No. 644,545. Patented Feb. 27, 1900.

E. BYARS.

BALING PRESS.

(Application filed June 3, 1899.)

(No Model.) 5 Sheets—Sheet 1.

Fig 1

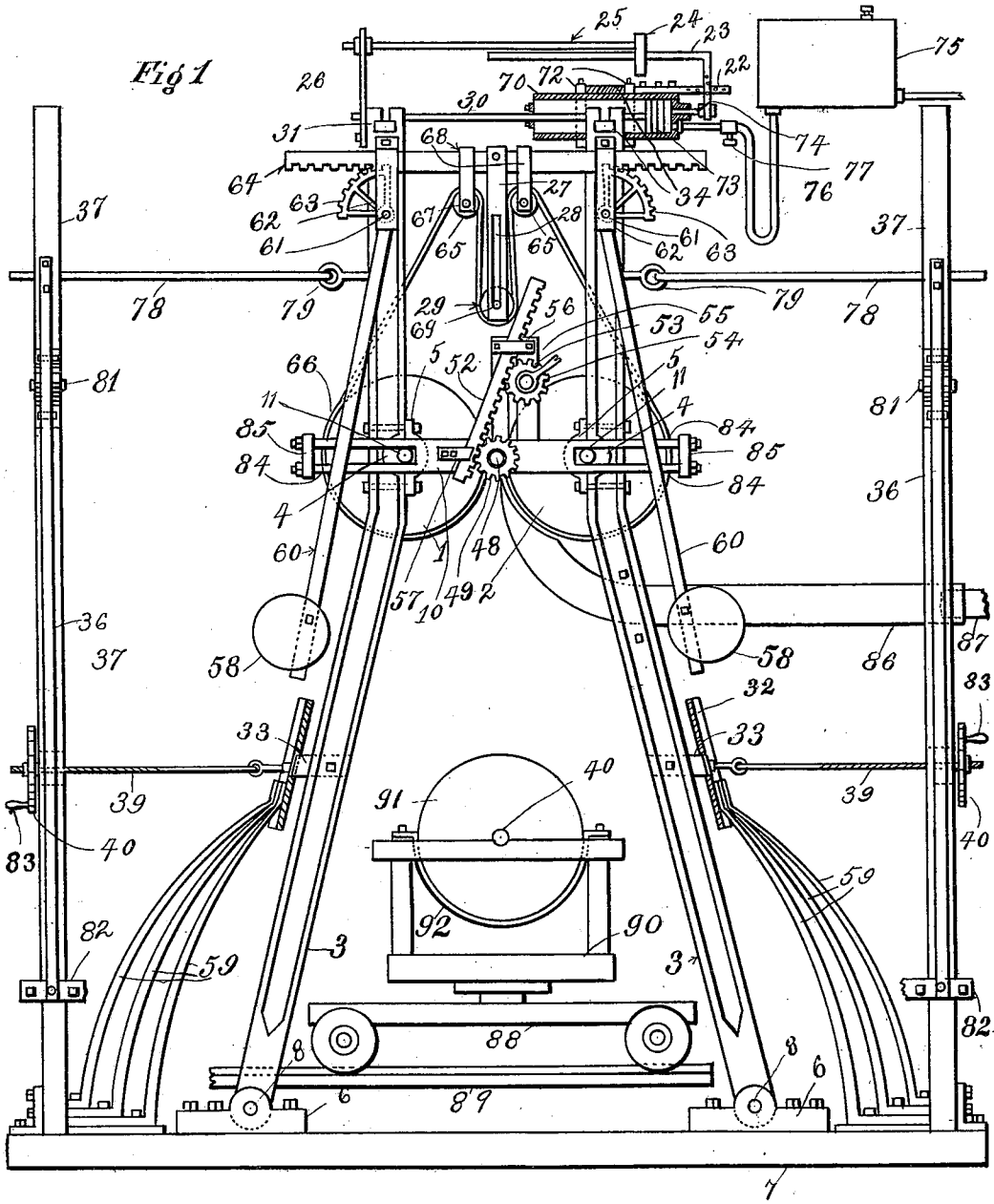

Fig 2

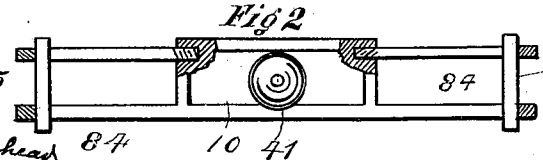

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Fig 3

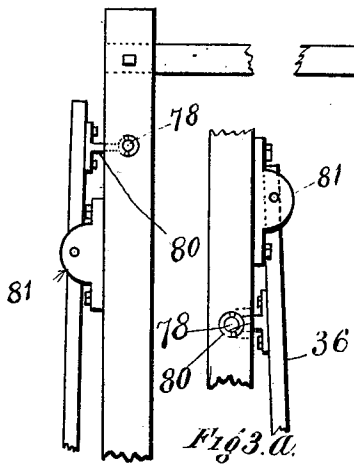
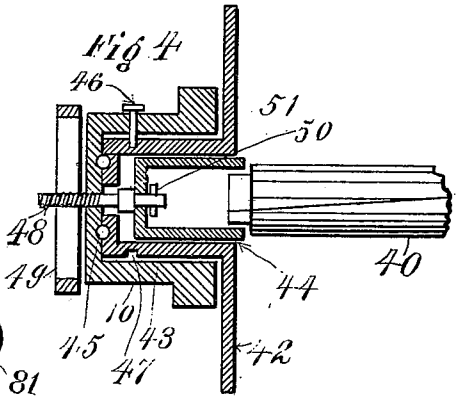
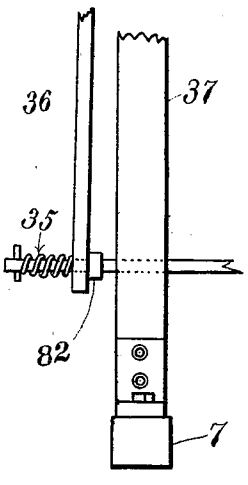


Fig 3.a.

