

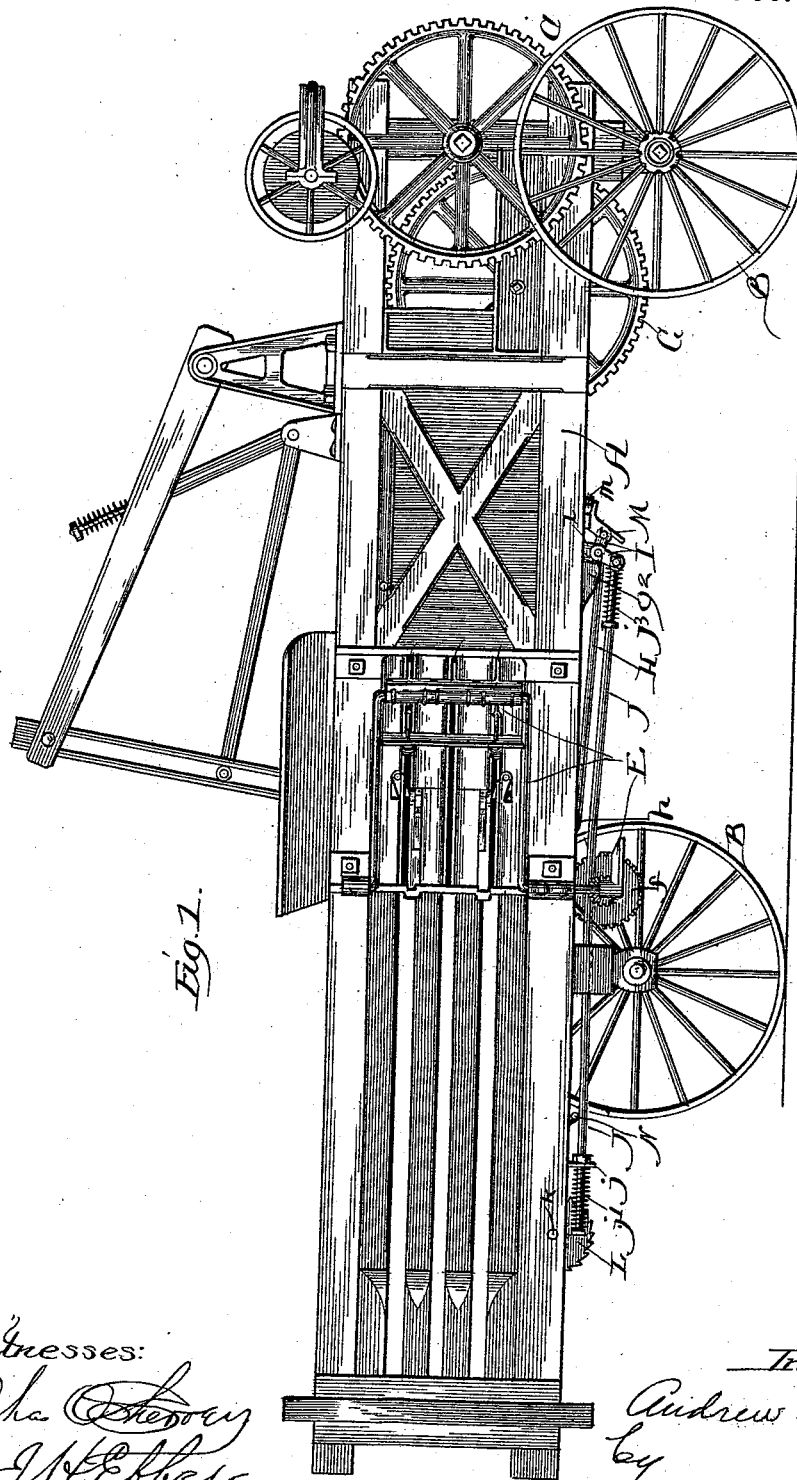
(No Model.)

3 Sheets—Sheet 1.

A. WICKEY.
BALING PRESS.

No. 526,883.

Patented Oct. 2, 1894.



