(No Model.) 2 Sheets—Sheet 1.

T. D. AYLSWORTH.

HAY PRESS.

No. 263,837. Patented Sept. 5, 1882.

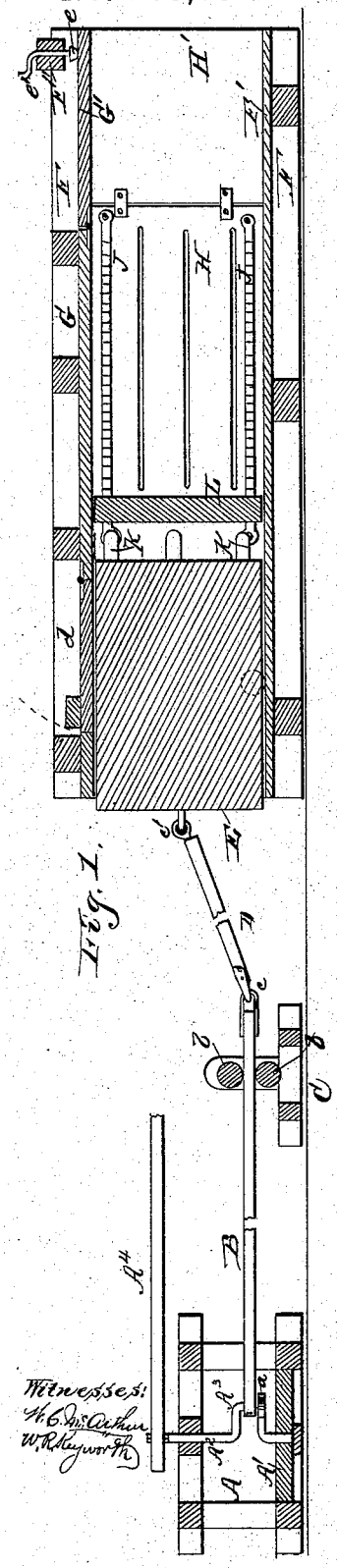

Fig. 1.

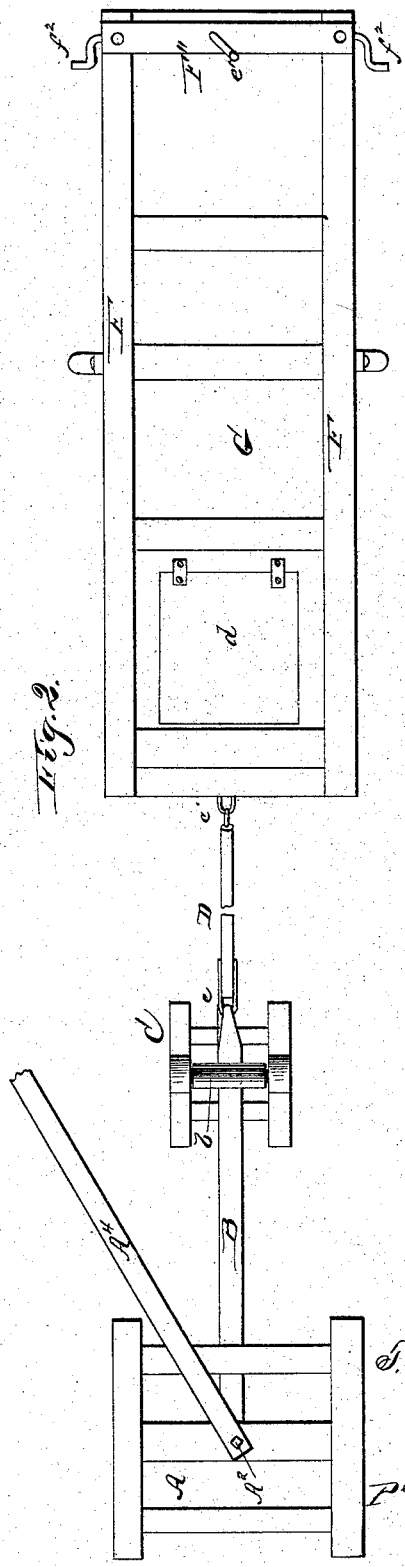

Fig. 2.