Fig 4





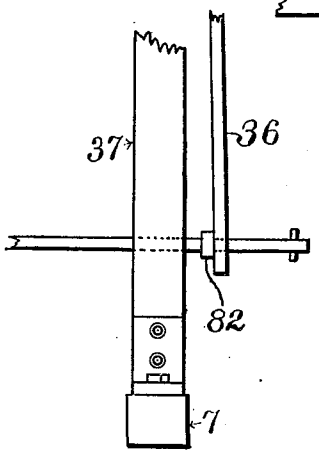


Fig 7

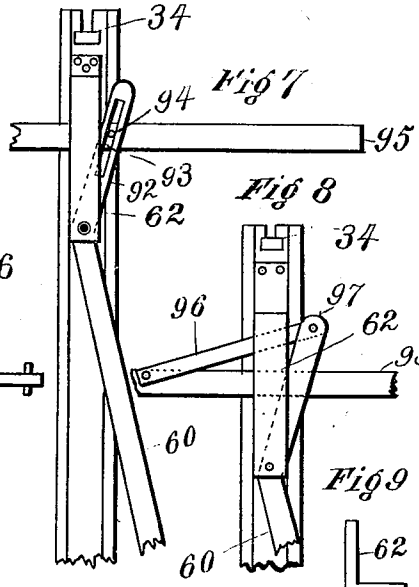


Fig 8

Fig 9

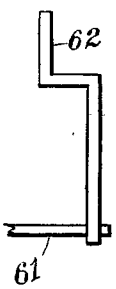


Fig 5

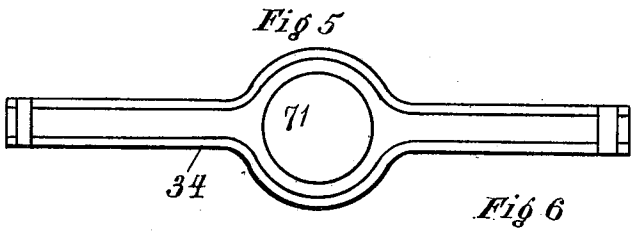
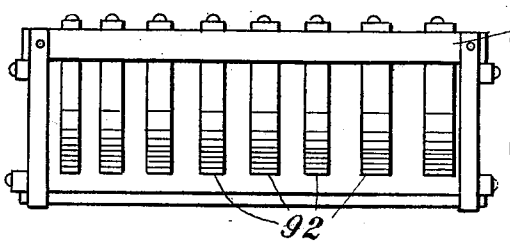


Fig 6



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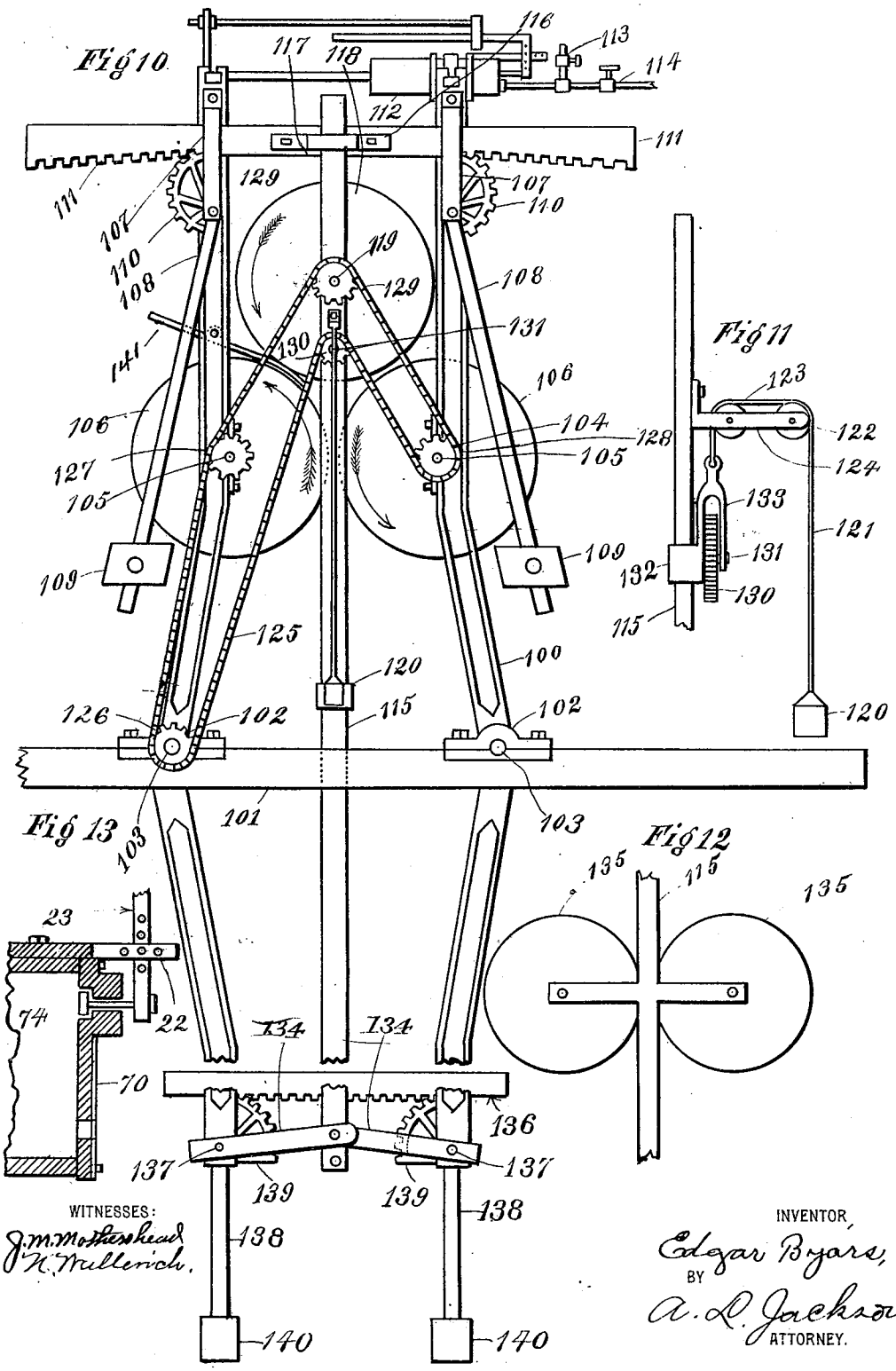

