

No. 645,728.

Patented Mar. 20, 1900.

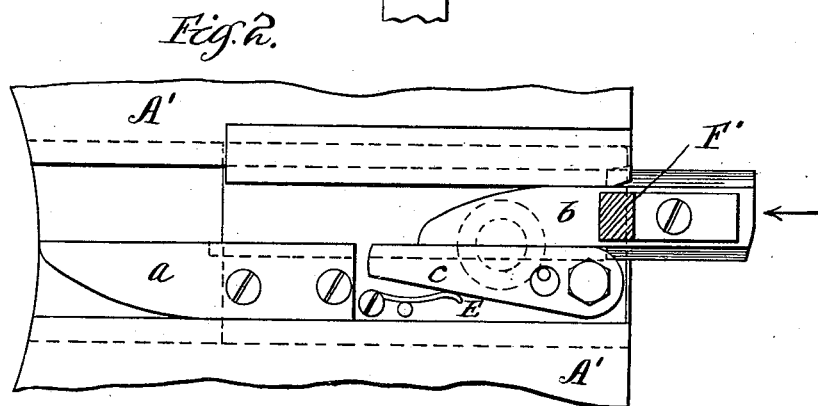
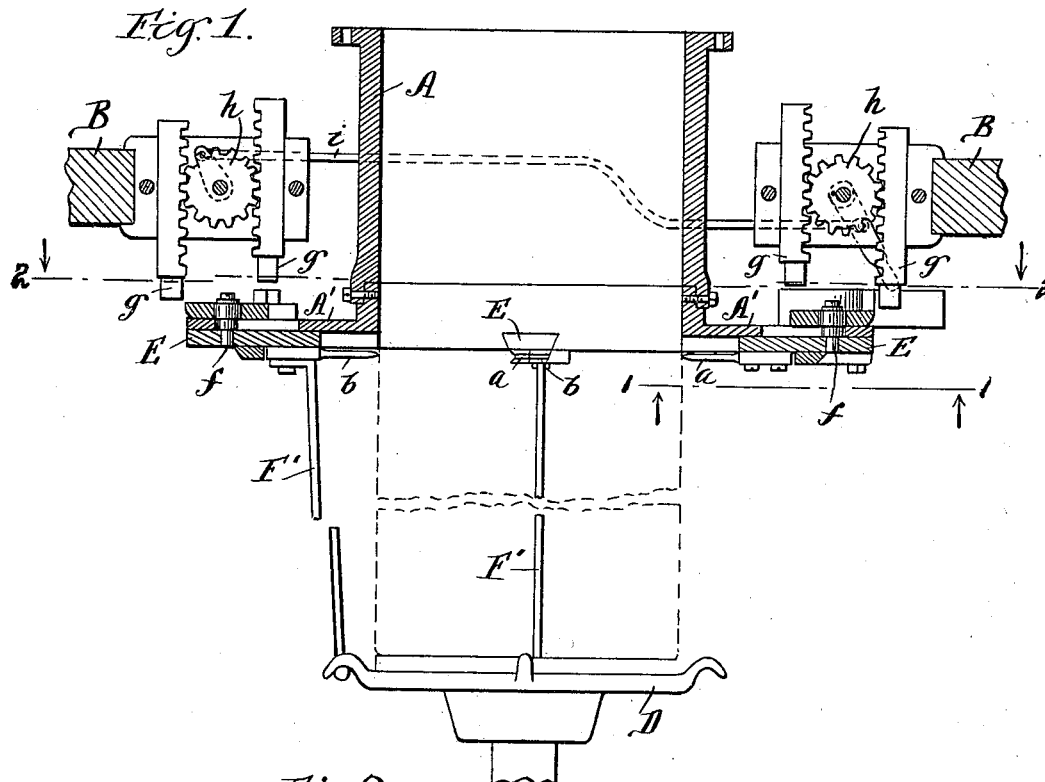
G. A. LOWRY.

APPARATUS FOR COMPRESSING COTTON OR OTHER FIBROUS MATERIALS.

(Application filed July 27, 1899.)

(No Model.)