Witnesses:
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Inventor:
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Miles M. Bittner
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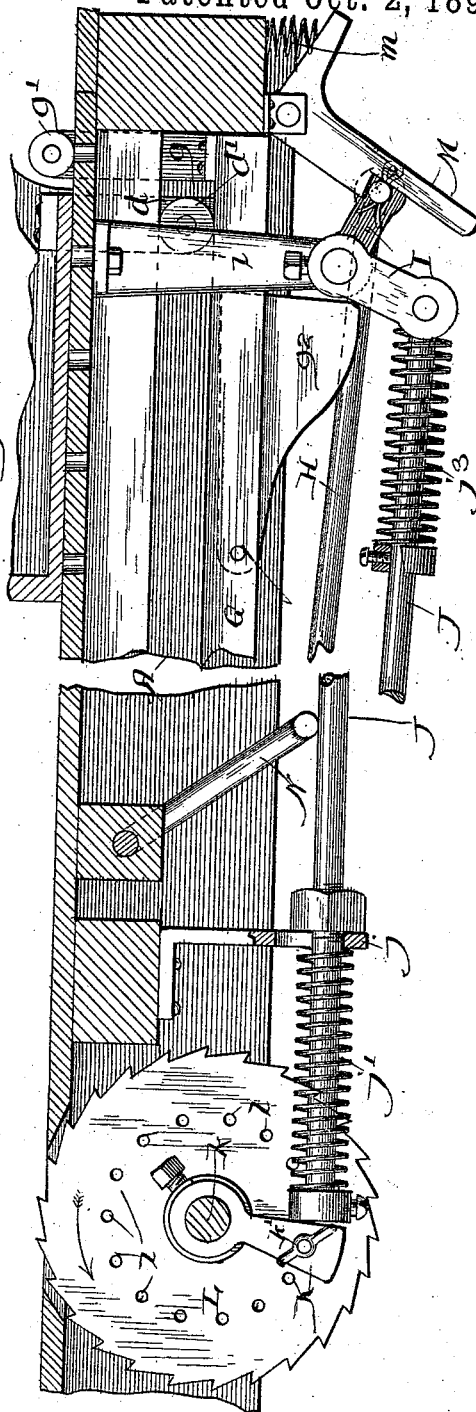
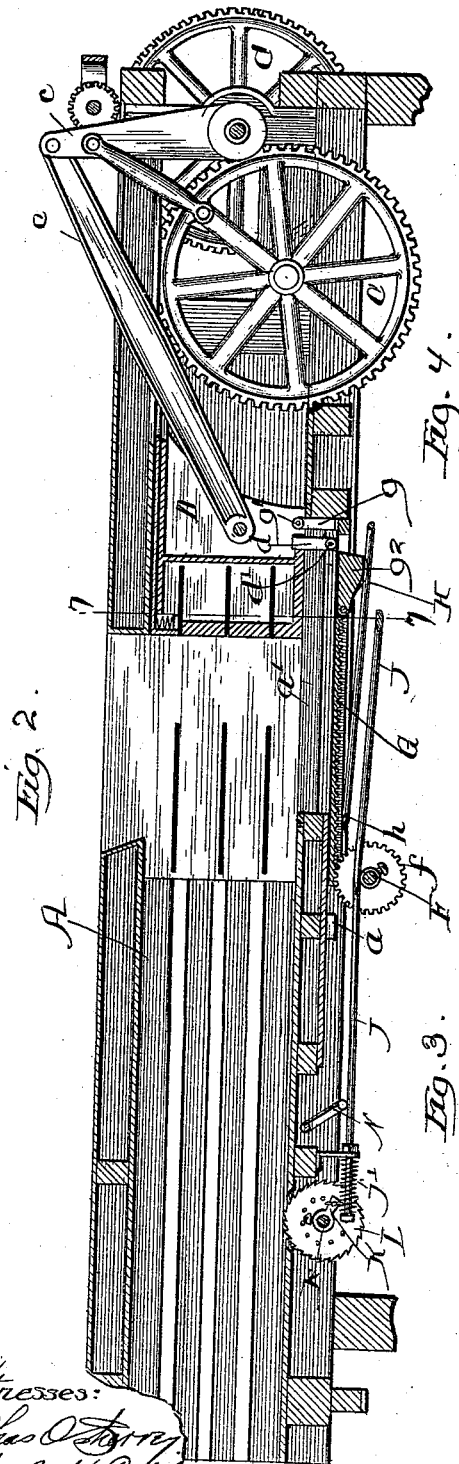
(No Model.)

