

(No Model.)

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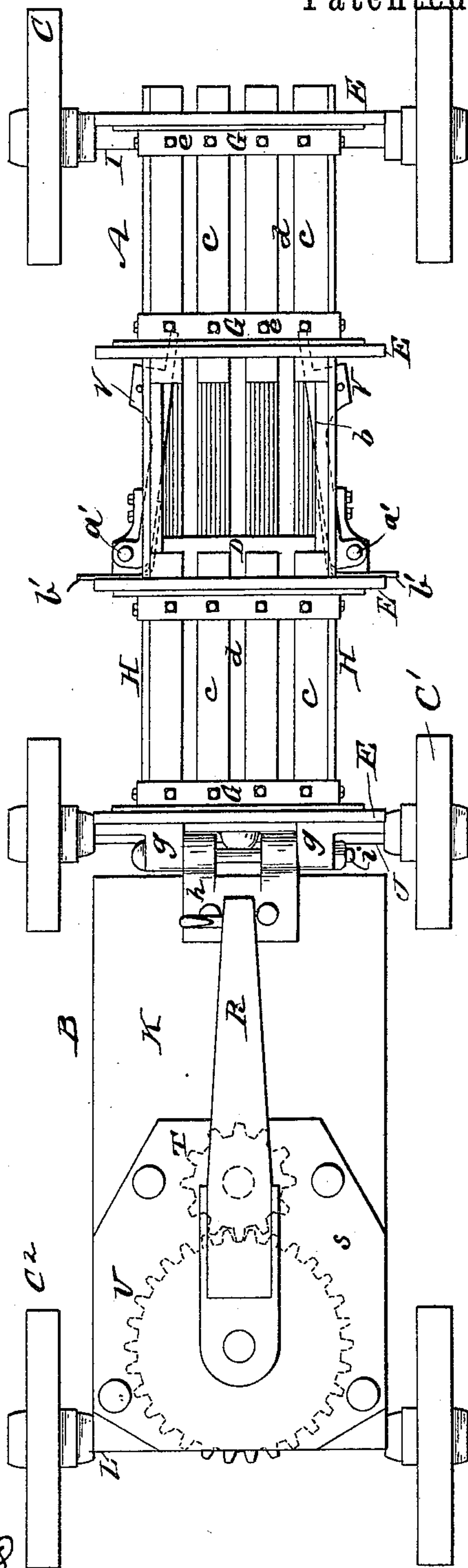
M. McCARTY.

HAY PRESS.

No. 398,066.

Patented Feb. 19, 1889.

Fig. 1.



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(No Model.)

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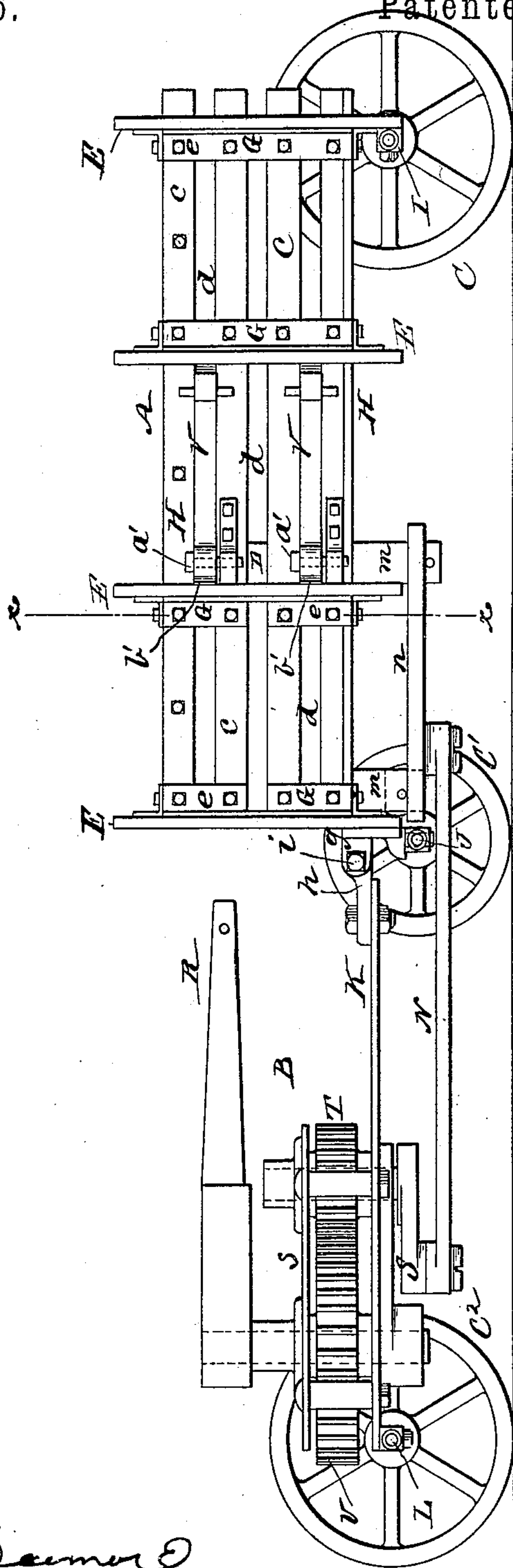
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Fig. 2.