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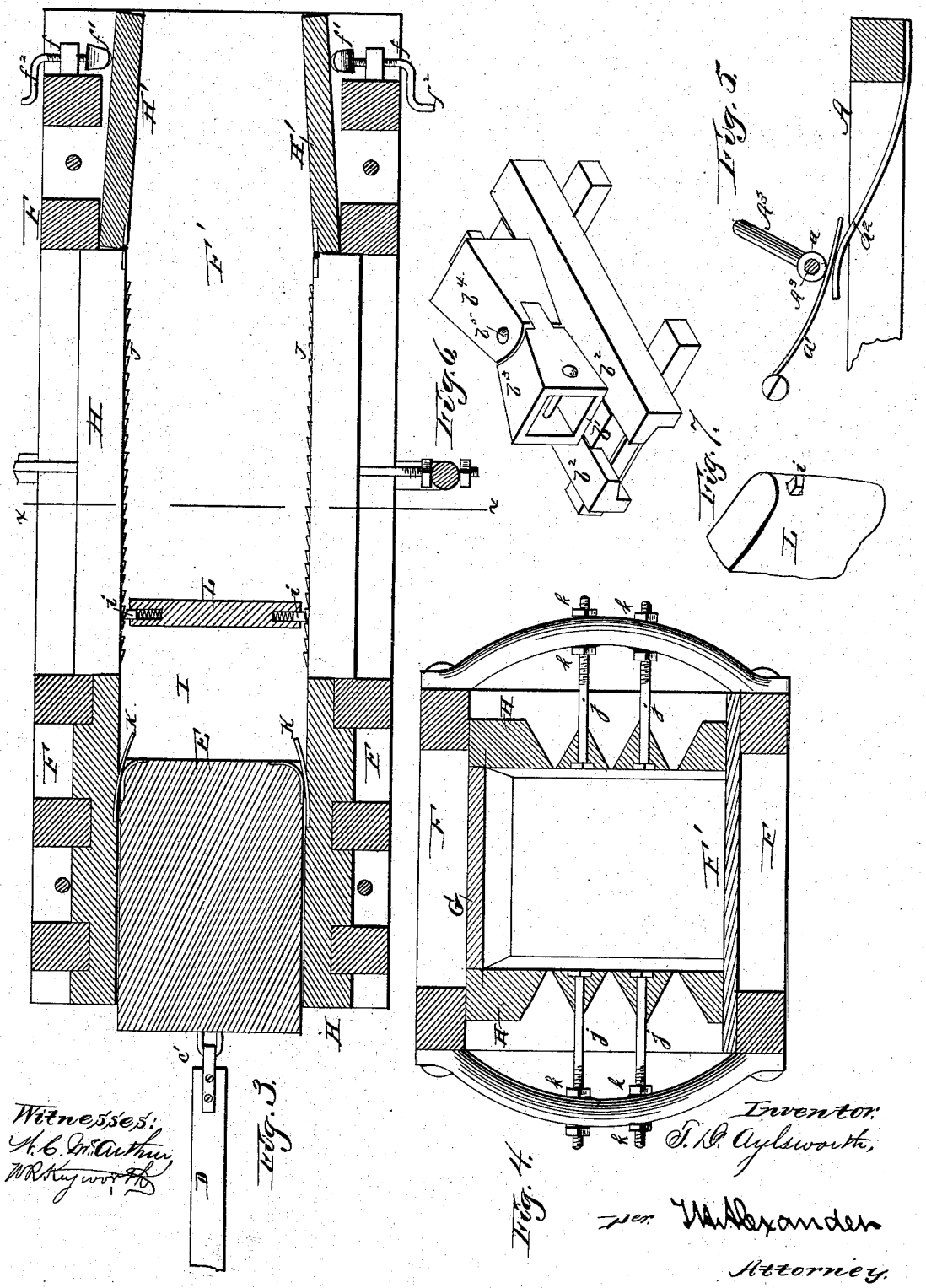

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UNITED STATES PATENT OFFICE.