4 Sheets—Sheet 1



Witnesses.
H^m M. Rheem.
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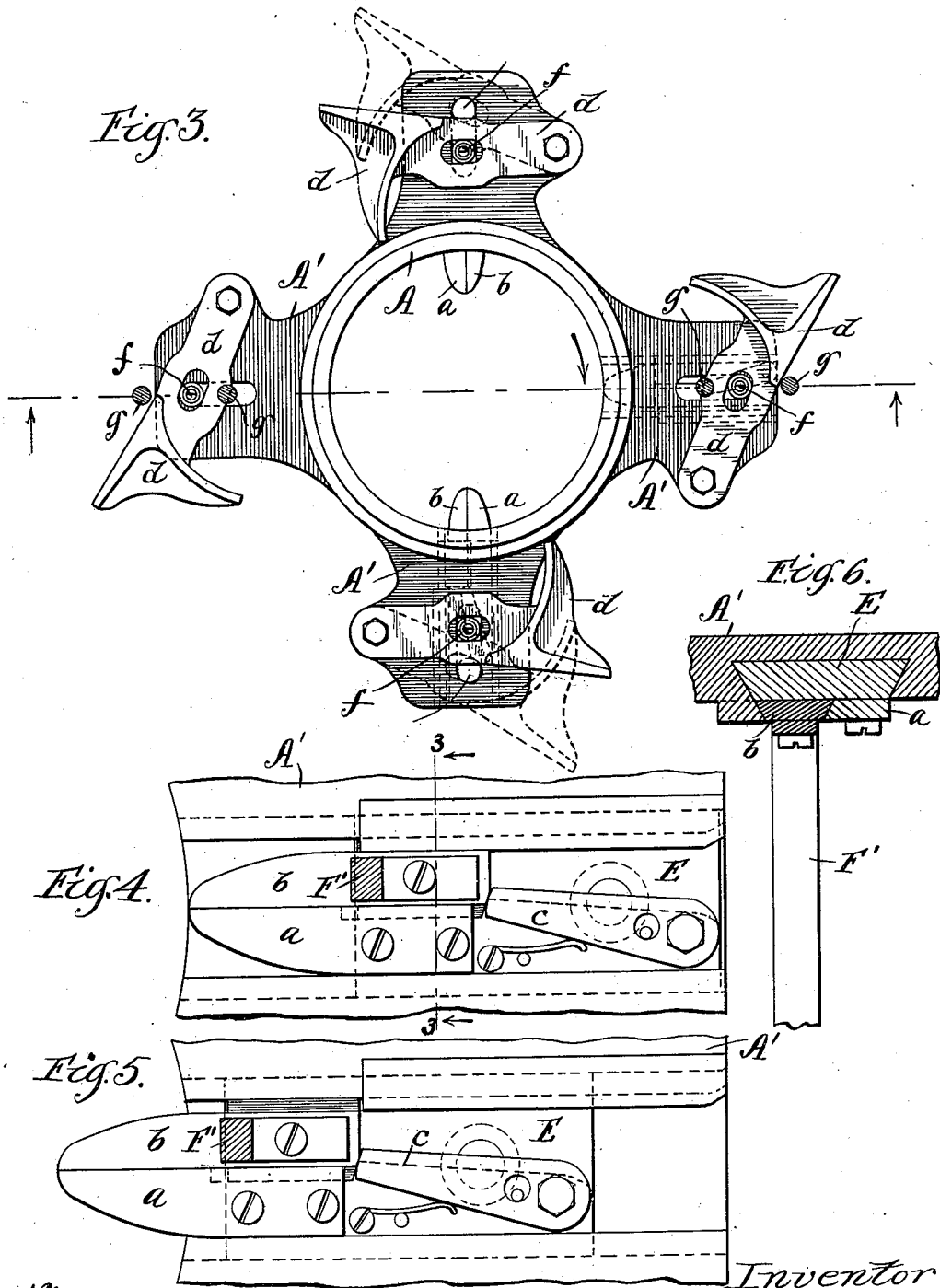
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4 Sheets—Sheet 2.



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4 Sheets—Sheet 3

Fig. 7.

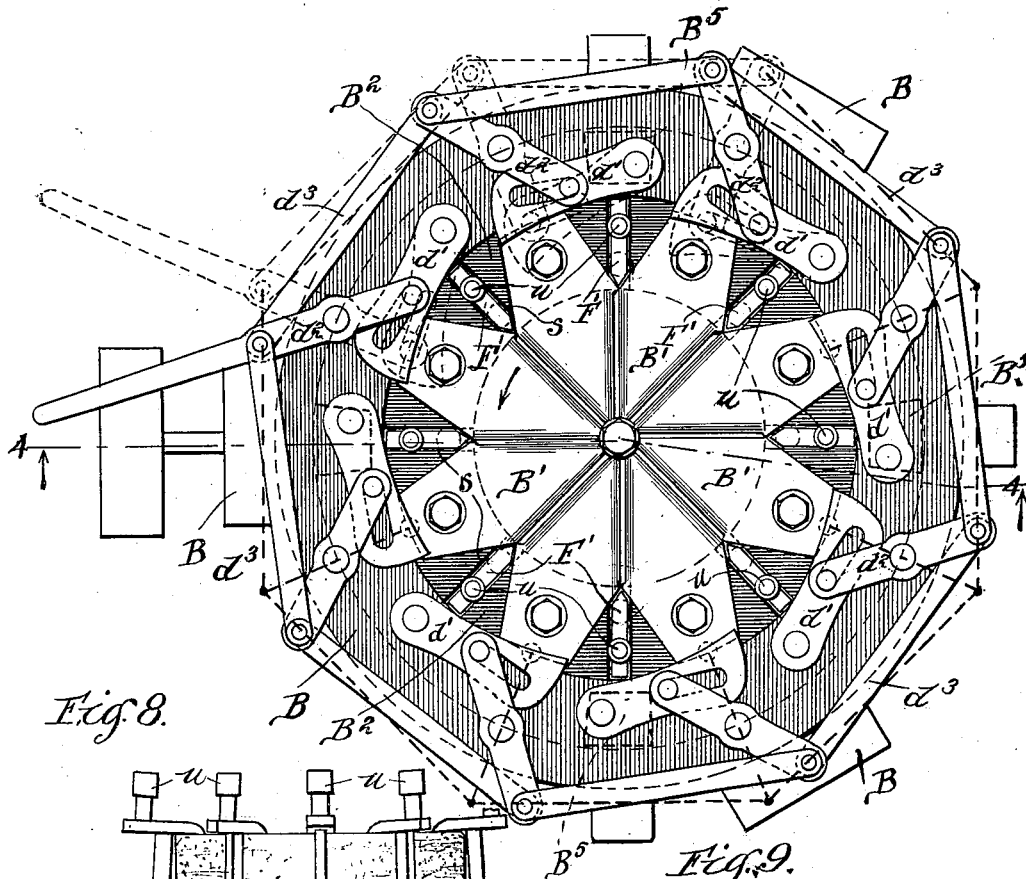


Fig. 8.