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3 Sheets—Sheet 3.

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Fig. 3.

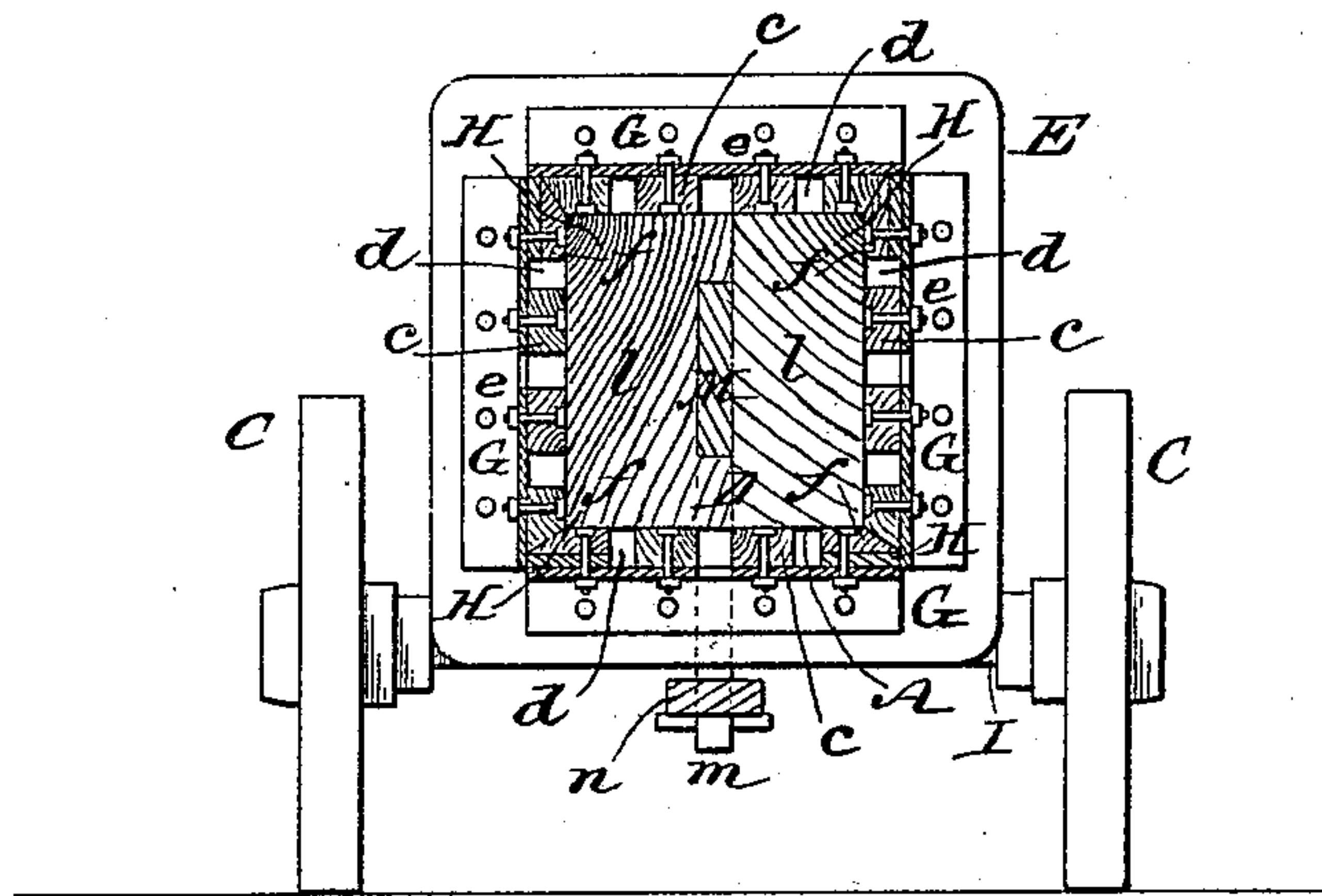


Fig. 4.