THOMAS D. AYLSWORTH, OF OSWEGO, KANSAS.

HAY-PRESS.

SPECIFICATION forming part of Letters Patent No. 263,837, dated September 5, 1882.

Application filed May 3, 1882. (No model.)

To all whom it may concern:

Be it known that I, THOMAS D. AYLSWORTH, of Oswego, in the county of Labette and State of Kansas, have invented certain new and useful Improvements in Hay-Presses; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification, in which—

Figure 1 is a vertical longitudinal section through the press, the guide or jack, and the horse-power. Fig. 2 is a top view of said parts. Fig. 3 is a horizontal section through the press-box. Fig. 4 is a vertical section taken transversely through the press-box in the plane indicated by dotted line *x x*, Fig. 3. Fig. 5 is a sectional detail of the parts A A^3 *a a' a²*. Fig. 6 is a perspective view of the guides b^2, the slide *b'*, and the jointed parts b^3 b^4. Fig. 7 is a perspective view, in detail, of one end of the part L, showing a spring tooth or pawl, *i*.

This invention relates to horizontal baling-presses of the kind which are known as "continuous presses," wherein the hay or other material to be compressed and baled is forced through a tapered chamber, divided into sections, bound, and discharged from the chamber, ready for transportation.

Before describing the press proper I shall explain my improved horse-power, which is immediately connected therewith. This horse-power consists of a rectangular frame, A, which is composed of horizontal and vertical timbers strongly united and provided with a floor, A'. In the center of this frame A is a vertical shaft, A^2, having a bell-crank, A^3, and adapted to receive on its upper end a sweep, A^4, to one end of which the horses may be hitched in any suitable manner. The radius of the crank A^3 is equal to the throw of the follower of the press, and this crank is provided with a friction-wiper, *a*, which in the revolutions of the crank will be pressed against by a pivoted friction-plate, *a'*, that is acted on by a spring, a^2. This will prevent the long arm of the sweep A^4 from being thrown back on the horses during the pressing operation. This horse-power frame is intended to be spiked as well as anchored to the ground, so that it is immovable. To the crank A^3 of the horse-power I suitably attach a stiff forcing and retracting rod, B, which receives endwise movement from said crank and which is guided between horizontal rollers *b b*, which have their end bearings in a jack-frame, C, that is spiked to the ground at a convenient distance between the press and the horse-power.

If it is not convenient to have the rod B move in a plane at a right angle to the vertical axis of the crank-shaft A^2, the sliding jack shown in Fig. 6 must be used. This sliding jack consists of a block or cross-head, *b'*, which is free to slide between two guideways, b^2 b^2, to which are pivoted two jointed sockets, b^3 b^4, by means of a single vertical bolt, b^5. The outer end of the rod B will be fixed in the socket b^3; or this end of said rod may be jointed by a transverse pin to said socket.

D designates a pitman-rod, which is suitably jointed at *c* to the end of the rod B if the guide-roller jack shown in Fig. 1 is used; but if the sliding jack is used one end of the rod D is fitted into the socket b^4, and either rigidly secured thereto or connected to it by a horizontal joint. One end of the pitman-rod D is suitably jointed at *c'* to one end of a follower-block, E, which must move in a right line in its forward and back strokes.

The object of the jack C is to convert the vibrating movement which the outer end of the rod B receives from the crank A^3 into a rectilinear reciprocating movement, which is transmitted to the follower-block E without any of the parts binding.