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No. 644,545. Patented Feb. 27, 1900.

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(Application filed June 3, 1899.)

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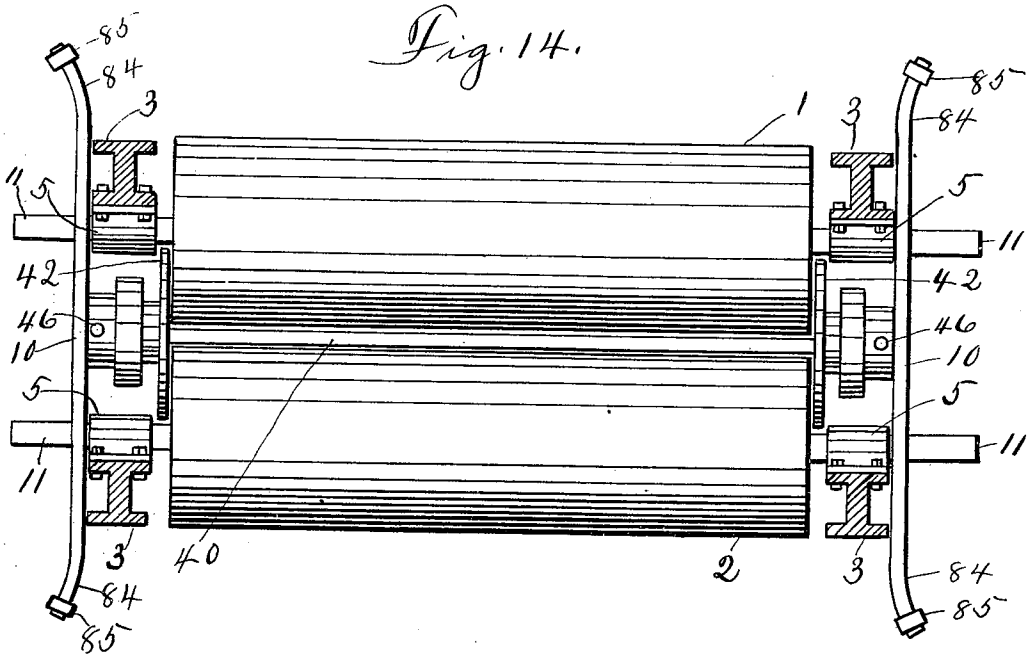
Fig. 14.