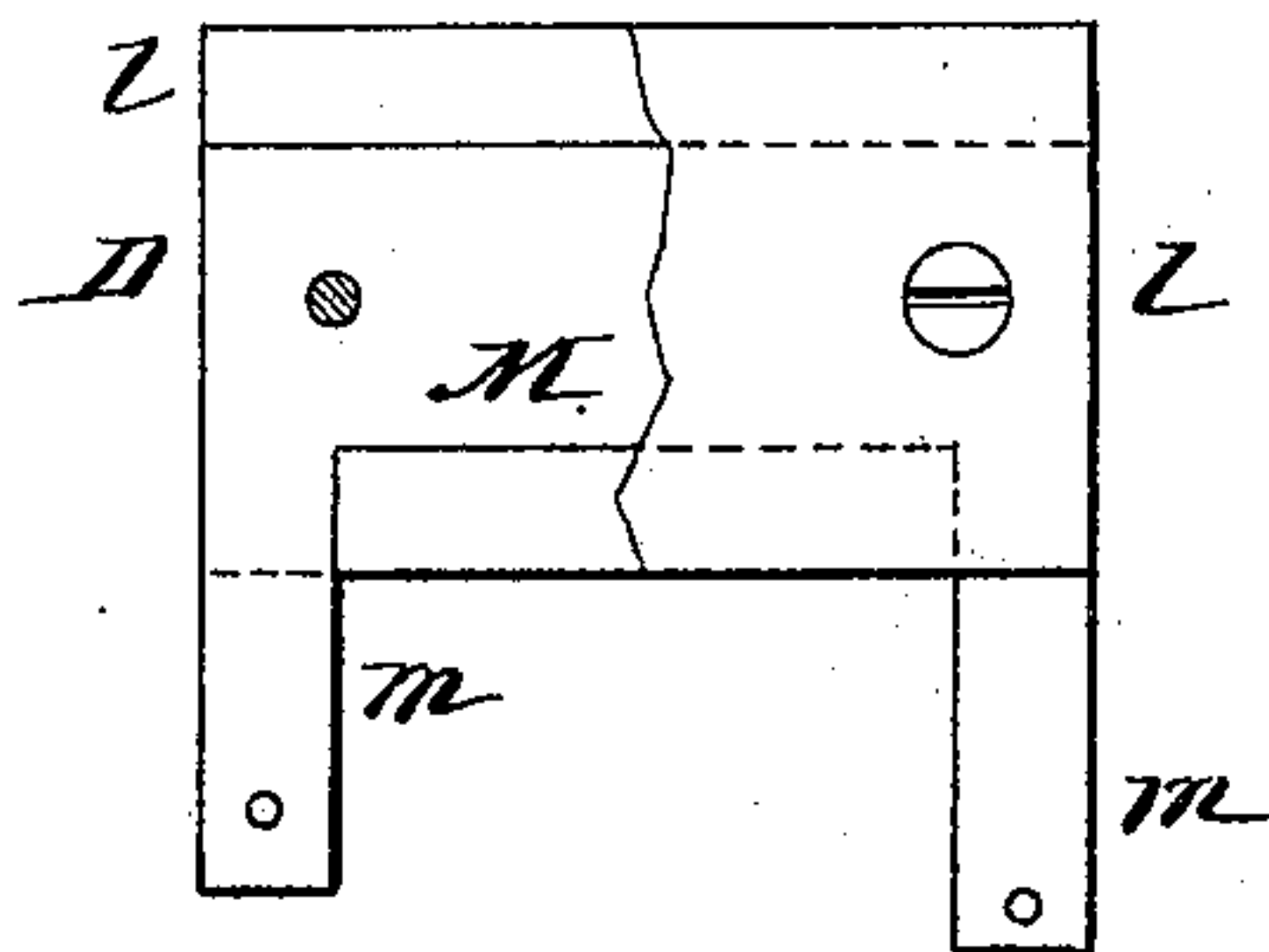
