

No. 645,732.

Patented Mar. 20, 1900.

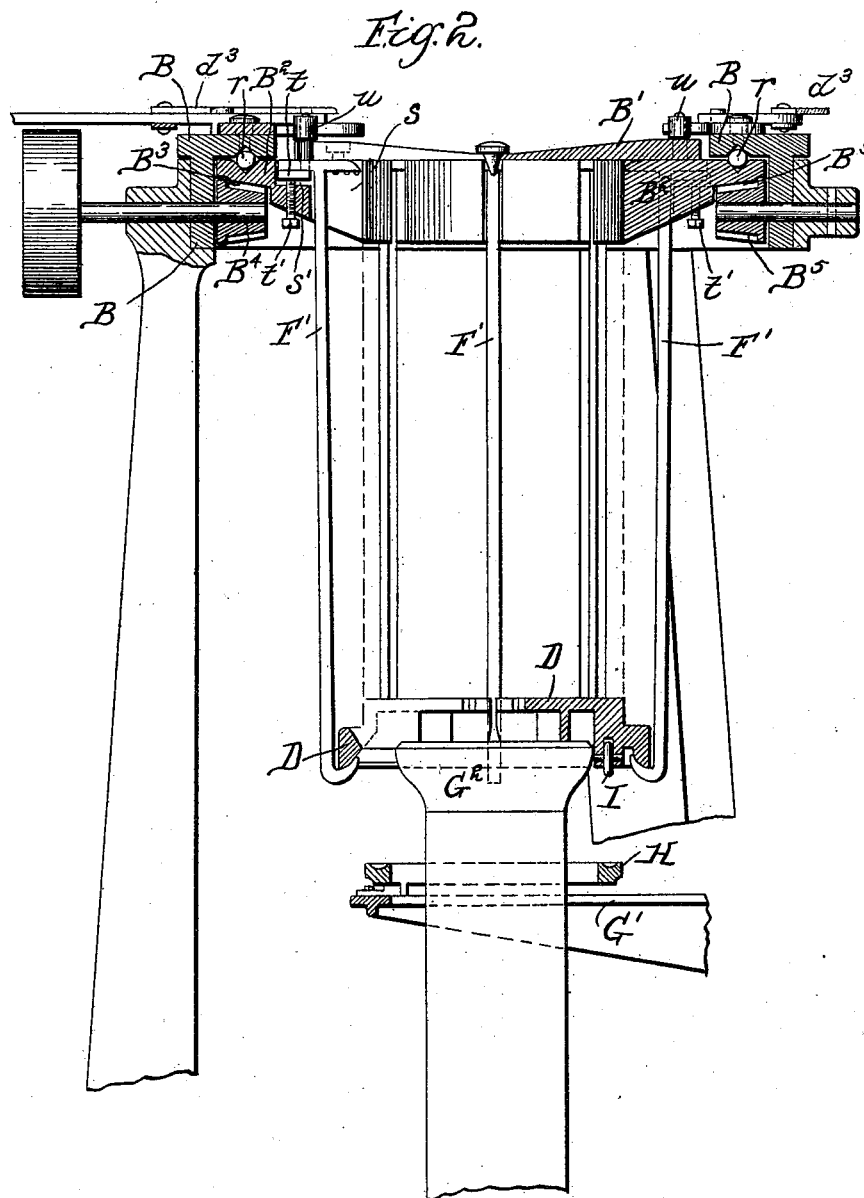
G. A. LOWRY.

APPARATUS FOR COMPRESSING COTTON, HAY, &c.

(Application filed Oct. 10, 1899.)

(No Model.)