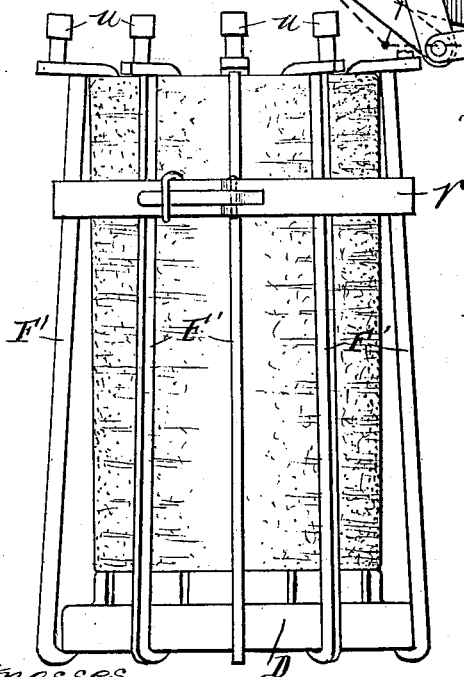
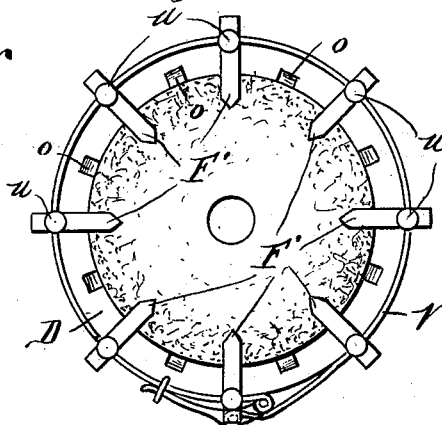


Fig. 9.



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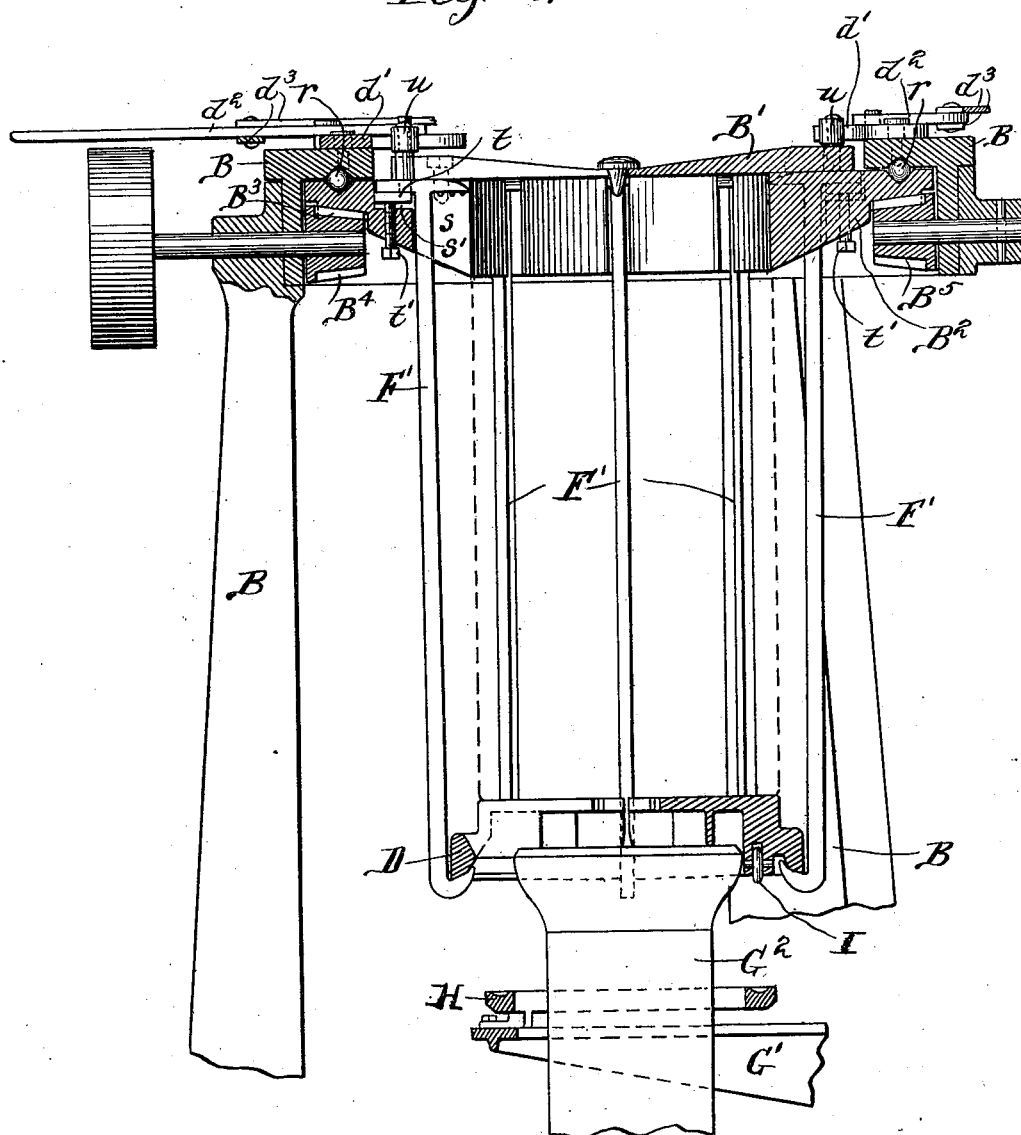
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(No Model.)