F designates a rectangular press-frame, which is composed of vertical and horizontal timbers strongly bolted together. This press-frame may be made any suitable length, height, and width; but it is especially constructed with reference to its height and width to the merchantable size of the bales of hay or other product which it is intended to produce. It is a horizontal press-frame, and its length may be adapted for two or more bales. The floor F' of the horizontal press-frame is rigidly secured upon the sill-timbers thereof, which latter are strongly tied together by horizontal transverse bolts and by the transverse tie-sills. This floor is horizontal, as shown in Fig. 1. G designates the roof or top of the press, which is endwise removable, and which

is supported upon the upper edges of the two removable vertical sides H H of the press. The transverse pieces (and their tie-bolts) of the press-frame F lie across the roof G and resist all strain against it.

At the feed end of the press is an opening, *d*, through the roof G, of suitable capacity to allow the hay to be fed into the press-box before the follower E, and near the discharge end of the press a door, gate, or section, G′, is suitably hinged to the roof, the free end of which section is directly beneath a bow-spring, *e*, which is allowed to swivel on the lower end of a screw, *e′*, having a hand-crank on its upper end and tapped vertically through a cross-brace, F″, of the frame F. The feed-opening *d* is provided with either a hinged or a vertically-movable cover, the bottom of which, when closed, is flush with the lower side of the roof G, as shown in Fig. 1. This cover should be closed and fastened down after each charge of hay has been put into the press-box.

Both sides H H of the press-box are alike. Therefore a description of one side will give a clear understanding of the other side. The discharge end of the side H has a hinged section applied to it, which is lettered H′, and this hinged section is provided with a screw, *f*, on the inner end of which is a spring, *f′*, and on the outer end is a hand-crank, f^2. The main part of the side H is rigid; but it is composed of a lattice-work the bars of which are double-beveled outwardly, so that a needle can be passed through them, which, when it is properly threaded, will allow the bales to be bound. That portion of the side H which is at and in close proximity to the press-chamber I is vertically grooved and adapted to receive the vertical timbers of the press-frame, thus effectually preventing endwise movement of said side. These sides are removable from the press-frame. Near the lower and near the upper edge of each side H is secured to it a rack, J, the teeth of which are pitched toward the discharge end of the press; and at the front or feed end of the press and in close relation to the front termini of the said racks a number of springs, K, are secured, the free inwardly-curved ends of which are designed for engaging with the hay when under compression, and assisting in preventing portions of the compressed mass from expanding when the follower-block D is moved back to receive another charge of hay in the press.

L L designate movable partition-blocks or followers, which are applied in the press-box between the charges of hay, so as to separate one bundle or bale from another as the work of pressing progresses. The blocks L are provided with latches or beveled nose-bolts *i*, which are protruded from the vertical edges of these blocks, and which engage with the teeth of the horizontal racks J. The said blocks L are allowed to move forward in the press-box, but are prevented from being forced backward by the spring-bolts *i* engaging with the racks. The sides H are secured to vertical braces of the press-frame by means of horizontal bolts *j* and nuts *k*, which allow the sides H to be adjusted in or out, as may be desired.

Having described my invention, I claim—

1. In combination with the follower of the press, the pitman-rod, the jack or guide, the forcing-rod, the crank of the horse-power, and a spring-actuated brake, substantially as described.

2. A press-box consisting of the horizontal frame, the adjustable sides H H, the hinged sections at the ends of these sides, the roof or cover, its hinged section, and the screws for adjusting the said hinged sections, substantially as described.

3. The combination of the spring-retainers K, the adjustable press-box sides, the dividing-blocks L, the spring-actuated bolts thereof, and the racks on the inner surfaces of said press-box sides, substantially in the manner and for the purposes described.

In testimony that I claim the foregoing as my own I affix my signature in presence of two witnesses.

THOMAS D. AYLSWORTH.

Witnesses:
J. A. GATES,
A. P. PRICE.