6 Sheets—Sheet 2.



Witnesses—

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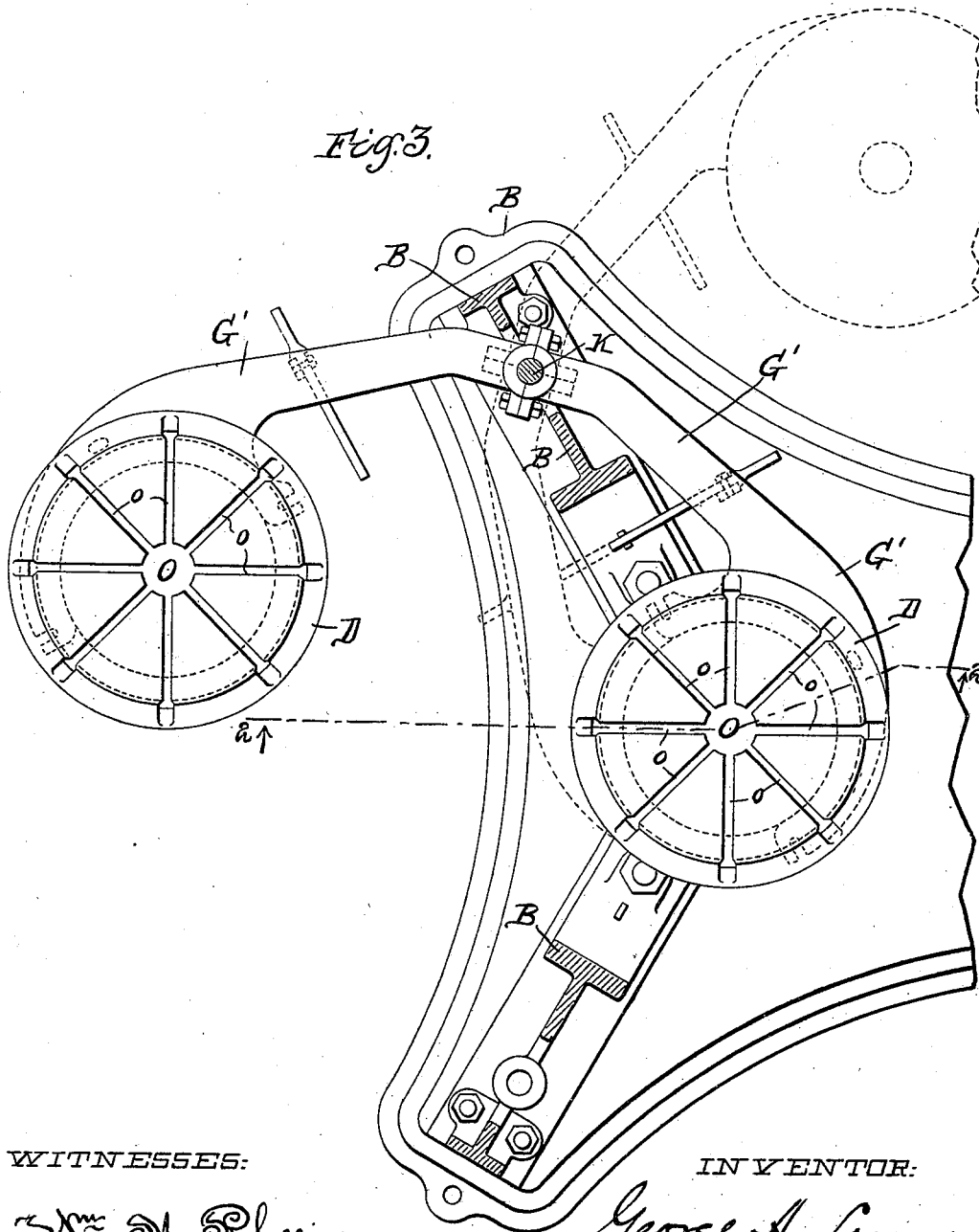
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6 Sheets—Sheet 3.



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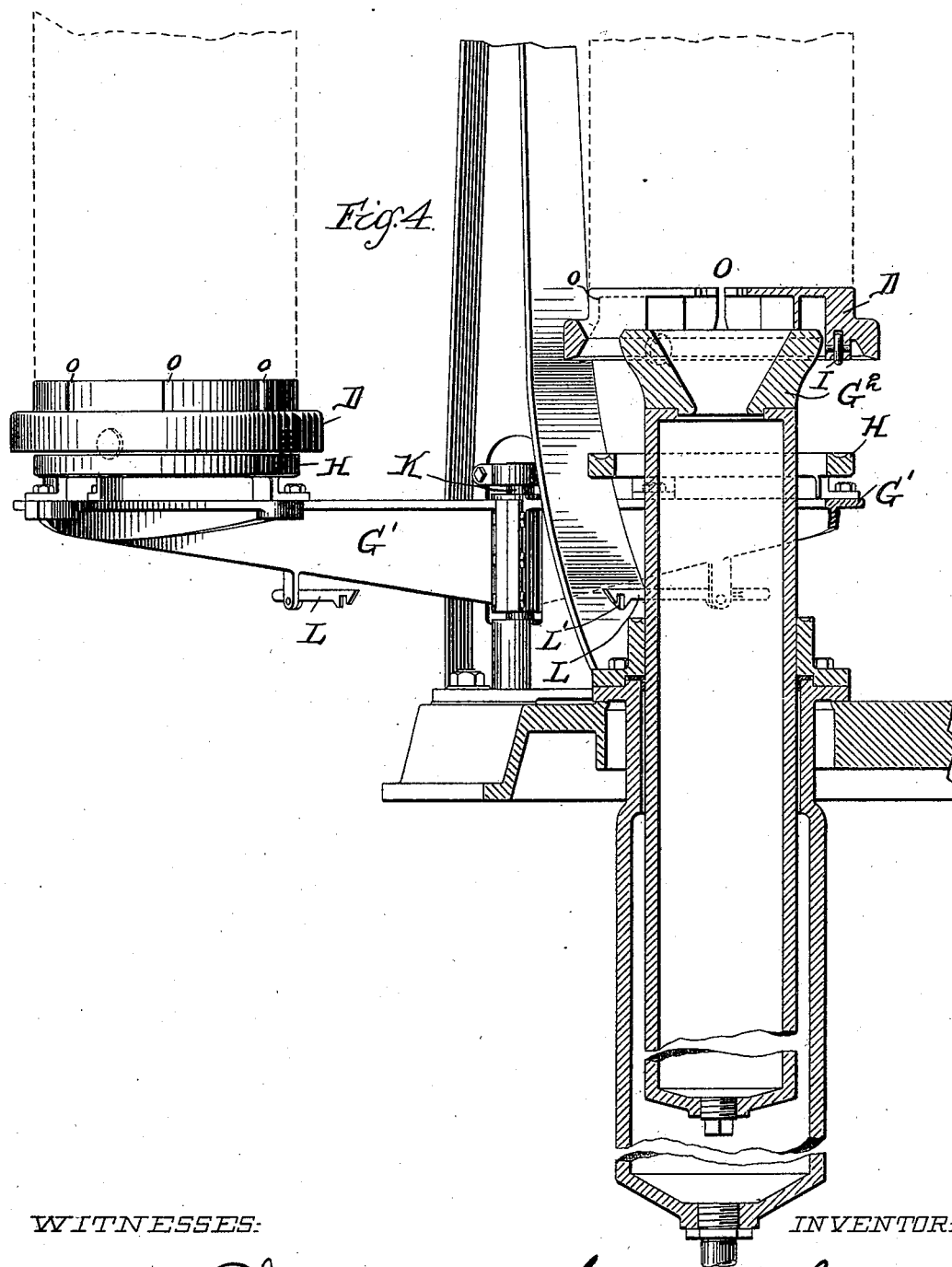
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6 Sheets—Sheet 4.