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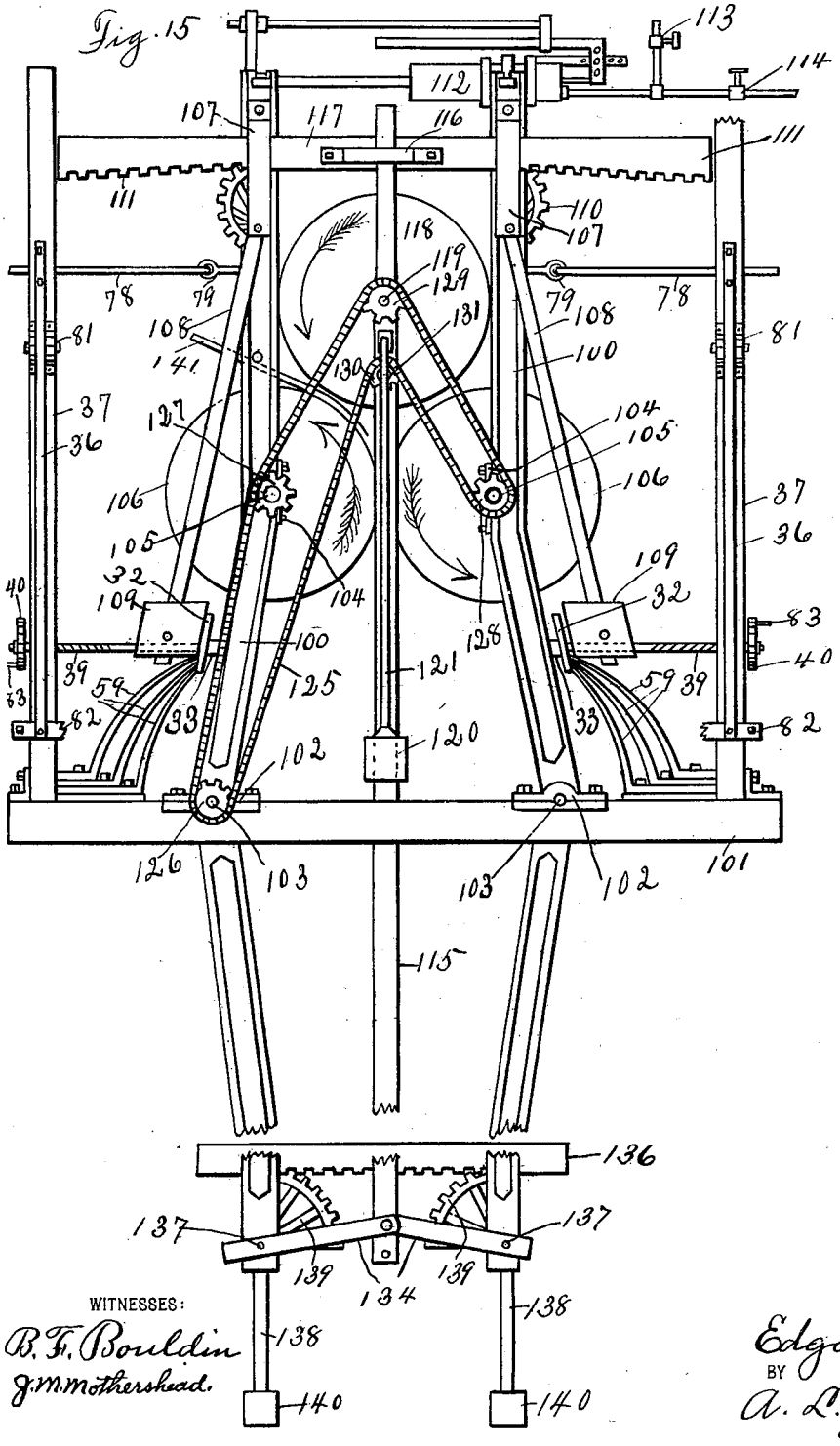
BALING PRESS.

(Application filed June 3, 1899.)

(No Model.) 5 Sheets—Sheet 5.

Fig. 15



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UNITED STATES PATENT OFFICE.

EDGAR BYARS, OF RHOME, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 644,545, dated February 27, 1900.

Application filed June 3, 1899. Serial No. 719,319. (No model.)

To all whom it may concern:

Be it known that I, EDGAR BYARS, a citizen of the United States, residing at Rhome, Texas, have invented certain new and useful Improvements in Baling-Presses, of which the following is a specification.

This invention relates to a press for making cylindrical bales; and one object is to construct a press in which bales are made by pressing the sheet or bat of cotton or other material as it comes from a gin or a condenser on a core and by continually rotating the core between compression-rollers until the bale is completed, great and increasing power being applied to the bale during the formation thereof by applying power to the compression-rollers as they recede from the increasing bale.

Other objects and advantages will be fully explained in the following description and more particularly pointed out in the claims.

Reference is had to the accompanying drawings, which form a part of this application.

Figure 1 is an end elevation of a press, the pneumatic cylinder being shown in section. Fig. 2 is a detail view of a core-hanger. Fig. 3 is a broken front view of the friction devices. Fig. 3ª is a broken view showing a slight variation of Fig. 3. Fig. 4 is a sectional view of the core-hanger and means for operating the core and means for forming smooth ends to the bale. Fig. 5 is a detail view of the support for the pneumatic cylinder. Fig. 6 is a detail view of a truck for moving out a completed bale for covering the same. Fig. 7 is a broken view illustrating a variation in the devices for applying pressure to the bale. Fig. 8 is a similar view illustrating another variation of the same devices. Fig. 9 is a detail view of one of the hangers for the pressure appliances. Fig. 10 illustrates a variation in the construction of the press-frame, the view being an end view. Fig. 11 is a detail view illustrating the manner of attaching weights to the yielding compression-roller of the press shown in Fig. 10. Fig. 12 illustrates how two compression-rollers may be mounted on the vertically-movable beams. Fig. 13 is a broken sectional view of the cylinder. Fig. 14 is a horizontal section of the press-frame along a line just above the compression-rollers, also showing the rollers and the core in place. Fig. 15 is an end elevation of the press shown in Fig. 10 with the springs and friction devices shown in Fig. 1 attached thereto.

Similar characters of reference are used to indicate the same parts throughout the several views.