3 Sheets—Sheet 2.

A. WICKEY.
BALING PRESS.

No. 526,883.

Patented Oct. 2, 1894.



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BALING PRESS.

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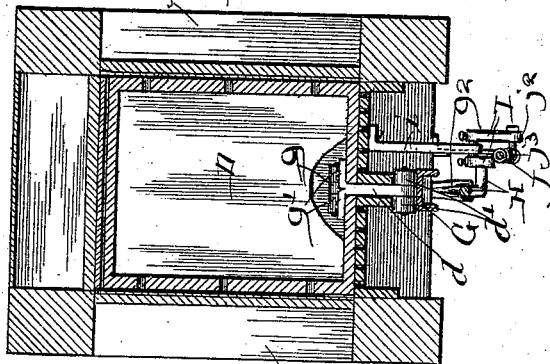
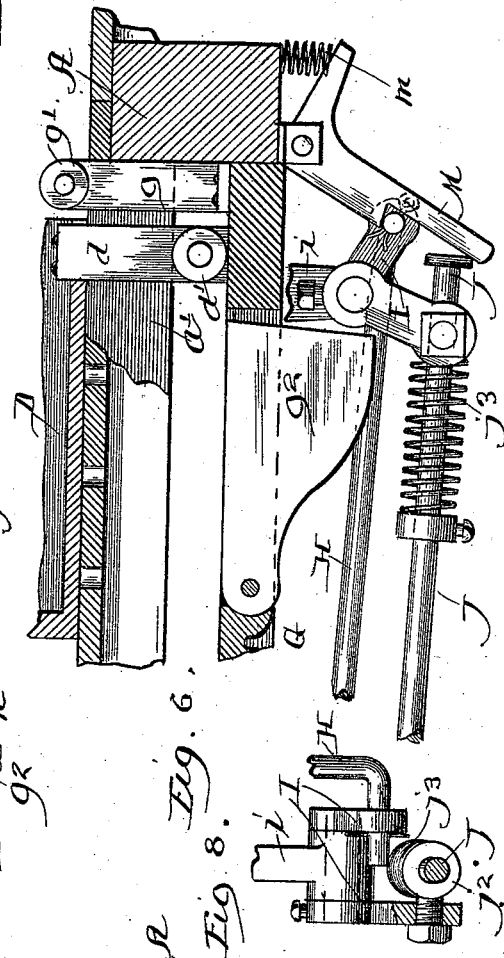
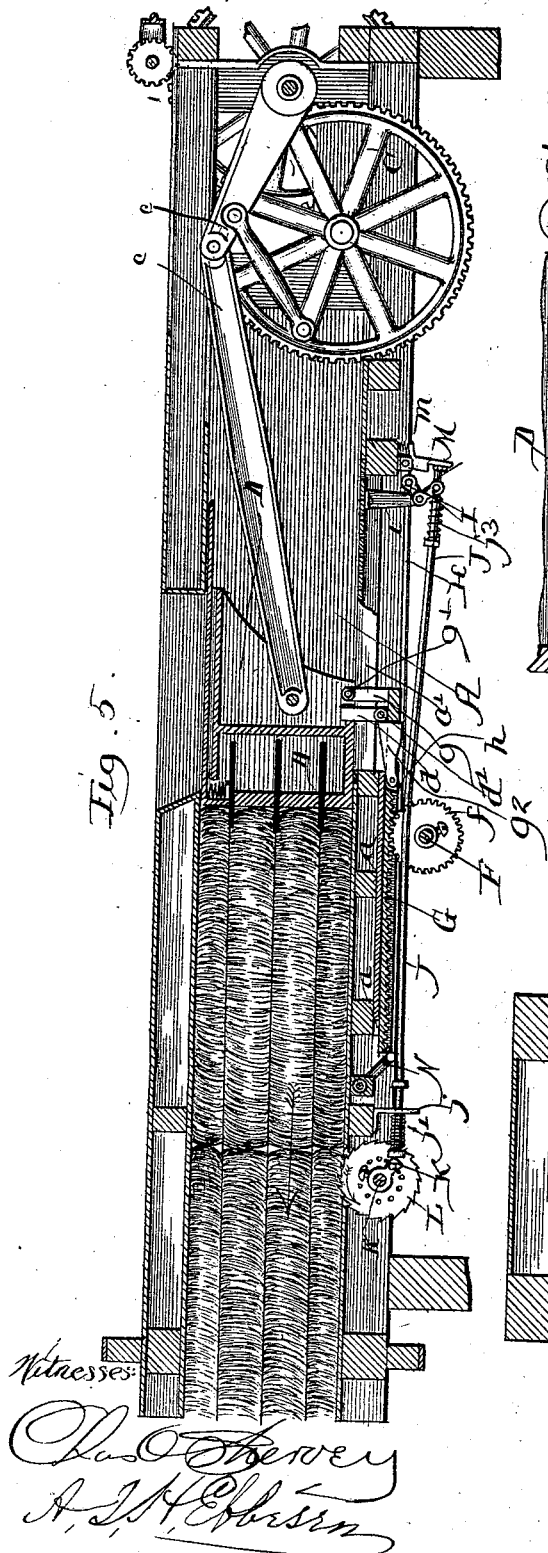