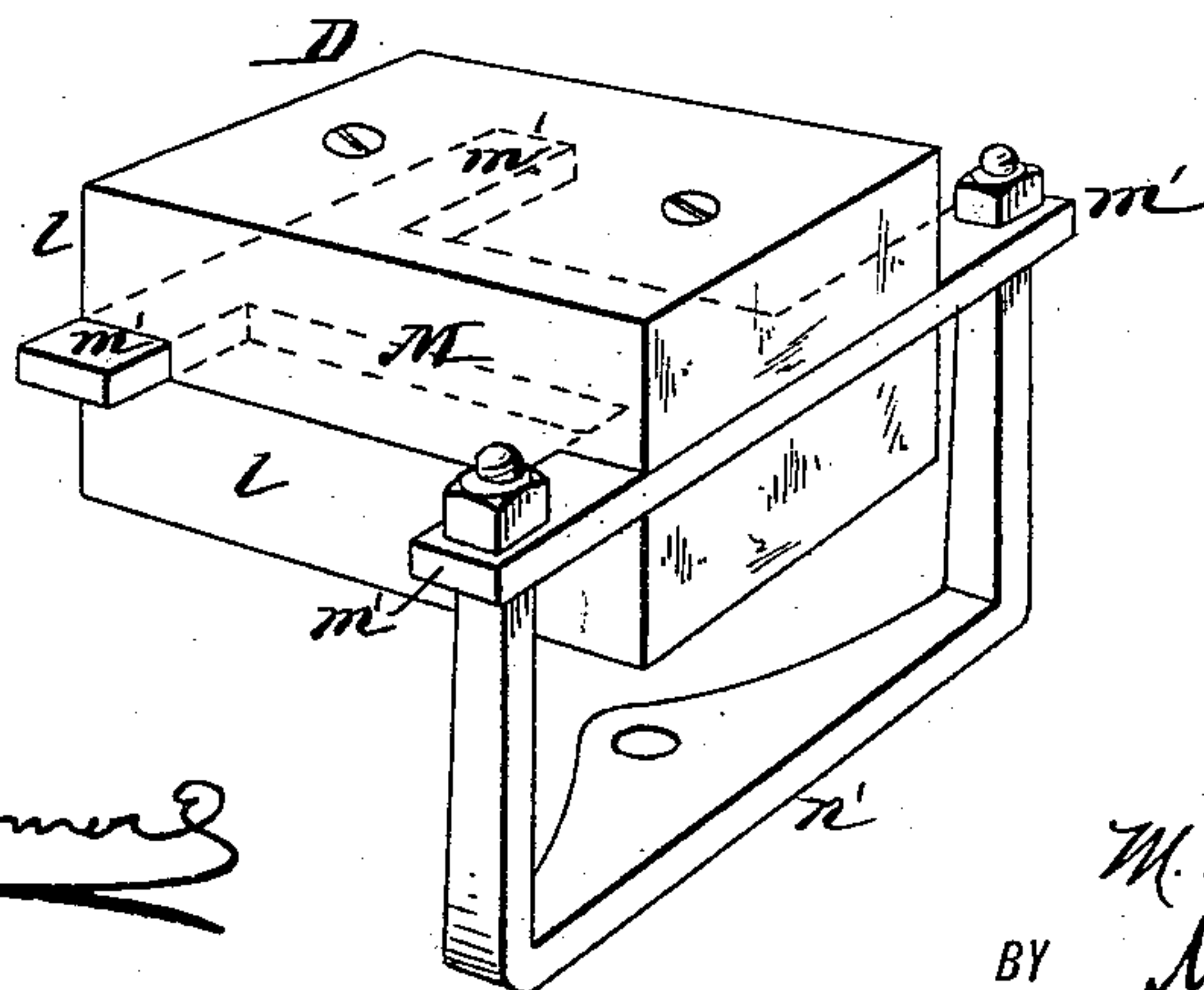


Fig. 5.