The bale is formed on a core 40, between two compression-rollers 1 and 2, and these rollers are mounted in a frame composed of sills 7 and four I-beams 3, pivotally attached to the sills. Bearings 6 are bolted to the sills 7, and the I-beams are attached in the bearings by means of pivot-bolts 8. The shafts 11 of rollers 1 and 2 are journaled in bearings composed of the parts 4, formed integral with the I-beams, and parts 5, bolted to the I-beams. Rollers 1 and 2 may be driven by any suitable motive power by attaching drive-wheels to shafts 11. The core 40 is supported in hangers 10, as shown in Figs. 1 and 4. The hangers have bearings 41 for the core. Disks 42, having sleeves 43, are provided with openings square in cross-section for boxes 44, slidable in said openings. The disks aid in forming smooth ends on the bales. Ball-bearings 45 prevent friction between the ends of the sleeves on the disks and the core-hangers. The sleeves 43 are held in the hangers by means of keys 46, which operate in grooves 47 in the sleeves. The boxes 44 are moved in and out of the disks by means of screw-shafts 48, which are operated by cog-wheels 49. These shafts are connected to the boxes by keys 50, the shafts running in the ends of the boxes and the boxes resting against shoulders 51 on the shafts. It will be observed that this connection amounts, in effect, to swivels. The cog-wheels 49 are operated for releasing the core or engaging the core by racks 52 and cog-wheels 53. Cogs 53 are mounted on shafts 54, which are journaled in uprights 55, and racks 52 are held in mesh with the cog-wheels by brackets 56 and 57, attached, respectively, to uprights 55 and core-hangers 10. During the formation of the bale the compression-rollers 1 and 2 must recede from the bale and greater pressure must be applied to the bale as the rollers recede. The shafts of these rollers are journaled in bearings which are attached to the I-beams. The rollers can recede from the growing bale only as the I-beams yield. This

receding motion is retarded by means of springs and weights. Weights 58 and springs 59 are provided for this purpose. There are four of these weights mounted on arms 60. The two arms on the same side of the press are mounted on a shaft 61, which is journaled in the I-beams and the hangers 62. Segments 63 of cogs are formed on the top of the arms 60. These segments are engaged by a pair of racks 64 as the I-beams are forced outward by the shafts of the rollers 1 and 2, and the segments engage the racks when the press is being set to commence a new bale. The receding motion of the rollers is also retarded by the springs 59. There may be four sets of these springs, all bolted to the sill 7 in the manner illustrated. A pair of braces 33 is attached to the I-beams, and bearings 32 for the springs 59 are mounted on these braces. Grooves are cut in the bearings for the springs. Weights 58 and springs 59 constitute the principal means for retarding the receding motion of the compression-rollers during the formation of a bale. Other means are provided for the purpose of aiding the means already described. A belt or apron 66, as wide as the rollers are long, is mounted on the rollers 1 and 2, running over core 40 and over pulleys 65, which are provided with shafts 67, which are journaled in hangers 68, and under a roller 29, which has a shaft 69, journaled in hangers 27. A slot 28 is cut in each hanger 27 for the shaft 69. Roller 29 is to be made as heavy as practical. The heavier the roller the more the pressure will be on the bale by the belt 66. As the bale increases in size more of the belt will be necessary to reach over the bale. The roller 29 must rise to provide for the increase in the size of the bale. Another means of applying pressure to the bale as it increases in size is the creation of a vacuum in a cylinder. A cylinder 70 is mounted at the top of the press-frame, the cylinder being attached to one side of the frame and the piston-rod attached to the other side of the frame. Longitudinal beams 31 and 34 connect the tops of the I-beams on the left of Fig. 1 and of those on the right, respectively. The cylinder 70 is mounted in beam 34, which has an opening 71 prepared for the cylinder. Collars 72 further brace the cylinder. A piston-rod 30, attached to the piston 73, is attached to beam 31 by lock nuts or keys. Beam 31 is similar to beam 34, except that the opening for the piston-rod is not so large as the opening 71. The cylinder is provided with a valve 74. Means for controlling valve 74 consist of a bar 22, which is bolted to the cylinder 70, a hand or lever 23, pivotally attached to the bar 22 and attached to the valve 74, a weight 24, slidably mounted on the handle 23, a rod 25, rigidly attached to the weight 24 and pivotally attached to the standard 26 and the holes in the bar 22 and in the handle 23, whereby these parts can be attached together at various points of adjustment. Cylinder 70 is connected with a storage-tank 75 for compressed air or steam by means of a flexible pipe 76, which is provided with a cut-off valve 77. The pressure in the cylinder can be perfectly controlled by the mechanism thus described. When the frame is to be readjusted to commence a new bale, compressed air is turned in the cylinder to prevent the frame from going back too suddenly. As the bale increases in size the weight 24 is drawn farther to the left of the frame, looking at Fig. 1. This will cause the lever 23 to close the valve 74 tighter, and there will be no danger of the valve being forced open, although the suction is becoming greater all the time. The weight being drawn farther to the left will give greater lever-power to the lever 23.

At the commencement of operations to form a bale the piston 73 is at the bottom of the cylinder 70. As the bale increases in size the I-beams gradually yield, and in receding outward they draw the piston 73 partly out of cylinder 70, and as the valve 77 is closed, and as the weight 24 holds valve 74 closed, a partial vacuum is created in the cylinder. It increases as the bale increases in size. When the bale is completed, the compressed air or steam is turned in cylinder 70 from the tank 75 for the purpose of releasing the bale. When the compressed air is turned in the cylinder, the I-beams will yield enough to release the bale.