WITNESSES:

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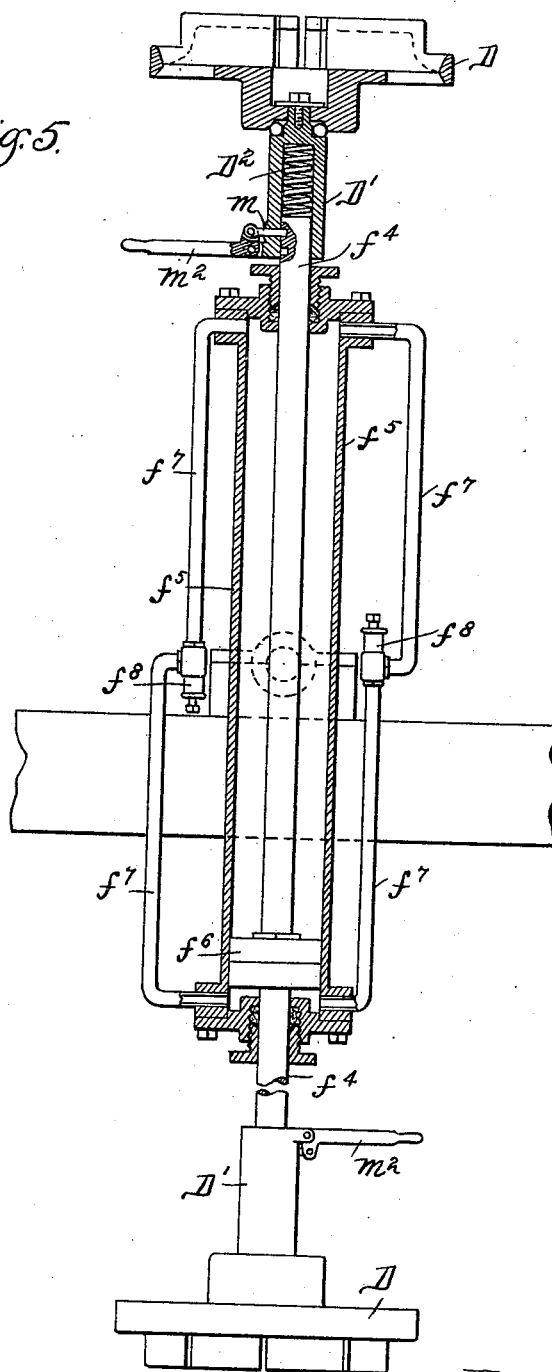
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(No Model.)

6 Sheets—Sheet 5

Fig. 5.