4 Sheets—Sheet 4

Fig. 10.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE A. LOWRY, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE PLANTERS
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APPARATUS FOR COMPRESSING COTTON OR OTHER FIBROUS MATERIALS.

SPECIFICATION forming part of Letters Patent No. 645,728, dated March 20, 1900.

Application filed July 27, 1899. Serial No. 725,279. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. LOWRY, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Apparatus for Compressing Cotton or other Fibrous Materials, of which the following is a specification.

This invention relates to an apparatus for compressing cotton, hay, wool, and other fibrous materials, and has for its object the provision of mechanism to sever the portion of compressed material to form a bale.

The invention consists in substantially the constructions and arrangements hereinafter described, and more particularly pointed out in the claims.

Like letters of reference describe corresponding parts in the several figures of the drawings accompanying this specification, in which—

Figure 1 illustrates in vertical section a view of one form of severing mechanism and such other parts of the machine as are adjacent thereto. Fig. 2 illustrates a horizontal cross-section of the machine, taken on the line 1 1, Fig. 1, of the drawings looking in direction of the arrows there indicated. Fig. 3 is a horizontal cross-sectional view taken on the line 2 2, Fig. 1, of the drawings looking in the direction of the arrows there indicated. Fig. 4 is a similar view to Fig. 2, except that the severing mechanism is shown in a different position. Fig. 5 is a similar view to Fig. 4, except that the severing mechanism is shown advanced into its operating position. Fig. 6 is a vertical cross-section of the construction shown in Fig. 4 on the line 3 3 looking in the direction of the arrows there indicated. Fig. 7 is a top or plan view of a modified construction and arrangement of severing mechanism. Fig. 8 is a side elevation of a modified arrangement of holder and severing mechanism with the bale inclosed. Fig. 9 is a top view of Fig. 8. Fig. 10 is a vertical section on the line 4 4, Fig. 7.

This application relates particularly to the mechanism for severing or separating a sufficient length of the compressed material to form a bale.

It is manifest that the severing mechanisms herein described may be used in connection with various forms of compressing mechanisms, and I therefore do not wish to be understood as limiting myself to any particular form of compressing mechanism in this connection, although the severing mechanisms described are particularly well adapted to be used with the class of machines in which the bale is built up endwise in spiral layers.

In the drawings it is not attempted to show the full details of the compressing mechanism proper, but merely enough of such mechanism to illustrate the application of the present invention thereto.

In Figs. 1, 2, 3, 4, 5, and 6 of the drawings there is illustrated a severing mechanism applied to a form of press in which a bale is formed in an open-ended chamber and is advanced through such chamber until it emerges from the lower end thereof for a sufficient length for a bale and then has that length of the compressed column severed.

In the drawings, A designates the chamber in which the material is compressed and through which it is advanced by the addition of successive increments upon the top thereof. The dotted lines below this chamber represent a portion of the compressed column, sufficient to form a bale, and this bale is designated by the letter C. A support for the bale is designated by the letter D, and such support is preferably yieldingly held in position by a plunger of a hydraulic jack, such as is shown in other figures of the drawings.

The material which is being compressed bears at its lower end against the support just referred to, and thereby meets sufficient resistance to aid in its compression, and also when its density is sufficient the support tends to retain the same, or, in other words, to keep the column from endwise expansion at the lowest point thereof.

The severing mechanism is of course applied to the column of compressed material at a distance above the lower end thereof sufficient to equal the length of bale desired, and this is true whether the portion of the column used for the bale is that portion which has emerged from the chamber in which it is

formed and extends below the same or whether it is the part of the column retained within the chamber.

In Figs. 1, 2, 3, 4, 5, and 6 of the drawings the severing mechanism is shown as applied to sever the column after it has emerged from the forming chamber or holder; but it is manifest that such severing mechanism may be applied, as shown in other figures of the drawings of this application, to separate the column at a point above the forming-chamber. In either case the point at which the severing mechanism acts constitutes the top of the bale. If the forming-chamber is open at its bottom and the column is made not only to pass into and through the same but emerge beyond the same to a sufficient distance to form a bale, then the severing mechanism should be applied just below the lower end of the holder or chamber, as shown in the first six figures of the drawings; but if the holder or chamber is not constructed to permit the passage of the compressed material or column through the bottom of the same then as the length of the column sufficient for the bale is inclosed in the holder the severing mechanism must be applied above the holder, as illustrated in other figures of the drawings, and provision must be made for taking the bale from the holder by removing a portion or all of the holder.