Means are provided for letting the frame and rollers back to starting position gradually. A standard 37 is mounted adjacent to each corner of the press, and four rods 78 operate through these standards and are connected to the four I-beams 3. These bars have joints 79, and the holes through the standards 37 for the rods may be elongated, so that the rods may pass loosely through when there is no friction applied to the rods. These rods are principally for replacing the rollers to commence a new bale. Means for applying friction to these rods, so that the rollers may be let back to commencement gradually, have been provided. Arms 36 are pivotally attached to the standards 37 and are provided with brake-rods 80 for engaging the rods 78. Arms 36 are pivoted or fulcrumed in bearings 81 and may be arranged as shown in Fig. 3 or as in Fig. 3ª. If they are arranged as in Fig. 3, the arms must be drawn away from the standards 37; but if arranged as shown in Fig. 3ª the arms must be pressed toward the standards to apply friction to rods 78. The arms 36 may be operated by springs 35. These springs may be placed between the arms and the standards or may be placed outside of the standards. When the clutches are above the fulcrums of the arms, the springs would have to be placed between the arms and the standards. When the fulcrums are above the clutches, the springs must be placed on the outside of the arms. A cross-bar 82 is attached to each pair of arms 36, by which both arms can be operated at the same time. The arms 36, with the brake-rods 80,

may be used also to retard the receding motion of the compression-rollers. This can be done simply by putting pressure on the arms 36 and causing the brake-rods 80 to engage the rods 78.

Means are provided for opening out the frame whenever desirable. Rods 39 are threaded and attached to the I-beams 3. The other ends of the rods run through the upright standards 37 and are provided with nuts 40. For convenience in operation the nuts 40 are provided with handles 83. The I-beams 3, with the compression-rollers 1 and 2, are drawn out or open by turning the nuts 40 and may be let back by reversing the motion of the nuts. The core-hanger 10 is supported by means of the arms 84. As the bale is being formed on the core the shafts 11 move outward between the arms 84 toward the yokes 85. Nuts may be provided for holding the yokes in place on the arms 84. Ordinarily nuts will not be necessary, because the outward motion of the I-beams and the rollers will stop when the bale is completed and let out. These arms may be made integral with the hanger, or they may be made separated, attached by screwing them in threaded recesses, as shown in Fig. 2. Cotton is fed to the core from the gin or condenser through a chute 86, which is attached to the two I-beams on the side of the press adjacent to the chute. Cotton is forced through the chute 86 by means of a blast from the condenser. The bale is formed on the core 40, and the endless belt 66 aids in pressing the cottton on the core. The heavier the roller 29 the more the belt 66 will press on the bale. The chute is made telescopic, the part 86 telescoping on the part 87 as the bale increases in size. When the bale is completed, the rollers are opened and the boxes 44 are drawn endwise from the core 40 by means heretofore described, and the bale is received on a truck below the compression-rollers. A truck 88 is mounted on tracks 89 and is provided with a rotating frame 90. The bale 91 is received in this frame. The frame 90 is provided with curved bottom or bed for the bale. The bed for the bale consists of curved ribs 92. Wire or other means for binding the bale may be secured to the bale while it is lying in the truck. The binding material may be passed between the ribs.

Figs. 7 and 8 illustrate variations in the means for controlling the weights 58. Instead of the segment 63, with teeth to be engaged by the rack 64, an upper arm 92, having a slot 93, is engaged by a lug 94, projecting from the bar 95 through the slot 93, the upper arm 92 being formed integral with the arm 60. The operation will be similar to the operation of the segment 63 with rack 64. In Fig. 8 an arm 97 is formed integral with arm 60, and a link-bar 96 is pivotally attached to the arm 97 and to the bar 95.

Fig. 10 illustrates a press which embodies most of the features of the press shown in Fig. 1 and which contains certain variations in the frame. There are four I-beams 100, which are similar in every respect to the I-beams shown in Fig. 1, except the parts from the sill 101 downward. The I-beams are mounted in bearings 102 on pivot-bolts 103, and bearings 104 are formed on the I-beams for the shafts 105 of compression-rollers 106. Hangers 107 for the arms 108 are mounted on the I-beams. Arms 108 have weights 109 and segments 110, which are engaged by racks 111. Segments 110 and racks 111 have increasing leverage-power by construction. A cylinder 112 with all attachments, similar to the attachments described in Fig. 1, is mounted in the same way in the top of the press or I-beams. The only difference about the cylinder is that I use two cocks 113 and 114. When the bale is ready to be taken out of the press, cock 114 is opened. Steam or compressed air will fill the pipes and enter the cylinder. This operation will raise the rollers still higher and release the bale. Cock 114 is immediately closed and cock 113 opened for the exhaust of steam. The rollers will go back to starting-places to commence a new bale. The same friction devices, as shown in Fig. 1, may be applied to let the compression-rollers back gradually. Three or four rollers may be used to form the bale, and the bale may be formed without a core. I mount a third compression-roller as follows: A vertical beam 115 is mounted at each end of the press. Guides 116 are attached to the bars 117 for the up-and-down motion of the beams 115. Roller 118 is journaled in the beam 115 by means of its shaft 119. The receding motion of this roller is controlled by means of weights 120, attached to cables 121, which run over pulleys 122 and 123, mounted in arms 124, which are attached to the beams 115. The compression-rollers are driven by a sprocket-chain 125 and pulleys, which are mounted as follows: wheel 126, mounted on one of the shafts 103, wheels 127 128 129, mounted on the shafts 105 and the shaft 119, and by a sprocket-wheel 130. Sprocket-wheel 130 is mounted on a shaft 131, which may be made integral with a sliding collar 132 on beam 115. Cable 121 is attached to the yoke 133, which is attached to the shaft 131. As the bale is being formed roller 118 must recede from the bale. The top or upper part of the sprocket-chain must become longer. The lower part of the chain will have to furnish this increased length. In order to do this, the chain will have to pull on sprocket-wheel 130 hard enough to draw the weight 120. I-beams 100 project below the sills 101 and below the gin-floor, and link-bars 134 are pivotally attached to the bottom parts of the I-beams. These link-bars are both pivotally attached to the beam 115. If more weight is needed, weights can be attached to the bottom of beam 115. In operation the I-beams open toward the top and close toward the bottom. This allows beam 115 to

rise, so that the roller 118 may recede from the increasing bale. Two rollers 135 may be mounted on beams 115, as shown in Fig. 12, and be operated in a manner similar to the operation of roller 118.