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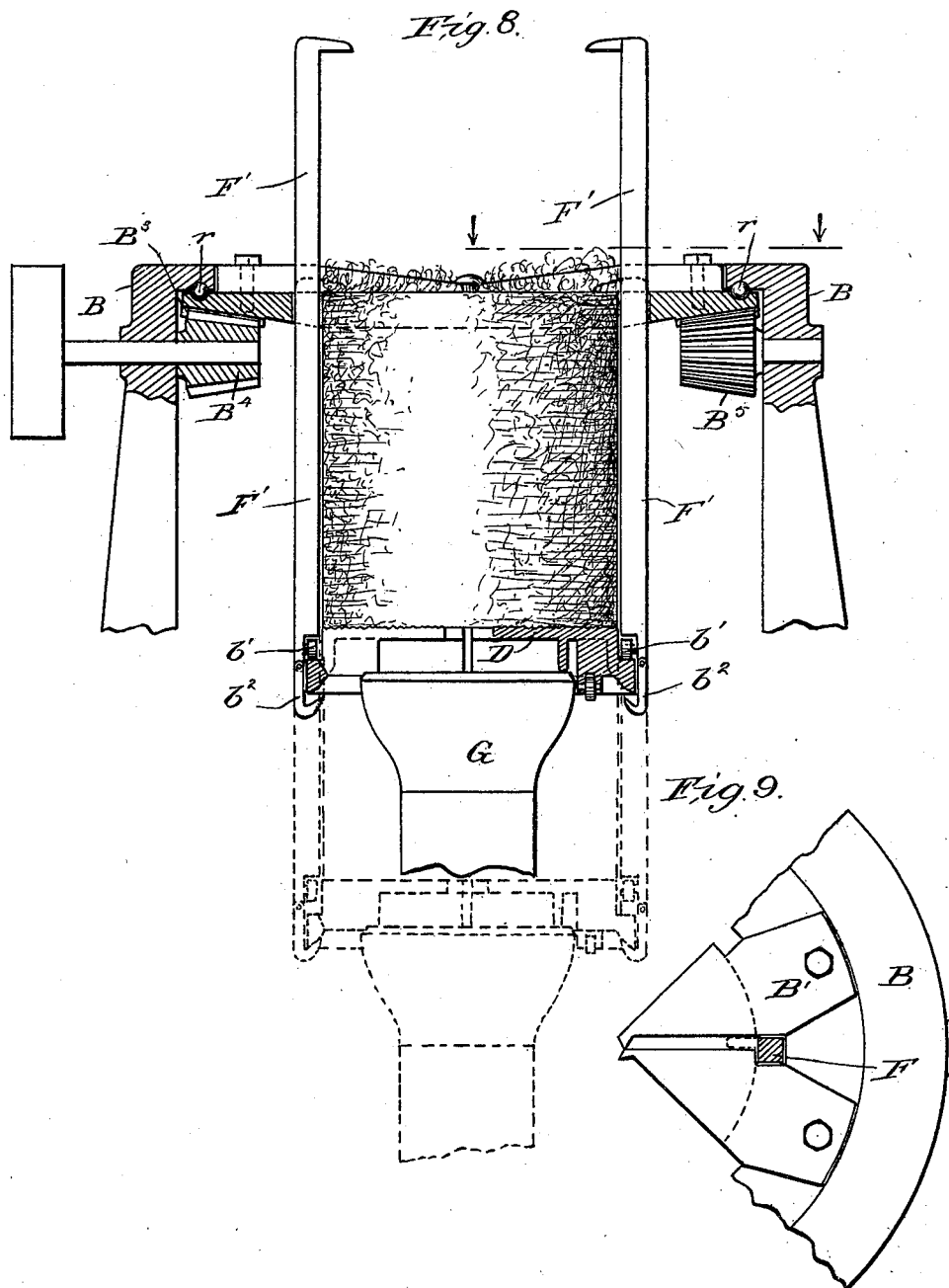
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(No Model.)

6 Sheets—Sheet 6.



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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, HAY, &c.

SPECIFICATION forming part of Letters Patent No. 645,732, dated March 20, 1900.

Application filed October 10, 1899. Serial No. 733,174. (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 a new and useful Apparatus for Compressing Cotton, Hay, or other Fibrous Materials, of which the following is a specification.

This invention relates to an apparatus for compressing cotton, hay, wool, or other fibrous materials, and has for its object the improvement of the mechanism for supporting the bale during the compressing operation, removing the bale after it has been severed, facilitating the wiring of the same, and for severing or separating the bale from the other material.

The invention consists substantially in the construction set forth in the following description, and more particularly pointed out in the succeeding claims.

Like letters of reference designate corresponding parts in the several figures of the drawings, of which—

Figure 1 is a plan view of the apparatus. Fig. 2 is a central vertical section on the line 1 1 of Fig. 1, but not extending throughout the full length of the hydraulic jack. Fig. 3 is a top or plan view of a pair of bale-supports arranged upon and pivoted in a frame, with the main frame of the machine in cross-section. Fig. 4 is a vertical section on the line 2 2 of Fig. 3. Fig. 5 is a central vertical section of a modified construction of a pivoted frame for the bale-support. Fig. 6 is a side elevation of a form of holder for the bale. Fig. 7 is a top or plan view of the same. Fig. 8 is a vertical section of the machine with a modified form of holder or temporary clamp. Fig. 9 is a plan view of a portion of the cap-plate and showing a side stave of the holder or temporary clamp in cross-section.

The mechanism for supporting or separating the bale and for temporarily holding the separated section in its compressed condition until it is given its permanent fastening by means of wires, which is illustrated in Figs. 1, 6, and 7 of this application, is also illustrated in the application filed July 27, 1899, Serial No. 725,279; but in said original application such mechanism was not claimed specifically, but merely illustrated and described

as a species of the genus therein claimed. It is one of the purposes of the present application to cover such mechanism and devices more specifically.

In Figs. 1 and 2 of the drawings there is illustrated a press in which a bale is formed by feeding the material through a slotted cap-plate and into a holder or former, the bottom of which holder or former has a bale base or support. The layers of material which enter through the slots in the cap-plate are squeezed, compressed, or ironed out between the body of the bale in the holder and the under side of the cap-plate, and as the cap-plate is made to rotate these compressed layers are spirally wound one above the other in the holder, and thus add successive increments of compressed material to the bale being formed. After a sufficient length of compressed material has been built up such length is severed from the incoming material and the holder and severed length or bale are removed, a fresh holder inserted, and the operation repeated.