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# UNITED STATES PATENT OFFICE.

MICHAEL McCARTY, OF MONTROSE, COLORADO.

## HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 398,066, dated February 19, 1889.

Application filed May 9, 1888. Serial No. 273,301. (No model.)

*To all whom it may concern:*

Be it known that I, MICHAEL McCARTY, of Montrose, in the county of Montrose and State of Colorado, have invented a new and useful  
5 Improvement in Hay-Presses, of which the following is a full, clear, and exact description.

This invention, while applicable to presses used for compressing other loose materials,  
10 is more particularly designed to be applied to presses employed in compressing hay into bales, and will here be described more especially with reference to such use. The press generally is of that well-known character  
15 which has combined with it a horse-power mechanism for operating the plunger of the press, and in which the hay or loose material is fed in batches into the pressing box or chamber in front of the follower or plunger,  
20 which reciprocates continuously and compresses a batch at each forward motion against the material already pressed in—that is, pressed forward at each operation and forced out of the opposite end of the pressing-  
25 chamber.

The invention consists in the peculiar construction and arrangement of parts, as hereinafter fully described, and pointed out in the claims.

30 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 represents a plan view of my improved press with horse-power attached. Fig. 2 is a side elevation of the same. Fig. 3 is a transverse section thereof upon the line  $x x$   
35 in Fig. 2. Fig. 4 is a partly-broken side view of the plunger or follower detached, and Fig. 5 is a perspective view showing a modified construction of said plunger or follower.

A is the pressing-box or press proper, and B the connected horse-power, both carried by wheels  $C C' C^2$  in pairs or sets to facilitate  
45 transportation from place to place, as from farm to farm.

The pressing-box A, which occupies a horizontal position, has an opening,  $b$ , in its top, intermediately of its length, for feeding in  
50 the hay in batches in front of the reciprocating plunger D when the latter is drawn back,

as in other presses, to condense by its successive forward strokes the hay or loose material within, and out through the delivery open end portion of the pressing-box farthest removed from the horse-power. This pressing-  
55 box A has its top, bottom, and sides composed mainly of longitudinal slat-like timbers  $c$ , leaving longitudinal openings  $d$  between them, which timbers are interrupted at top  
60 to form the feed-opening  $b$ . These timbers  $c$  are incased at or near their ends and intermediately of their length by square or rectangular iron bands E, here shown as four in  
65 number, and which have their width in projecting relation from the several sides of the press, thus giving an edge support or resistance to the strain from the interior of the press when the latter is at work. Riveted to  
70 the sides of each of these bands E are a series of angle-iron supports, G, to which the timbers  $c$  are secured, as by bolts  $e$ .

The several bands E are furthermore tied to or united with each other by bolts passing through the angle-iron supports and by the  
75 flat longitudinal iron bars H, which are faced internally with wooden strips  $f$ , of a thickness to bring them on the same level with the inner faces of the timbers  $c$ , lying in the same  
80 plane. Said longitudinal bars H are arranged along the top and bottom of the press.

The construction of the pressing-box, as described, is not only an economical one, but, for the amount of material used, said box will resist a large interior pressure, the edgewise  
85 arrangement of the bands E, which, moreover, are all tied together by the longitudinal bars H, and the timbers  $c$ , united by the angle-iron supports G, making it almost impossible to bend said bands or to twist the pressing-  
90 box out of shape or level, while the angle-iron supports form a ready means of connecting or carrying the longitudinal timbers or slats of the pressing-box. The axle I of the hind wheels, C, is firmly bolted or secured to  
95 the rear band E, which thus serves a double purpose.