In order to add still greater resistance to the receding of the compression-rollers, a rack 136, similar to racks 111, is mounted on the lower part of the I-beams 100. Arms 138 are pivotally mounted on the pivot-bolts 137 and have segments 139, which engage rack 136 when the I-beams are moved in or out. Arms 138 are provided with weights 140.

Fig. 15 shows the springs 59 and the friction devices of Fig. 1 applied to the I-beams 100 of Fig. 10.

The cotton is directed between the rollers by means of a guide 141, which is attached to the I-beams. The rollers run in the direction indicated by the arrows. A drive-wheel is to be mounted on shaft 103 and may be driven by any suitable motive power.

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

1. A baling-press having compression-rollers, a yielding frame for said rollers, arms pivotally attached to said frame, weights attached to said arms, and means engaging the upper ends of said arms whereby said arms raise said weights and resist the receding motion of said frame, said frame consisting of a pair of I-beams provided with bearings at the central portion thereof for said rollers and pivotally mounted below said bearings.

2. A baling-press having compression-rollers, a yielding frame for said rollers, arms and weights attached thereto for resisting the receding motion of said frame, and means for engaging said arms and causing the same to raise said weights upward and outward as said frame recedes, said frame consisting of a pair of I-beams for said rollers pivotally mounted and provided with bearings for the shafts of said rollers, and said arms being pivotally mounted on said I-beams whereby the resistance to the receding motion of said frame will become greater as the bale increases in size.

3. A baling-press having compression-rollers, a yielding frame for said rollers, and means for resisting the receding motion of said rollers and frame, said means consisting of arms pivotally mounted on said frame and having weights on the long ends thereof and toothed segments on the short ends, brackets attached to said frame, and racks supported and slidable in said brackets and adapted to engage said segments as the rollers recede from the forming bale.

4. A baling-press having compression-rollers, a yielding frame for said rollers, and means for resisting the receding motion of said rollers and frame, said means consisting of a vacuum-cylinder mounted on one side of said frame, a piston for said cylinder whose rod is attached to the other side of said frame, said cylinder being provided with suitable valves and means for operating the same.

5. A baling-press having compression-rollers, a yielding frame for said rollers, and a vacuum-cylinder for resisting the receding motion of said frame and rollers as the bale increases in size, said cylinder being mounted on one side of said frame and provided with a piston whose rod is attached to the other side of said frame, an exhaust-valve and a weight for controlling the same, and a cock for turning in steam or compressed air.

6. A baling-press having compression-rollers, a yielding frame for said rollers, and springs for resisting the receding motion of said frame and rollers as the bale increases in size, said frame being provided with bearings for said springs, said springs being rigidly mounted at one end and free at the other, the free ends pressing in said bearings.

7. A baling-press having compression-rollers, a yielding frame for said rollers, and means for resisting the receding motion of said frame and rollers, said means consisting of springs rigidly mounted at one end and pressing against said frame, arms pivotally attached to said frame and having upper extensions, weights attached to said arms and means for engaging the upper extensions of said arms whereby the resistance to the receding motions of said frame will be greater as the bale increases in size.

8. A baling-press having compression-rollers, a yielding frame for said rollers, and means for resisting the receding motion of said frame and rollers, said means consisting of springs rigidly mounted and adapted to press against said frame, arms mounted at one end on said frame, weights attached to said arms, means for causing said arms to raise said weights whereby the resistance to the receding motion of said frame will be greater as the bale increases in size, and a cylinder and means creating a vacuum in said cylinder to resist the outward movement of said frame.

9. A baling-press having compression-rollers, a yielding frame for said rollers, and means for resisting the receding motion of said frame and rollers, said frame consisting of sills, bearings attached to said sills, and I-beams in which the rollers are mounted, pivotally mounted in said bearings.

10. A baling-press having compression-rollers, a frame for said rollers consisting of sills and I-beams pivotally mounted in said sills and having bearings for said rollers, and means for resisting the receding motion of said frame and rollers, said means consisting of arms pivotally attached to said frame, weights adjustably attached to the long ends of said arms, toothed segments formed on the other ends, brackets attached to said frame, and racks supported and slidable in said brackets and adapted to engage said segments as the bale increases in size.

11. A baling-press having compression-roll-

ers, a yielding frame for said rollers, said frame consisting of I-beams pivotally mounted and provided with bearings for said rollers, means for resisting the receding motion of said frame and rollers, and means for retarding the inward motion of said frame to starting position consisting of a frame, rods running through the frame-pieces at each corner thereof and attached to said I-beams, and means for applying friction to said rods.

12. A baling-press having compression-rollers, a yielding frame for said rollers consisting of I-beams pivotally mounted and provided with bearings for said rollers, means for resisting the receding motion of said frame and rollers, and means for retarding the inward motion of said frame to starting position, said means consisting of a frame mounted outside of said roller-frame, rods attached to said I-beams and operating through said frame, and arms pivoted on said frame and provided with friction-clutches adapted to engage said rods.