A rotating 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 constructed as a separate piece merely for convenience in manufacturing. This ring B² has on its under edge a circular rack B³, which is engaged and driven by a pinion B⁴, the latter of course being 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 merely for the purpose of assisting in supporting the same. Between the ring of the cap-plate and the main frame B it has been found advantageous to employ antifricition devices, such as the balls *r*. The ring attachment to the cap-plate is provided with a series of vertical openings *s* there-through, so as to admit of the entrance of a corresponding number of severing-blades and stays, the latter being 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 each blade extends outwardly into a recess or offset from the vertical opening *s*, which offset is designated in the drawings by the reference-letter *s'*. The

horizontal shoulder or ledge forming the bottom of the offset is of a width sufficient to support the heel of the blade, and yet narrow enough to permit such heel to clear the shoulder when the blade is projected into compressed material. The proximity of the severing-blade to the under side of the slotted cap or head may be regulated by any suitable means, and a convenient adjusting device for the purpose are the plates or washers *tt*, supported upon set-screws *tt'*. It is evident that by making the severing-blades adjustable in the manner just described the position in which the compressed material will be severed by such blades is correspondingly varied, so that a small amount of material may be left in the press after the bale has been removed, or, if desired, a larger quantity may remain by adjusting the severing-blades to a lower point. These severing-blades are each provided with a pin *u*, which projects from the upper surface thereof and above the slot or opening through the ring in the cap-plate, which pins are adapted for engagement by a mechanism for projecting the blades in a manner herein-after to be described. The severing-blades are connected intermediately with a bale base or support *D* by any suitable construction; but it is found convenient to connect them with such bale-base by means of an integral slat provided with a hooked lower end for engaging the bale-base. However, it will of course be understood that the intermediate means for connecting the bale base or support with the severing-blades is not necessarily integral with such blades, but may be in the form of a detachable slat. By forming the stays and severing-blades integrally economy of construction is subserved. In any event it is necessary that the portion of compressed material which is to constitute the bale shall be grasped at each end by a temporary securing device, so as to prevent expansion while such bale is being wired. The holder for the bale should therefore carry severing-blades or equivalent devices to grasp the upper end of the severed bale and hooked ends to grasp the lower end of such bale either directly or through the intervention of a bale base or support, such as *D*. In the particular construction illustrated, but to which the invention is not necessarily limited, the holder comprises the bale-base and the bale-stays having hooks at their lower ends and severing-blades at their upper ends. By using this construction the holder and bale may be removed, the wiring accomplished, the bale being held meanwhile against expansion by means of the severing-blades and the bale-base, and then the severing-blades and stays may be detached or "knocked down," as it is termed, thus dispensing with the necessity of having an equivalent but more complicated arrangement of a separate top ring or head for the holder and a hinged section through which to remove the bale, because in this instance the stays perform the office of a holder and yet may be themselves readily detached.

In this way the blades are also conveniently 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 employed may be likewise varied. In fiber having a short staple and much elasticity the stays should be comparatively wide and a number of them should be used, so as not to leave much space between them; but in ordinary cotton about eight stays are found to be enough to constitute a proper holder. In a long-staple inelastic material, like dry hay, possibly four would be sufficient.

It will be observed that the bale base or support is loose and free to move vertically both with relation to the stays and with relation to the cap or head and also with relation to the hydraulic jack arranged thereunder, so that such base or support is adapted to be projected upward by the plunger of the hydraulic jack to a point in proximity to the under side of the cap-plate, where it will form a resisting means or counter-abutment, against which the fibrous material must be advanced during the compressing operation, and, on the other hand, when the bale base or support has been depressed by the advancing column of compressed material until its flanged or hooked edge engages the hooked ends of the stays the downward movement of such bale-base will be temporarily arrested, because the heels of the blades are still in engagement with the shoulders of the offsets; but as by this time there has been a sufficient length of compressed material formed to constitute a bale and the severing-blades are projected in an inward direction, so as to enter the column of compressed material and separate the same from the material being fed into the machine, the heels of the blades will at such time clear the shoulders of the offsets in the ring, and thus permit a further downward movement of the holder, including the bale-base, until the holder and bale entirely clear the cap-plate and ring and are in position to be removed out of the way for wiring and so that another holder may be inserted and the compressing operation continued. Of course the plunger of the hydraulic jack must be lowered a sufficient distance to permit the holder to be depressed, as just stated. The holder comprising, as above stated, the bale-base and the stays having the hooked ends will retain the severed bale in its grasp and prevent endwise expansion in both directions, as shown in Figs. 6 and 7 of the drawings.

To avoid all liability of the bale-stays slipping off the bale before it is completely wired, a bale-clasp *B* may be employed to encircle such stays.

The mechanism for projecting the severing-blades into the compressed material may of course be varied by persons skilled in the art, but the form illustrated has been in practice found effective.

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. 1 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.

Although it is preferable, as above described, that the upper ends of the stays or the upper part of the holder shall carry severing-blades which will act to positively cut off the bale in the manner stated, yet it is evident that independently of their severing function these blades have the effect of grasping the upper end of the bale, so as to prevent endwise expansion, and, if desired, the severing function may not be carried out and the grasping function alone utilized. It will be readily seen that this mode of operation, by means of which the support-section or bale is grasped, so as to prevent expansion, may