In the construction illustrated in the first six figures of the drawings the severing mechanism is duplex—that is to say, there are two blades which are to be inserted in the column of compressed material, the one for effecting the separation and also retaining the portion of the column remaining in the holder under compression and the other operating in conjunction with other parts, hereinafter to be described, to retain the bale which has been separated in its condensed form until it is wired. The construction and operation of this severing mechanism will now be specifically described. The holder or chamber A may be provided with an extension A', which for convenience is bolted thereto, as shown. This extension has formed upon its inside a dovetail slot or other suitable guideway, which is clearly illustrated by the dotted lines in Figs. 2, 4, and 5 of the drawings and by full lines in Fig. 6 of the drawings. In this guideway the correspondingly-shaped block E is intended to slide. This block E has secured to it in any suitable manner a cutting-blade *a*. This cutting-blade *a* is designed to be forced into the column of material and cause a separation between the length of the same for the bale and the material above such bale and also in the construction illustrated in Figs. 1 to 6 of the drawings to prevent end-wise expansion of the material remaining in the compressing apparatus after the bale portion of the column has been removed. Another cutting-blade *b* is in the arrangement illustrated in the first six figures of the drawings secured to and serves as an operating

part of a stay F, which stay will be hereinafter more particularly described. The cutting-blade *b* is guided in the guideway and, as shown in Fig. 6 of the drawings, is preferably arranged to move alongside of the block which carries the cutting-blade *a*, with the difference that the side of the guideway which guides the cutting-blade *b* is near its inner end cut away, as shown in Figs. 2, 4, and 5 of the drawings, and that a spring-acting pivoted latch *c* is caused to snap behind this blade *b* as soon as its butt-end has passed the inner end of the latch. The several positions of these two blades from the beginning to the end of their operation are shown in Figs. 2, 4, and 5 of the drawings.

Fig. 4 of the drawings illustrates the two blades *a* and *b* in their initial position before they have been actuated. Fig. 5 illustrates the two blades after they have both been actuated and caused to enter the compressed column. Fig. 2 illustrates the cutting-blade *a* in its initial position and the cutting-blade *b* being inserted in the guideway and not yet in position for operation. For actuating these cutting-blades many different devices may be employed; but a convenient and efficient set of devices is shown in Figs. 1 and 3 of the drawings. For each pair of cutting-blades an arm *d* is pivoted at one end to the extension A' of the holder before mentioned and provided at its other end with an inner and outer cam surface or projection. A pin *f* is arranged to pass through an elongated slot in this arm *d* and into the sliding block E, so that any movement imparted to this pivoted arm reciprocates the sliding block, and thus causes the blades to be forced into the material of the compressed column. The blade *a* is forced into the compressed column because it is connected directly to the sliding block, and the blade *b* is made to also enter the compressed column, because the latch *c*, which is fastened to the sliding block at one end, bears against the rear end of this blade *b*. A pair of vertically-reciprocating bars or rods *g* are arranged above the pivoted arm *d*, with the lower ends of each capable of being projected into the path of the cam-surface on the pivoted arm. Any suitable mechanism is provided for throwing these rods into position, so as to be in the path of one or the other of the cam-surfaces on the pivoted arm. In the drawings the rods are formed with rack-teeth on their inner surfaces and are capable of being actuated by a pinion *h*. Pinions for operating the several sets of rods *g* may be connected by connecting-rods *i*, as shown. It is manifest that as the chamber revolves it will carry with its extension the pivoted arms *d*, and if at any point in this rotation a rod *g* is projected downward into the path of rotation of this arm it will engage the lower end of the rod so projected and will thus be forced to turn on its pivot and reciprocate the sliding block E, and consequently operate the severing-blades. If the outer rod *g* is the one

projected into the path of the projected arm, such pivoted arm will be forced inward; but if the inner rod *g* is the one projected into the path of the pivoted arm the blade *a* will be carried outward, and thereby be taken out of the way, so as not to interfere with the next compressing operation. However, when the blade *a* is thus withdrawn the blade *b* will not be affected, for the reason that when it was forced into the bale it passed inwardly beyond the flange on the guideway, and thus was left free to be removed with the bale.

The support *D* is provided with flanges or hooks, as shown, and the lower end of the stay *F'* with engaging hooks, so that the bale after it is separated from the other material is held between the blades *b* and the support *D*, as shown in Fig. 1 of the drawings, the connecting-links *F'* serving to join the blades *b* and the support *D*. In this manner and as above described the material which has been severed is kept under compression by the blades *b* and supports *D*, and the portion of the column remaining in the holder is kept under compression by the blades *a* remaining underneath the same and holding the material up against the inside of the cap-plate. This form of mechanism for severing the bale and retaining the compression in all the material which has before been compressed has been found very efficient in practice and is especially applicable to that form of press in which the former or holder is revolved.

There will now be described more specifically the modified arrangement of severing mechanism and modified form of holder and support connected therewith, so as to virtually be a portion of such holder. The specific construction of this mechanism is shown in Fig. 10 and will not be claimed in this application; but such construction is herein described for the purpose of illustrating the genus of which it forms one species and which genus is claimed in this application. In the present form of construction the slotted cap-plate or head is rotated. The cap-plate is designated by the reference-letter *B'* and is bolted or otherwise secured to a ring *B²*, which, in fact, is to be regarded as a part of the cap-plate and is used in addition for convenience in manufacture. This ring *B²* has upon its under edge a circular rack *B³*, which engages with and is driven by a pinion *B⁴*. It is to be understood, of course, that the pinion is driven from any suitable source of power. There are also several idle pinions *B⁵*, which are journaled in the frame and mesh with the rack, and thereby assist in supporting same. Between the ring of the cap-plate just referred to and the main frame *B* it is desirable to employ antifricition devices, such as the rollers *r*. (Shown in the drawings.) The ring attachment of the cap-plate is provided with a series of vertical openings *s* there-through, so as to permit insertion of a corresponding number of severing-blades and stays, which severing-blades and stays are