13. A baling-press having compression-rollers, a yielding frame for said rollers pivotally mounted, said rollers being normally pressed toward each other, and means for drawing said rollers away from each other and for retarding the inward motion of said frame and rollers to starting position consisting of a frame outside of said roller-frame, threaded rods operating through said frame and attached to said roller-frame, and nuts provided with cranks for operating said rods.

14. A baling-press having compression-rollers, a yielding frame for said rollers, consisting of I-beams pivotally mounted, means for resisting the receding motion of said frame and rollers, and means for retarding the inward motion of said frame and rollers to starting position consisting of a frame mounted rigidly outside of the roller-frame, rods operating through said frame and attached to said I-beams, arms pivoted on said frame and provided with friction-clutches adapted to engage said rods, and springs mounted on said rods and adapted to exert pressure on said arms.

15. A baling-press having compression-rollers, a yielding frame consisting of I-beams pivotally mounted and provided with bearings for the journals of said rollers, a vacuum-cylinder for resisting the receding motion of said frame and rollers, and means for operating said cylinder consisting of a valve for closing the exhaust of said cylinder, a lever pivotally mounted on said cylinder, a weight slidably mounted on said lever, a rod attached to said weight and to said frame, a storage-tank for compressed air or steam, and a pipe provided with a suitable cut-off connecting said tank and said cylinder.

16. A baling-press having compression-rollers, a yielding frame for said rollers consisting of I-beams pivotally mounted and provided with bearings for the shafts of said rollers, means for resisting the receding motion of said rollers and frame, a core, and a hanger for the core, said hanger having arms resting on the shafts of said rollers and said roller-shafts moving outward between the arms of said hanger.

17. A baling-press having compression-rollers, a yielding frame for said rollers, means for resisting the receding motion of said frame and rollers, a core, a core-hanger, and means for engaging and releasing said core, said means consisting of disks having sleeves journaled in said hangers, said sleeves having openings square in cross-section, boxes for receiving the ends of the core, threaded bolts mounted in said sleeves having swivel connections with said boxes, cog-wheels interiorly threaded for operating said bolts, and racks for operating said cog-wheels.

18. A baling-press having compression-rollers, a yielding frame for said rollers consisting of I-beams pivotally mounted, means for resisting the receding motion of said frame and rollers consisting of arms pivoted on said I-beams, weights adjustably mounted on the lower and longer ends of said arms, hangers attached to said I-beams, bars mounted and slidable in said hangers, and means adapting said bars to engage the upper ends of said arms.

19. A baling-press having compression-rollers, a yielding frame for said rollers consisting of I-beams pivotally mounted, means for resisting the receding motion of said frame and rollers, means for opening and closing said frame independently of said resisting means, a core, and means for holding and releasing said core.

20. A baling-press having compression-rollers horizontally movable and a compression-roller vertically movable, a pair of yielding I-beams provided with bearings for each horizontally-movable compression-roller, a pair of vertically-sliding beams provided with bearings for said vertically-movable compression-roller, guides for the upper ends of said beams, link-bars pivotally connected to said beams and to said I-beams, and means for resisting the receding motion of said compression-rollers.

21. A baling-press having horizontally-movable compression-rollers and a vertically-movable compression-roller, a pair of yielding I-beams pivotally mounted and provided with bearings for each horizontally-movable compression-roller, a pair of vertically-sliding beams provided with bearings for the vertically-movable compression-roller, weights and means for attaching the same to said sliding beams, link-bars pivotally connected to said beams and to said I-beams for aiding in resisting the upward motion of said sliding beams, and means for resisting the receding motion of said first-named compression-rollers.

22. A baling-press having horizontally-movable compression-rollers and a vertically-movable compression-roller, a pair of I-beams pivotally mounted and provided with bear-

ings for each horizontally-movable compression-roller, a pair of vertical sliding beams provided with bearings for the vertically-movable compression-roller, link-bars pivotally attached to said beams and to said I-beams, means for resisting the receding motion of said first-named compression-rollers, a sprocket-chain and sprocket-wheels for driving said rollers, and weights adapted to maintain a constant tension of said sprocket-chain.

23. A baling-press having horizontally-movable and a vertically-movable compression-roller, a pair of I-beams pivotally mounted and provided with bearings for each horizontally-movable compression-roller, a pair of vertical sliding beams provided with bearings for the vertically-movable compression-roller, link-bars pivotally attached to said sliding beams and to said I-beams, means for resisting the receding motions of said first-named compression-rollers, a sprocket-chain and sprocket-wheels for driving said rollers, and means for maintaining constant tension of said chain consisting of said sprocket-chain, a sprocket-wheel, a yoke and bearing for said wheel movable on said sliding beam, a cable attached to said yoke, a weight attached to said cable, and suitable pulleys or idlers over which said cable runs, similar driving mechanism being applied to each end of the compression-rollers.

24. A baling-press having a series of compression-rollers, a yielding frame for said rollers consisting of a pair of I-beams pivotally mounted, and means for resisting the receding motion of said frame, said means consisting of bars having racks integral therewith and slidable in said frame and arms pivotally attached to said frame and having weights attached to the lower ends thereof and segments integral with the upper ends thereof, the pivotal bearing of said segments being nearer one side thereof whereby said weights will have increasing lever-power as the bale increases in size.

In testimony whereof I set my hand, in the presence of two witnesses, this 15th day of May, 1899.

EDGAR BYARS.

Witnesses:
A. L. JACKSON,
JAMES GILFORD BROWNING.