be effected by modified construction, which may assume a variety of forms. In Figs. 8 and 9 of the drawings one form of such modified construction is illustrated. Referring to these figures of the drawings, it will be noticed that the sides of the holder in which the bale is formed consist, as in the other forms thus far described, of the bale-stays or clamping-arms F' , and the lower ends of such clamping-arms or bale-stays are provided with pivoted hooked ends b^2 and just above the pivot of such hooks with rollers b' , which are adapted to ride upon ways formed on the bale-support D , so that such clamping-arms may revolve around the bale base or support without rotating it. The upper ends of the clamping-arms or bale-stays pass through apertures formed in the cap-plate, and in the beginning of the operation of compression practically the full length of the clamping-arms project above the cap-plate. As the compression or formation of the bale continues the clamping-arms or bale-stays are forced downward until finally they reach the position indicated in dotted lines in Fig. 8 of the drawings, at which time the upper hooked ends of such bale-stays or clamping-arms, passing through slots in the cap-plate, as shown in Fig. 9, bear directly upon the upper end of the bale, as also indicated in dotted lines in Fig. 8, and at such time the bale is confined between the hooked upper ends of the clamping-arms and the bale-base, supported by the hooked lower ends of such clamping-arms, so that it is prevented from expanding in either direction. The hydraulic jack is then lowered, and the bale, together with its holder, composed of the bale-base or bale-stays or clamping-arms, is lowered until the upper ends of such clamping-arms are clear of the under side of the cap-plate, when the bale and its holder may be removed and another holder substituted, so that the compressing operation may be continued. In this construction no separating mechanism is employed, and the bale is separated from the incoming material by action of gravity when it is lowered. The cap-plate in this construction is adapted to be rotated as in the primary construction described, and similar gearing is shown for the purpose.

After the bale has been compressed and separated it should be wired or otherwise secured, so as to retain such compression and be in condition for transportation or storage. If the bale is wired while in line with the compressing apparatus, it necessitates a stoppage in the operation of such apparatus and the consequent waste of time, and in order to avoid this waste of time it has been found preferable to remove the bale or shift it out of line with the compressing apparatus.

Of course many different appliances may be utilized in removing the bale, and this idea is not broadly new; but a preferred form of apparatus is one in which the table or carrier for the bale is pivotally supported, so as to be capable of being swung out of line and

having another bale base or support swung into line with the compressing apparatus.

Figs. 3 and 4 of the drawings show a preferred form of turn-table or carrier applied to a compressing apparatus, and the construction therein illustrated will now be described. The frame of the mechanism is, as has been heretofore suggested, designated by the reference-letter B and may be of suitable metal or other material of convenient arrangement and shape to adapt it for the purpose. In the drawings the frame is illustrated as comprising a base-plate on a number of upright legs. Pivoted by a vertical pivot to some part of this frame is an arm G', which may be curved, as illustrated, and provided with two or more members for supporting or carrying the bale-bases or the bales themselves. The bale base or support proper is in the drawings designated by the reference-letter D and is constructed to rest loosely upon the pivoted arm just referred to, so that it may be lifted upward as far as is necessary above such arm by the plunger G² of the hydraulic jack or may be supported on such arm when the plunger of the hydraulic jack is lowered below the arm. In Fig. 4 of the drawings one bale-base is shown as raised above the arm by the plunger of the hydraulic jack and in line with the compressing apparatus, while the other bale-base is shown as out of line with the compressing apparatus and resting on the end of the carrier or arm with the bale supported upon it, as indicated in dotted lines, so as to adapt such bale to be more conveniently wired. In order to shift the bale-base and bale thereon from the position shown at the right in Fig. 4 to that shown at the left in Fig. 4, it is merely necessary to lower the plunger of the hydraulic jack below the arm or carrier, when the bale-base will rest upon the arm, and such arm may be swung, carrying with it the bale-base and bale, until the position indicated at the left is reached, by which time the other end of the arm or carrier will have been swung into line beneath the compressing mechanism and be ready to have its bale-base forced upward by the plunger of the hydraulic jack, so as to allow the compressing operation to be continued.

Of course it is not essential to the invention that another support shall be placed in line with the compressing mechanism while the bale is being wired, for, if desired, the first-mentioned bale support, with the bale, may be removed without replacing it by another bale-support, and in such case there will of course only be one arm secured to revolve on the vertical pivot before mentioned; but in practice and for the sake of economy in operation and loss of time it is preferred to use a plurality of bale supports or bases and a corresponding number of branches to the arm which swings on the vertical pivot, so that a fresh bale-support will always be ready to be carried into line with the compressing mechanism. The vertical pivot upon which

the arm turns is designated in the drawings by the letter K. There may be also provided a latch L, which should be pivoted to the arm or carrier and engage a stop L', formed on the frame, so that the carrier will be locked in the position to which it is turned, with one branch in line with the compressing mechanism. As an illustration of another construction by means of which the bale-support and bale may be swung out of line with the compressing mechanism and an empty bale-support swung into line therewith attention is directed to Fig. 5 of the drawings. In this construction the bale-support is carried upon one end of the rod of the hydraulic jack, and in case two bale-supports are desired the second one is placed upon the other end of such rod. The cylinder of the jack is pivoted upon a horizontal pivot, as indicated in dotted lines in the drawings, so that the carrier when moved will describe an arc in a vertical rather than a horizontal plane. With this construction it has been found convenient to mount the bale-support upon the reduced end of a sleeve, which in turn is mounted upon the end of the piston of the hydraulic jack and in such a manner as to be capable of turning thereon. Antifriction balls or rollers may be used between the bale-support and the sleeve, if desired. The sleeve may also inclose a spring D², the lower end of which rests upon the upper end of the hydraulic jack. The latch *m* is adapted to notches formed on the side of the rod and is capable of being operated by a lever *m*². The plunger *f*⁶ plays back and forth in the cylinder *f*³, and the fluid is admitted to and exhausted from such cylinder through the pipes *f*⁷, midway of which are check-valves *f*⁸, it being understood, of course, that the valves are reversed in position on opposite sides of the cylinder. The plunger or piston-rod *f*⁴ extends through suitable stuffing-boxes in the cylinder for a short distance beyond each end of the cylinder, so as to provide a support for the sleeves D'. Water is admitted and manipulated in the customary way, which need not be here described, because it is well known to all skilled in the art.