The front axle, J, of the press, which is hung to swivel upon or with a central vertical pivot intermediately of the length of said  
100 axle, and on which are the wheels  $C'$ , is carried by the front band E, and said band is



furthermore provided or has secured to it jaws *g g*, with which the horse-power is connected by an intermediately-fitting tongue, *h*, fast on the platform or bed *K*, and by a draw-bolt, *i*, which platform or bed also forms the gangway for the team. This platform or bed *K* has secured on its forward end the axle *L*, which carries the wheels *C*<sup>2</sup>.

The plunger or follower *D* is constructed in longitudinal sections or halves *l l*, bolted together, and carrying between them a two armed or legged iron bar, *M*, of a suitable length, each leg *m*, when the plunger is in place, passing through and beyond a longitudinal opening, *d*, in the bottom of the pressing-box. In Figs. 1, 2, 3, and 4 said iron bar *M* is supposed to have its two legs *m* pass through one and the same longitudinal opening, *d*, in the bottom of the pressing-box and be connected by a cross-bar, *n*, below the pressing-box, to which the one end of the connecting bar or rod *N*, that drives the plunger, is pivoted. Instead, however, of the iron bar *M* being arranged to pass out through a longitudinal opening, *d*, in the bottom of the pressing-box, it may be formed with four (4) legs or arms, *m' m'*, and arranged so that two of its legs or arms *m' m'* pass out laterally from the plunger through opposite longitudinal openings *d* in the sides of the pressing-box, and a bent or **U**-shaped cross-bar, *n'*, as shown in Fig. 5, be attached to said bar *M* outside of the pressing-box, and, as in the former case, below it, for attachment of the connecting bar or rod *N* below the pressing-box. In both cases, however, by the extension of the bar *M* or its connections through between the slats of the pressing-box and beneath it provision is made for the connection of the bar or rod *N* with the plunger *D* below the pressing-box, thus lowering the level, especially when the wheels which carry the press and horse-power are embedded in the ground to the extreme limit, so that the team which is hitched to the sweep *R* will have very little climbing to do in passing through the gangway or over the platform *K* of the horse-power, beneath which the connecting rod or bar *N* works.

The rod or bar *N* is connected at its forward end to a crank, *S*, on the upright shaft of which, above the platform *K*, is a pinion, *T*, that gears with a spur-wheel, *U*, to the shaft

of which, above said platform and above a housing or cover, *s*, over the gears, the sweep *R* is attached. The spur-wheel *U* is preferably twice the diameter of the pinion *T*, whereby one circular travel of the horse gives two revolutions of the crank *S*.

Arranged on opposite sides of the pressing-box, in line with or beneath the feeding-aperture *b*, are upper and lower pivoted spring-retainers *V*, adapted to work at their free ends in and out of the openings *d* in proximity to the mouth end of the portion of the pressing-box in which the hay or loose material is compressed by the action of the plunger. These retainers serve to keep the hay from working back as the plunger makes its back-stroke. Said spring-retainers consist of levers pivoted at their one end, as at *a'*, and having attached springs *b'* bent outward in rear of the pivots and bearing against the adjacent band *E*, whereby tension is thrown upon the retainers *V* to force them at their free ends inward.

When it is required to move the press from farm to farm, the horse-power *B* is disconnected from the press, the draft bar or tongue connected with the front of the press or its front wheels, and the horse-power attached in the rear of the press to act as a trail.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a hay-press, a plunger consisting of two sections, a bar arranged between the said sections and provided with arms adapted to project through the press-box, and a connecting bar or rod for the arms outside of the press-box, substantially as herein shown and described.

2. In a hay-press, the combination, with the press-box *A*, having a slotted bottom, of the plunger *D*, provided with the arms *m*, projecting through the slot of the bottom of the press-box, the bar *n*, connecting the arms of the plunger, the connecting rod or bar *N*, the crank *S*, the pinion *T*, the spur-wheel *U*, and the sweep *R*, substantially as herein shown and described.

MICHAEL McCARTY.

Witnesses:

JOSEPH ALLISON,  
NAT YOUNG.