designated by the reference-letter *F'*. The point of each severing-blade is just back of or flush with the inside of the ring, and the heel of such blade extends outwardly into a recess or offset from the vertical opening *s*, which offset is designated in the drawings by the letter *s'*. The width of this offset is small, being sufficient to enable the blade to be supported by the horizontal wall thereof, and narrow enough to permit the heel of the blade to readily clear the vertical wall or shoulder of the offset when the blade is projected into the compressed material. The proximity of the severing-blade to the under side of the slotted cap or head may be adjusted by a suitable means, and a convenient device for the purpose is a circular ring held up by a set-screw. The circular ring is designated in the drawings by the letter *t* and the set-screw by the letter *t'*. The purpose of making the severing-blades adjustable, in the manner just described, is to adjust the position at which the compressed material will be severed, so as to leave a comparatively-small amount of material in the press after the bale has been removed, or a larger quantity therein, if desired. The severing-blades are also each provided with a pin *u*, projecting from the upper surface thereof and above the slot or opening through the ring and cap-plate. The severing-blades are connected intermediately with the bale base or support *D* by any suitable construction, which in the instance shown may be termed a "bale-stay," whose lower hooked end connects with the hook or flange of the bale base or support. Of course it will be understood that the intermediate means connecting the bale base or support with the severing-blades is not necessarily formed in one piece with such blades, but may be in the form of a slat. It has been found convenient, however, to use the stays themselves as slats and connect such stays detachably with the bale base or support and permanently with the severing-blades, for by this construction it is obvious when the bale is removed it will be held against expansion by means of the bale-base and the severing-blades, and after the bale is removed and wired these severing-blades and stays may be readily detached or "knocked down," thus dispensing with the necessity of having the separate holder and a top ring or head for such holder and a hinged section through which to remove the bale, for in this instance the stays perform the office of a holder and are readily detached, so as to expose the bale and support the severing-blades. In this way the blades are also carried by the holder. Of course the width of these stays may be varied to suit the necessities of the material being baled, and the number of them likewise vary. In fiber with a short staple and much elasticity the stay should be rather wide, so as to not leave too much space between them, and comparatively numerous. In ordinary cotton about eight stays are found advisable to form

the holder. In a long-staple inelastic material, like dry hay, probably four would be found sufficient. With this construction the holder then consists, practically, of three parts—viz., the bale base or support, the stays, and the blades at the upper end of such stays, this last-mentioned feature being called a part because it has an additional office of severing, as well as retaining the bale under compression.

It will be seen that the base-plate or support for the bale is loose and free to move vertically both with relation to the stays and with relation to the cap or head and severing-blades thereunder, so that such base-plate or bale-support is adapted to be projected upward by the plunger of the hydraulic ram to a point in proximity to the underside of the cap-plate, whereby, in connection with such plunger of the hydraulic ram, it will form a resisting means or counter-abutment against which the fibrous material has advanced during the compressing operation. On the other hand, when the base-plate or bale-support has been depressed by the advancing column of compressed material until its flanged or hooked edge engages the hooked ends of the stays this downward movement will be temporarily arrested, because the heels of the blades are still in engagement with the shoulders of the offsets. The column of compressed material, however, at this time has a sufficient length to form a bale, and by the mechanism hereinafter to be described the pins projecting from the upper sides of the blades are projected inward and the blades caused to enter the column of compressed material and separate the same from the material being fed into the machine, and at the same time the heels of these blades clear the shoulders of the offsets in the ring and are in position to permit the bale and holder to be depressed, so as to clear the cap-plate and ring and be adapted to be moved laterally out of the way for wiring. Of course the plunger of the hydraulic ram or other resisting plunger must be lowered a sufficient distance to allow this holder to be depressed, as just stated, so as to clear the cap-plate and ring. The holder comprising, as before stated, the base-plate, the bale-support, and the stays, the blades will then retain the severed bale in their grasp and prevent endwise expansion and may be swung out of the way in any suitable manner. A section of the swinging arm G' , having upon it the track or way H , upon which the bale-support will rest, is also shown in Fig. 10 of the drawings.

To avoid all liability of the bale-stays coming off before the bale is wired, a bale-clasp V may be employed to encircle such stays.

The mechanism for projecting the severing-blades into the compressed material in the construction now being described is the same in principle as that for projecting blades in the form of construction first described, but differs slightly in mechanical detail, and this difference will now be specified.