Fig. 7. *Inventor:*
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UNITED STATES PATENT OFFICE.

ANDREW WICKEY, OF CHICAGO, ILLINOIS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 526,883, dated October 2, 1894.

Application filed March 3, 1893. Serial No. 464,592. (No model.)

To all whom it may concern:

Be it known that I, ANDREW WICKEY, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

The greater number of the class of baling presses which are known as self-tyers are operated continuously to pack the hay or other material into bales, tie the same as each one is completed, and eject them from the discharge end of the bale chamber. In these presses the feeding and packing mechanism runs continuously, but the tying mechanism is only called into action at the completion of each bale and must then do its work quickly so as to complete it before the next bale is commenced. It is a matter of no little difficulty to devise means for taking the power to do the work of tying from the moving portions of the press proper in such a way as to satisfactorily meet all the requirements that are encountered. It is, of course, easy to conceive that a device may be constructed which will measure the length of the column of hay as it passes through the bale chamber, and other devices may be added thereto to connect the tying apparatus with some one of the moving parts of the press at the proper moment for the tying of a bale, and to disconnect said apparatus when the twist is completed; and, indeed, a number of presses have heretofore been constructed in which these operations are performed. There are, however, a great many different points to be looked after in a mechanism of this sort and numerous problems to be solved, which, while of a secondary nature, are yet vital to the successful operation of the complete machine both as regards its durability and its efficiency at work.

The invention, which is the subject of this application, has been made in perfecting a baling press of the general class above referred to, and pertains especially to the devices by means of which the tying apparatus is thrown into and out of operation at the proper time.

My invention is illustrated by means of eight figures in the accompanying drawings, of which—

Figure 1 is a side view of a complete press. Fig. 2 is a vertical longitudinal section. Figs. 3 and 4 are broken portions of the same section enlarged. Fig. 5 is a section similar to Fig. 2, but showing the parts in different positions. Fig. 6 is another detail section showing certain parts in still another position. Fig. 7 is a lateral vertical section in line 7—7, of Fig. 2; and Fig. 8 is a view of the same direction as Fig. 7, showing certain parts enlarged and with portions broken away.

Applying reference letters first to the portions of the press which are well known in the art, A is the frame; B, the wheels upon which it travels; C, the gearing through which power is applied to the plunger D, by means of the toggle levers c.

The tying mechanism so far as here shown, is seen at E, and may be of any approved construction. Said tying mechanism is operated by means of a shaft F, (see Figs. 2 and 5) extending laterally beneath the bed of the press and receiving its power from the devices hereinafter described.

Upon the shaft F, is a spur gear *f*, (see Figs. 1, 2 and 5) and above and engaging with this gear is a rack G. This rack slides back and forth in guides *a*, fastened to the bottom of the bale chamber and has at one end an upright post *g*, extending up through a slot *a'*, in the bottom of the press and having laterally extending rollers *g'*, which travel back and forth upon said bottom, and support that end of the rack. The plunger D, has a depending arm *d*, also extending through the slot *a'*, and also provided with rollers *d'*, beneath the bottom of the press which operate to hold the plunger down as it moves forward into the bale chamber. The rack G, has adjacent to the post *g*, a pivoted dog *g*², resting upon a rod H, pivoted to the press at *h* near up to the rack G, and inclining downward therefrom to the opposite end, which is pivoted to one arm of a bell crank lever I, supported by a bracket *i*, attached to the bottom of the press. The other end of the bell crank is pivoted to one end of a rod J, the other end of which slides in a bracket *j*, secured to the frame, and beyond said bracket bears against a crank K, upon a lateral shaft *k*, suitably journaled in the frame A. Upon the shaft *k*, is a loose toothed wheel

