnesses:
Sam'l S. Boyd
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per
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United States Patent Office.

GEORGE ERTEL, OF LIBERTY, ILLINOIS.

Letters Patent No. 76,063, dated March 31, 1868.

IMPROVED COMPRESSING AND BEATER-PRESS.

The Schedule referred to in these Letters Patent and making part of the same.

TO ALL WHOM IT MAY CONCERN:

Be it known that I, GEORGE ERTEL, of Liberty, county of Adams, State of Illinois, have invented a new and useful Improved Compressing and Beater-Press, of which the following is a full, clear, and exact description, reference being had to the annexed drawing, making a part of this specification, in which—

Figure 1 represents a side elevation of my invention, with a portion of same in section.

Figure 2 represents a front view of same.

Figure 3 represents a top view of the driving-wheel of my invention.

Figure 4 represents a sectional view of same.

Similar letters indicate like parts.

The object of my invention is to rapidly and cheaply press hay and other substances, by the combined action of the beating and compressing processes.

It consists of a frame, A, figs. 1 and 2, at one extremity of which are fixed four columns, two of which, B B', are seen in fig. 1, and two, B and B'', in fig. 2. These columns are strengthened and held firmly in position by numerous cross-pieces, in the ordinary way. At the opposite end of the frame is placed a vertical driving-shaft, C, fig. 1, having its upper bearing in the frame D, composed of two parallel bars, connected at one extremity by a cross-piece, *e*, while the other end rests upon the columns B' and B'', the latter not shown in the drawing. From the extremities of this frame two braces, *ff'*, fig. 1, extend diagonally to one of the cross-pieces of the columns. The motive-power is applied to the arm *g*, attached to the driving-shaft C, while at the extremity of this shaft is a horizontal driving-wheel, H, figs. 1, 3, and 4. At the bottom of the columns there is a "pit," having two gates opposite each other, one seen at I, figs. 1 and 2, and the other at I', fig. 1, each being fastened, as seen in fig. 2, by a frame, *k*, half as wide as the gate, hung on the column opposite that supporting the gate, in such a way that when the gate is closed this may be pressed and held firmly against the gate by means of a hook, *l*, in the gate. An iron hammer-block, L, figs. 1 and 2, works freely in the guiding-columns, being attached to the rope *m*, which, passing over the pulley *n*, fig. 1, is connected with the driving-wheel H. The upper edge of this wheel is bevelled, and across its surface is placed a slotted bar, *o*, figs. 1, 3, and 4, having its extremities bevelled down to the edge of the wheel, and in the slot is pivoted a movable tongue, *a*, figs. 1, 3, and 4, and on the cross-piece *e* is placed a fixed V-shaped cam, *b*, figs. 3 and 4. The under side of the hammer-block, and the bottom of the "pit," are grooved, to receive the rope or hoop required in baling. To the columns B B'' is pivoted a platform, M, figs. 1 and 2, working between two fixed sides, *c c'*, fig. 2, and *c*, fig. 1, the platform being shown in fig. 1 as slightly raised. To the ends of M are attached ropes *p p'*, fig. 2, and *p*, fig. 1, which, passing through rings *r r' r'' r'''*, fig. 2, and *r r'*, fig. 1, are fastened to the levers *s s'*, fig. 2, *s*, fig. 1, connected with the rock-shaft N, figs. 1 and 2, working freely in its bearings in the columns B B''. To N is attached a third lever, *t*, fig. 1, at right angles to *s s'*. Two V-shaped yokes are pivoted to the upper extremity of the columns B B' and B'' B''', and swing freely between them. P, fig. 1, shows a front view of one, while *v v'*, fig. 2, shows one arm of each. To the apex of each is pivoted a lever, which, when not in use, hangs between the columns, as seen at W, fig. 1, while in fig. 2, W W' show the position of the levers when in operation. Ropes attached to the ends of these levers, as seen in fig. 2, pass over pulleys in the top cross-bars connecting the columns B B' and B'' B''', and, uniting at *x*, fig. 1, are then fastened to the collar *z*, fig. 1, working freely on the shaft C. This collar has a single tooth on it, for the reception of the pawl *d*, pivoted in the driving-shaft C. The ends of the levers W W' will have a pivot fitting into a bearing in the upper edge of the hammer-block, or the block may be cast with ears, as seen in fig. 2, for the ends of the levers to play against, according as the one mode or the other may be deemed preferable. A frame, the outlines of which are indicated by the dotted line *h*, fig. 1, is pivoted to the frame D, and has an arm, *y*, attached to a cord, *i*, by which it may be adjusted.

The driving-shaft being put in motion, the hammer-block, as it rises, lifts the lever *t*, slowly raising the platform M, already filled with hay, until the cord *m*, by the action of the cam *b* on the tongue *a* of the driving-wheel, is thrown off, and the hammer-block falls upon the hay, while the platform, by its own gravity, resumes its former position, ready to be again loaded and emptied. The rope *m* is so fastened, the cam *b* and tongue *a*

so placed, and the lever *t* and its connections so adjusted, that the rope is thrown off at the instant the hammer-block reaches its maximum elevation, and the platform assumes a vertical position. The collar *z* moving freely on the shaft, prevents the rope *x* from being affected by these operations, and the frame *h*, over which the rope *m* passes, serves to take up the slack when *m* is thrown off. The shaft *C* being in motion all the time, catches the rope *m*, and the same operation is repeated with great rapidity.

When no more hay can be forced into the pit by beating, the motion of the shaft *C* is reversed, and the pawl *d* falling into the tooth in the collar *z*, the rope *x* is wound round the shaft, raising the levers *W W'* until they assume the position shown in fig. 2, with their ends upon the hammer-block, which rests on the top of the hay. Then, this motion of the shaft being continued, any desired pressure is brought upon the hay, the apex of each yoke serving as a fulcrum for its lever, and as the yokes swing on their pivots as the hammer-block is forced down, the levers are all the time kept in position. Before the motion of the shaft is reversed, the frame *h*, by means of the cord *i*, is brought into the position indicated by the dotted line *j*, causing the rope *m* to take the direction of the dotted line *J*, which, preventing it from being wound up by the wheel *H*, allows the hammer-block to rest upon the hay, uninfluenced by the action of the shaft when working the lever, the rope *m* hanging loose, as seen in fig. 2.

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

1. The driving-wheel *H*, formed with a slotted bar, *o*, and movable tongue, *a*, when constructed substantially as shown and specified.
2. The levers *W W'*, yokes *P* and *P'*, rope *x*, collar *z*, and pawl *d*, all in combination, when constructed and arranged substantially as shown and specified.
3. The driving-wheel *H*, levers *W W'*, platform *M*, rock-shaft *N*, levers *s s'* and *t*, pawl *d*, and collar *z*, of a compressing and beater-press, all constructed and arranged in relation to one another and the other parts of the machine, substantially as and for the purpose specified.

GEORGE ERTEL.

Witnesses:

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J. W. BUTT.