Arms d' are pivoted at one end to the upper part of the frame B and are provided with elongated slots, as shown, in which play pins of rocking arms d^2 , the outer ends of which rocking arms are pivoted to connecting-links d^3 , whereby all of the rocking arms are joined together and all caused to actuate the pivoted arms simultaneously. One of these rocking arms has an extension formed as a handle, by which the attendant may move this arm and through the connection specified thus move all the arms and also the pivoted arms. When the arms are thus moved, they assume the position shown in dotted lines in Fig. 7 of the drawings, in which position the pins and rocking arms will be at the outer ends of the slots in the pivoted arms and the pins and pivots thereby be placed in a straight line, which acts as a dead-center to prevent any change of position in an outward direction by reason of any part contacting with the inner side of the pivot-arms. When, however, the pivoted arms are thrown into this position, the pins which project upwardly from the severing-blades and are being rotated with the head or cap plate are caused to engage the inside surface of these pivoted arms, and inasmuch as such pivoted arms, as above explained, cannot move outwardly and the severing-blades may move inwardly the latter are caused by the inside surface of the pivoted arms to be projected into the compressed material far enough to cause the heels of such severing-blades to clear the shoulders of the openings s , so that the bale will be thereby severed and at the same time provided with means for preventing endwise expansion when it is detached and taken from the machine, because such bale is grasped between the severing-blades and the bale base or support. The plunger of the hydraulic ram is then lowered so as to be below the arm G' of the turning frame or "turn-table," as it is usually called, and the bale-support, the stays, and severing-blades and the detached bale inclosed thereby will then follow this plunger until the bale-support rests upon the track H , when it will be swung out of line with the compressing mechanism and an empty bale-support returned in its place and a new set of severing-blades and bale-ties dropped from above through the slots in the ring under the cap-plate, so as to form a new holder and be in position for receiving and forming another bale.

After the bale has been compressed it is to be wired, so as to retain such compression and be in condition for transportation.

In the present application these two plans are separately exemplified in several figures of the drawings, as has been before described; but it is obvious that instead of the bale-stays being multiplied to form a holder for the bale any other form of holder might be utilized in the same connection, provided the bale base or support is independently movable in relation thereto.

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

1. In a press for compressing cotton, hay and other materials; the combination with a mechanism for compressing the material endwise and in successive layers, of a mechanism for separating a sufficient length of compressed material to form a bale; substantially as and for the purpose set forth.

2. In a press for compressing cotton, hay or other material, the combination with a head provided with openings through which the material is fed, a holder in which the bale is formed, and means for relatively rotating the head and holder, of mechanism for separating a sufficient length of compressed material to form a bale; substantially as and for the purposes set forth.

3. In a press for compressing cotton, hay and other materials, the combination with a head provided with openings through which the material is fed, a holder in which the bale is formed and means for relatively rotating such head and holder whereby the material is compressed, of severing-blades adapted to be projected into the compressed material to separate a sufficient length to form a bale; substantially as and for the purpose set forth.

4. In a press for compressing cotton, hay and other materials, the combination with a head provided with openings through which the material is fed, a holder in which the bale is formed and means for relatively rotating such head and holder wherein the material is compressed, of severing-blades for separating a bale from such compressed material, and mechanism for operating such blades actuated by the relative rotation of the head and holder; substantially as and for the purposes set forth.

5. In a press for compressing cotton, hay and other materials the combination with a head provided with openings through which the material is fed, a holder in which the bale is formed, means for relatively rotating such head and holder, of severing-blades for separating a sufficient length of compressed material to form a bale, a mechanism actuated by the rotating part to reciprocate the severing-blades; substantially as and for the purpose set forth.

6. In a machine for compressing fibrous material, the combination with a holder in which the material may be compressed into a column, means for condensing the material in layers endwise upon each other to form such column, of means for separating a portion of such column of sufficient length to form a bale; as and for the purpose set forth.

7. In a machine for compressing fibrous material, the combination with the holder and means for compressing the material in superposed layers into a column in such holder, of severing-blades arranged to operate transversely of the length of such column between the layers thereof and means for advancing such blades into a column to separate a bale

therefrom; substantially as and for the purpose set forth.

8. In a machine for compressing fibrous material, a holder, means for compressing the material in superposed layers in said holder and advancing such compressed material therein whereby a column of the same is produced, of a yielding-resisting support for the lower end of such column and means for severing a sufficient length of said column to form a bale; substantially as and for the purpose set forth.

9. In a machine for compressing fibrous material, the combination with a holder, means for compressing the material endwise in superposed layers in such holder, of means for severing a sufficient length of material to form the bale and preventing endwise expansion of such bale after separation; substantially as and for the purpose set forth.

10. In a machine for compressing fibrous material, including means for compressing the material endwise, in combination with means for separating a sufficient length of compressed material to form a bale and for holding or supporting the material remaining in the press and for preventing endwise expansion of the latter; substantially as and for the purpose set forth.

11. In a machine for compressing fibrous material, including means for compressing the material endwise, in combination with means for separating a sufficient length of compressed material to form a bale and for preventing endwise expansion of the severed bale; substantially as and for the purpose set forth.

12. In a machine for compressing fibrous material, including means for compressing the material endwise, in combination with means for severing a sufficient length of compressed material to form a bale and for preventing endwise expansion of the bale and the material left in the press; substantially as and for the purpose set forth.

13. In a machine for compressing fibrous material; including a holder and means for compressing such material endwise in said holder, in combination with severing-blades carried by such holder, and means for operating them to separate a bale; substantially as and for the purpose set forth.

14. In a machine for compressing fibrous material, including a head with openings therethrough, a holder and means for relatively rotating such head and holder in combination with means for severing a bale from the compressed material, a pivoted arm for each severing mechanism and a stop adapted to be engaged with such pivoted arm when one of these two parts is connected with a rotating part of the machine; substantially as and for the purpose set forth.