When the bale has been formed, the support carrying the same may be lowered by withdrawing the latch *m*, and thus allowing the sleeve to overcome the tension of the spring and slide down on the rod, where it may be secured at any desired point by operating the lever *m*² and throwing its pawl or latch *m* into another notch. This turn-table mechanism is then capable of being swung on its horizontal pivot and the bale thereby taken out of line with the compressing mechanism and the duplicate support at the other end carried upward and into line with such mechanism.

Another feature of the invention relates to the construction and arrangement of the bale base or support, and this feature will now be described. It has heretofore been specified

that the bale base or support D is loose or free with relation to the plunger of the hydraulic jack, so as to permit it to be not only projected upward by such plunger, but supported on the arm or carrier when the plunger has been lowered below such arm or carrier. This is an important provision for the purpose of facilitating the removal of the bale. Another feature of construction in this bale-support which has been found advantageous in practice is the slotting or grooving of such support from the center in radiating lines toward the periphery, as illustrated in the drawings; but inasmuch as this is claimed in the application above referred to, it will not be claimed in this application, but merely described for the purposes of clearness. This feature of construction is well shown in Figs. 2, 3, 4, and 5 of the drawings. Inasmuch as the bale formed on this press has a vertical opening at its center it has been found advantageous to take advantage of this opening and pass the wires through the same and then under the bottom of the bale and up the outer side of the same. Preferably this arrangement is as shown in the drawings, in which the support is made of crown shape and has a central opening O and radiating slots or grooves o; but of course the depth and arrangement of these slots may vary and the contour of the support vary without departing from the spirit of this invention, provided the support is provided with slots or grooves extending from the center to the periphery, so as to permit the wires to be passed from the center of the bale under the same and up the sides, or vice versa, as before specified.

Another feature of the invention designed to facilitate the wiring is the construction adapting the bale base or support to be rotated about its own vertical axis, so that such bale may be turned or manipulated by the operator while he is wiring the same, instead of such operator being required to walk around the bale to effect the complete wiring. The construction for this purpose may vary to a considerable extent, and in the drawings two illustrations are given of this principle, the one illustration representing the bale-support as free or loose from the ram and provided with rollers I, adapting it to revolve on a circular track H, secured to the arm or carrier G', and the other construction representing the bale base or support as having an opening through a bottom flange adapted to the reduced extension of the sleeve D' and resting upon antifriction-rollers confined between the flange and upper portion of such sleeve, as shown in Fig. 5 of the drawings. In each case the bale base or support is adapted to revolve about its own vertical axis to facilitate turning of the bale for wiring. A preferred form, however, is that shown in Figs. 2, 3, and 4 of the drawings, in which the circular track H is provided upon the end of the arm G', adapted to the rollers I, pivoted to the under side of the bale base or support.

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 the compressing mechanism, of a removable holder, in which the bale is formed, composed of a base and side stays having their lower ends normally adapted to be hooked upon such base, and intumed upper ends adapted to engage the upper end of the bale, whereby such bale is prevented from endwise expansion while awaiting the wiring operation, and the parts of the holder may be separated so as to permit the removal of the bale after the wiring operation; substantially as and for the purpose set forth.

2. In a press for compressing cotton, hay and other materials, the combination with the compressing mechanism, of a single set of severing-blades, serving also to grasp and prevent endwise expansion at the upper end of the compressed bale, and connected with means for grasping the lower end of such bale and preventing expansion thereof; substantially as and for the purpose set forth.

3. In a machine for compressing cotton, hay and other materials, the combination with a rotatable head having guide-slots, and mechanism for rotating such head, of a holder carrying clamping mechanism for a bale, which is adapted to move through the slots for effecting such clamping action, and below the slots to enable the holder to be removed with the bale; substantially as and for the purpose set forth.

4. In a press for compressing cotton, hay or other material, the combination with a rotatable head provided with guide-slots, a holder having a bale base or support, and side walls detachably secured to such bale-base and adapted to move through the guide-slots to clamp the bale, or below the same to permit the holder to be removed from the material; substantially as and for the purpose set forth.

5. In a machine for compressing cotton, hay and other material, the combination with a rotatable head provided with guide-slots, of a holder having clamping means adapted to move in such guide-slots to clamp the bale, and below the same to permit the removal of the bale, and a plunger offering a resistance during the formation of the bale and capable of being retracted when the bale is completed, so as to admit of its separation from the incoming material and removal from the press; substantially as and for the purpose set forth.