L, extending up through the bottom of the press into the bale chamber in the proper position to engage with the baled hay and be rotated by the movement of the latter through the chamber. This toothed wheel has a series of holes l , and the crank K, is provided with a pin k' , which may be inserted in any one of these holes to engage the crank with the wheel L, in any desired position.

The wheel, L, is moved by the hay in the direction of the arrow, and is so proportioned as to complete one revolution for each bale of hay made by the press. At the end of each revolution it brings the crank, K, against the end of the rod, J, and forces the latter toward the right against the tension of a spring, j' , applied between this end of the rod and the bracket, j . The other end of the rod, J, is pivoted to the crank, I, by means of an eye-bolt, j^2 , and has a sliding motion through the eye of said bolt against a spring, j^3 . A pivoted catch, M, is held over one arm of the bell crank, I, by means of a spring, m , and prevents the bell crank from moving until the rod, J, projects far enough through the eye-bolt, j^2 , to strike this catch and disengage it, as is seen in Fig. 6. A link, N, (see Figs. 3 and 5) is pivoted to the frame and rests lightly upon the rod, J, near the end which is acted upon by the toothed wheel.

The operation is as follows:—When the press is started, the wheel, L, is allowed to revolve freely until a bale is formed when the crank, K, is fastened to it in position to bear against the end of the rod, J. Now, as the wheel advances, it presses the rod, J, to the right disengaging the bell crank lever, I, from the catch, M. As soon as this bell crank lever is disengaged, the arm to which the rod, J, is pivoted is thrown to the right by the spring, j^3 , raising the other arm and with it the right hand end of the rod, H, which, in turn, raises the dog, g^2 , far enough to interpose it in the path of the downward projection, d , of the plunger. As the plunger now returns, this projection slides over the dog, g^2 , depressing it against the spring, j^3 , but not far enough, however, to engage the bell crank lever with the catch, M. As soon as the projection, d' , passes over the dog, g^2 , the latter is thrown up behind it by the spring, j^3 , and as the plunger starts forward again the projection, d , engages with the dog, g^2 , and carries the rack, G, toward the left to the end of the stroke, the up-

ward incline of the rod, H, making it impossible for the dog, g^2 , to fail in its engagement with the projection, d . As the rack nears the left hand limit of its movement it strikes the link, N, and forcing the rod, J, downward disengages it from the crank, K, whereupon the spring, j' , returns the rod, J, the bell crank, I, and the rod, H, to their first position, and the catch, M, engages with the bell crank through the spring, m . As the plunger starts backward, the projection, d , thereon engages with the upright arm, g , upon the rack, G, and carries the rack back to its original position, and in doing so, the dog, g^2 , drops downward by its own gravity out of the way of the next stroke of the plunger. This leaves the latter to proceed with its work until another bale is completed, and the whole operation of tying the finished bale has been performed during the stroke of the plunger which I have just described.

In the above description, I have followed carefully the construction shown in the drawings as being the simplest and most satisfactory that has as yet occurred to me. I do not, however, limit my invention to this exact construction and arrangement, but

I claim as new and desire to secure by Letters Patent—

1. The combination in a baling press, and with suitable plunger and tying mechanism of a frame having a slot in its bed, a rack, G, suitable connecting devices between it and the tying mechanism, whereby its reciprocation may operate the tying mechanism; a post, g , extending from the rack through the slot in the bed and engaging with the top of the latter, and suitable means of engagement between the plunger and said rack; substantially as described.

2. The combination with the plunger and tying mechanism of a self-tying baling press, of a slotted bed, a reciprocating rack supported beneath said bed, suitable connecting gear between said rack and the tying mechanism, a movable dog carried by said rack, and a tripping device adapted to engage said dog with the plunger at the proper moment; substantially as described.

ANDREW WICKEY.

Witnesses:

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A. I. H. EBBESEN.