15. In a machine for compressing fibrous material, including a head having openings and a holder in which the bale is to be formed and a number of severing-blades for separat-

- ing the bale in combination with a series of movable arms, the number of such arms corresponding with the number of the severing mechanisms and a corresponding number of stops adapted to be engaged with the movable arms when either the arms or the stops are connected with a rotating part of the machine; substantially as and for the purpose set forth.
16. In a machine for compressing fibrous material, including a head with openings and holder in which the bale is formed and a set of severing mechanisms for separating the bale and mechanism for relatively rotating the head and holder in combination with a set of pivoted arms and a set of stops for these arms adapted to engage the same and either the arms or stops being connected with the rotating part of the machine and connected means for joining all of the arms of all of the stops whereby the set may be operated simultaneously; substantially as and for the purpose set forth.
17. In a machine for compressing fibrous material, including a head with openings and a holder in which the material being compressed is formed and a series of severing-blades adapted to separate the bale, and a mechanism for relatively rotating the head and holder, in combination with a series of pivoted arms mounted on the holder and a series of stops corresponding in number to the series of pivoted arms and connected together so as to be simultaneously actuated, and a means for throwing the stops into and out of engagement with the arms whereby the latter are actuated and caused to operate the severing mechanism; substantially as and for the purpose set forth.
18. In a machine for compressing fibrous materials, including a slotted cap-plate and a chamber or holder in which to form a column of compressed material, a mechanism for rotating such chamber or holder, and severing-blades carried by such chamber or holder, in combination with mechanism for operating such blades to sever a length of compressed material sufficient to form a bale after such length has emerged from the chamber or holder; substantially as and for the purpose set forth.
19. In a machine for compressing fibrous materials, a holder, means for compressing the material in said holder, and correspondingly advancing the compressed material therethrough, whereby the material emerges from such holder in a compressed column in combination with means for severing a length of such column to form a bale, and means for engaging the ends of such severed bale to hold the same against endwise expansion; substantially as and for the purpose set forth.
20. In a machine for compressing fibrous material, a holder, means for compressing the material in said holder, and correspondingly advancing the same through such holder whereby the material emerges from the holder in a compressed column, in combination with means for severing a length of such column to form a bale, and means arranged to engage the end of the column from which the bale is formed and hold the same against expansion; substantially as and for the purpose set forth.
21. In a machine for compressing fibrous material, a holder, means for compressing the material in and correspondingly advancing the same through said holder whereby the material emerges from the holder in a compressed column, severing-blades adapted to be projected into the column below the holder to sever a sufficient length thereof to form a bale and to sustain the remaining portion of the column in the holder and prevent expansion thereof endwise; substantially as and for the purpose set forth.
22. In a machine for compressing fibrous material, a holder, means for compressing the material in and correspondingly advancing the same through said holder whereby the material emerges from such holder in a compressed column a resisting support arranged to receive the end of the column as it emerges from the holder and support the same against expansion in combination with blades adapted to be projected into a column at the point to form the top of the bale and immediately connected with the support for the lower end of such bale whereby when the said bale is separated said blades and support will prevent endwise expansion; substantially as and for the purpose set forth.
23. In a machine for compressing fibrous material, a holder, means for compressing the material in and correspondingly advancing the same through and beyond such holder whereby the material emerges from the holder in a compressed column, a resisting support arranged to receive the lower end of the compressed column as it emerges from the holder and adapted to support the same against expansion, in combination with a set of severing mechanisms connected to the holder and adapted to be projected into the column below the holder and another set of severing mechanisms adapted to be projected into the column below the holder, but capable of being detached from said holder with the bale and connected to the bale base or support; substantially as and for the purpose set forth.
24. In a machine for compressing fibrous material, the combination with a holder in which the material is compressed, a mechanism for advancing the compressed material through and beyond such holder of two independent sets of blades adapted to be projected into the column of compressed material and guided by ways in the holder, one set permanently connected with the holder and serving to prevent expansion of the material in such holder after the portion to form the bale has been detached, the other set adapted to clear the guiding-ways after the blades thereof are projected into the column of compressed material and connected to the bale base or sup-

port independently of the holder, whereby such set is adapted to prevent the expansion of the bale endwise; substantially as and for the purpose set forth.

5 25. In a machine for compressing fibrous materials, the combination with a compressing mechanism including a slotted head and holder underneath the same, a mechanism for relatively rotating the head and holder with
10 a bale base or support and a yieldingly-resisting means opposing the movements of such bale base or support away from the compressing mechanism, but free from the bale-support; substantially as and for the purpose
15 set forth.

26. In a machine for compressing fibrous materials, the combination with a compressing mechanism including a slotted head, and a bale base or support, and mechanism for
20 yieldingly opposing the receding action of such bale base or support, but loosely connected to and freely removable from the said base or support; substantially as and for the purpose set forth.

25 27. In a press for compressing cotton, hay

and other material, the combination with the compressing mechanism, of a removable holder, in which the bale is formed, normally carrying a clamping mechanism independent of the compressing mechanism, which serves
30 to grasp the upper end of the bale and prevent endwise expansion thereof after it is compressed; substantially as and for the purpose set forth.

28. In a machine for compressing fibrous
35 materials, the combination with the base plate or support upon which the material being compressed rests, provided with a projection for attachment to a bale-stay, of severing-blades adapted to be projected into a column of com-
40 pressed material, and bearing upon the upper end of the bale that is severed, and bale-stays connecting such severing-blades to the bale base or support; substantially as and for the purpose set forth.

GEORGE A. LOWRY.

Witnesses:

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DYER SMITH.