6. In a machine for compressing cotton, hay and other material, the combination with a rotatable head provided with guide-slots, of a holder comprising a bale base or support and stays loosely connected to such bale-base, and having intumed upper ends, and adapted to move into the guide-slots or below the same; whereby the holder is adapted to form a chamber in which the bale may be formed, and with its stays to prevent endwise expansion

of the bale in either direction after it is separated from the incoming material; substantially as and for the purpose set forth.

7. In a machine for compressing cotton, hay or other material, the combination with a rotatable head, of a holder carrying a set of clamping-knives adapted to sever the bale and then clamp it at the upper end of such bale, and a bale-base at the lower end of such holder adapted to freely move within the holder, but to be limited in its downward movement, whereby it will serve to prevent the lower end of the bale from expansion after such bale has acquired its proper length; substantially as and for the purpose set forth.

8. In a machine for compressing cotton, hay and other material, the combination with a rotatable head, of a holder carrying at its upper end mechanism adapted to sever and clamp the corresponding end of the bale, and at its lower end a freely-movable bale-base upon which the bale may rest, and be prevented from expansion at its lower end, when the desired length of bale has been produced, and a resisting-plunger adapted to oppose the downward movement of the bale-base until such base has reached its limit in the holder, and then to be retracted below the holder so that such holder may be removed with the bale; substantially as and for the purpose set forth.

9. In a press for compressing cotton, hay and other materials, the combination with a slotted head and mechanism for revolving the same, of a ring secured to such head and provided with vertical openings through its walls, and offsets or ledges formed in such walls, and severing-blades having heels adapted to be supported on the offsets of the walls, and mechanism for projecting such severing-blades inward through the vertical slots in the ring, and so as to cause the ends of such blades to sever the compressed material and the heels thereof to clear the offsets; substantially as and for the purpose set forth.

10. In a press for compressing cotton, hay or other material, the combination with a slotted head-plate and mechanism for revolving the same, of a ring provided with vertical apertures through the walls of the same, and horizontal offsets from such walls, and severing-blades normally resting within the apertures with the heels thereof over the ledges of the offsets, and means for adjusting the height of such severing-blades; substantially as and for the purpose set forth.

11. In a press for compressing cotton, hay or other material, the combination with a slotted head and mechanism for revolving the same, of a ring provided with vertical apertures in its walls and horizontal offsets, and severing-blades having the heels thereof projecting over the ledges of such offsets, and means for simultaneously adjusting vertically the severing-blades, comprising a circular plate and adjusting-screws; substantially as and for the purpose set forth.

12. In a press for compressing cotton, hay or other material, the combination with a slotted head and mechanism for revolving the same, of a ring provided with vertical apertures through its walls, and severing-blades adapted to be supported within such apertures, and provided with projections, and mechanism for engaging such projections and projecting the severing-blades into the compressed material; substantially as and for the purpose set forth.

13. In a press for compressing cotton, hay or other material, the combination with a slotted head and mechanism for revolving said head, of a ring provided with vertical apertures, severing-blades adapted to normally lie within such apertures, and provided with upwardly-projecting pins, of a series of pivoted arms adapted to engage the projecting pins, and links connecting such arms, whereby they will all be operated simultaneously; substantially as and for the purpose set forth.

14. In a press for compressing cotton, hay or other material, the combination with a slotted head, and mechanism for rotating the same, of a ring provided with supports and guides for severing mechanism, a bale base or support, severing mechanism supported and guided by the ring, and slats connected to the bale-base and extending to and connected with the top ring and severing mechanism; substantially as and for the purpose set forth.

15. In a machine for compressing fibrous materials, the combination with a compressing mechanism, of a bale base or support adapted to revolve or rotate about its own vertical axis, a carrier or support for such bale-base arranged to support the same below the compressing mechanism, whereby the bale may be readily revolved upon the bale-base in such a manner as to facilitate the wiring thereof; substantially as and for the purpose set forth.

16. In a machine for compressing fibrous materials, the combination with a compressing mechanism, of a movable carrier adapted to remove the bale from the compressing mechanism, and a bale-base mounted to revolve about its own vertical axis upon such carrier; substantially as and for the purpose set forth.

17. In a machine for compressing fibrous materials, the combination with the compressing mechanism, of a holder in which the bale is formed, having a bale-base, and a movable carrier for supporting such bale-base and bale, and provided with means adapted to permit the bale-base to revolve about its own vertical axis upon such carrier, whereby the wiring of the bale is facilitated.

18. In a machine for compressing fibrous materials, the combination with a compressing mechanism, of a turn-table provided with a circular track, and a bale base or support carrying antifriction-rollers and adapted to revolve about its own vertical axis on said

track, to facilitate wiring the bale; substantially as and for the purpose set forth.

19. In a machine for compressing fibrous materials, the combination with the compressing mechanism, of a turn-table or carrier provided with a plurality of circular tracks, and a plurality of bale bases or supports adapted to revolve on such tracks about their own vertical axes; substantially as and
10 for the purpose set forth.

20. In a machine for compressing fibrous materials, the combination with the com-

pressing mechanism of a bale base or support provided with a central aperture and a number of slots radiating therefrom, substantially as and for the purpose set forth. 15

In witness whereof I have hereunto set my hand, this 27th day of September, 1899, in the presence of the subscribing witnesses.

GEORGE A. LOWRY.

Witnesses:

WM. M. RHEEM,

DANIEL W. HOWLAND.