(No Model.) 2 Sheets—Sheet 1.

R. S. MUNGER.

DUPLEX COTTON PRESS.

No. 483,633. Patented Oct. 4, 1892.

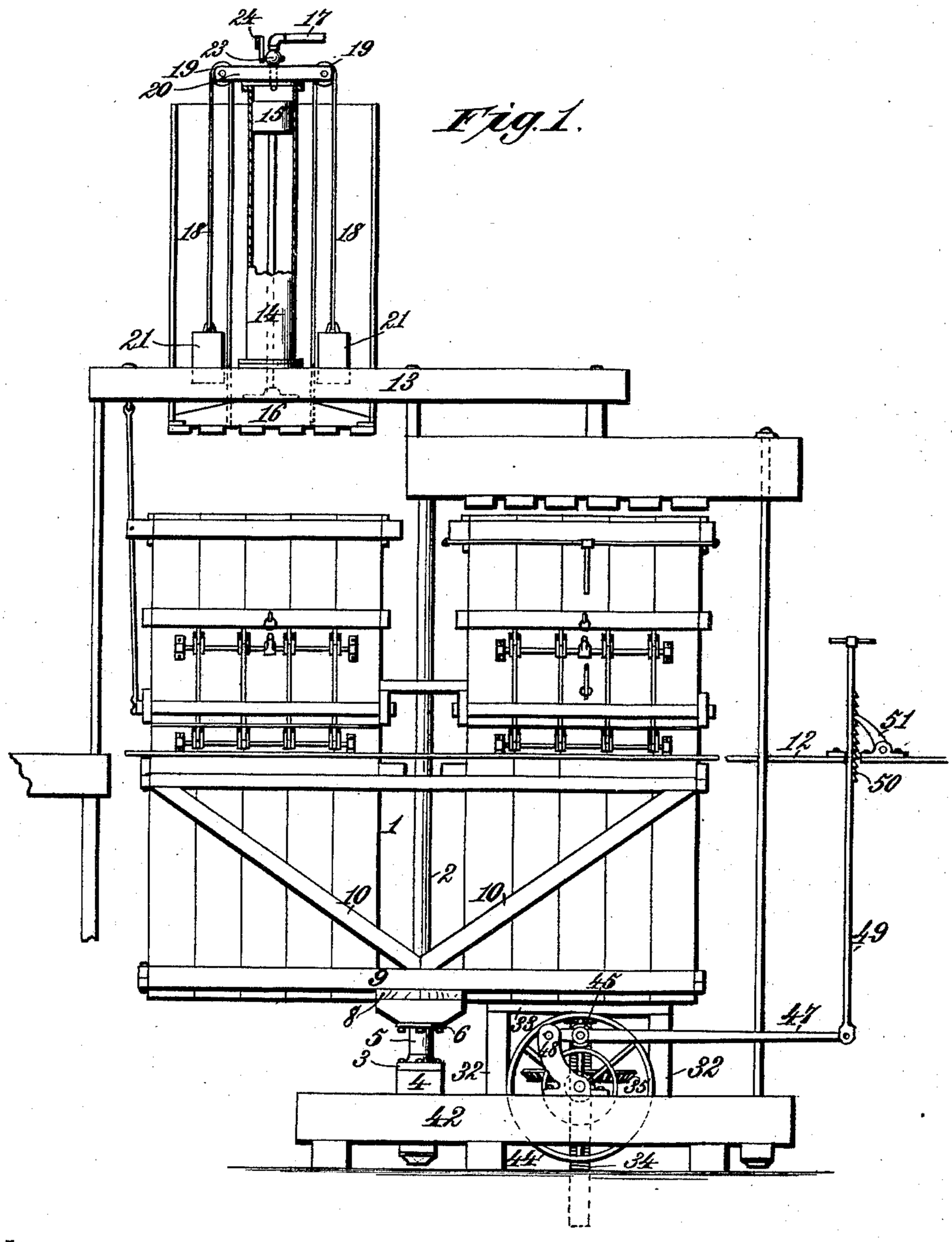

Fig. 1.

Witnesses.
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(No Model.) 2 Sheets—Sheet 2.

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Fig. 2.

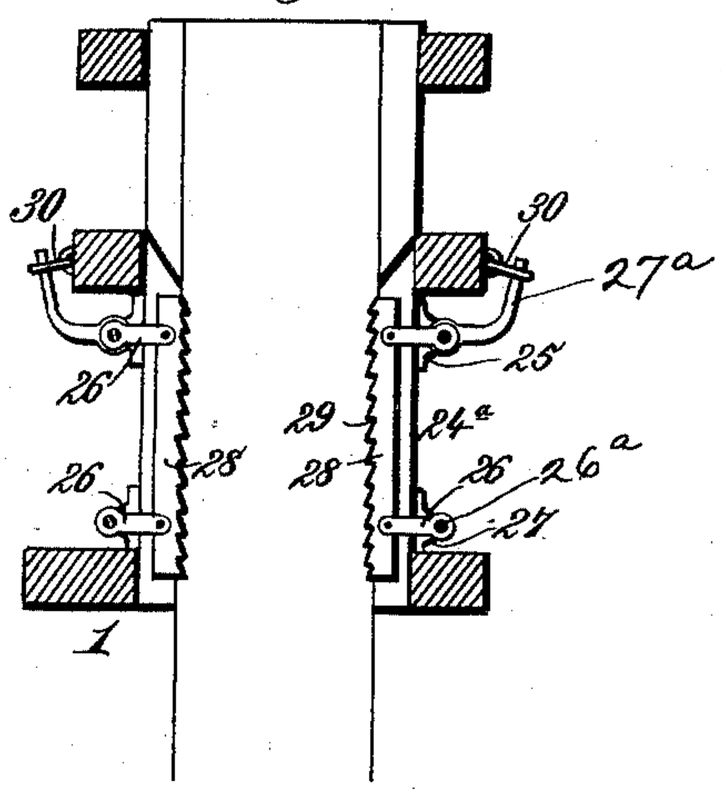
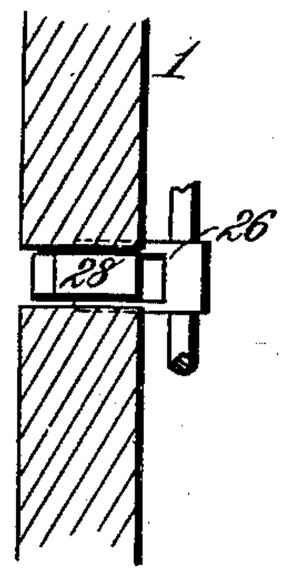


Fig. 3.



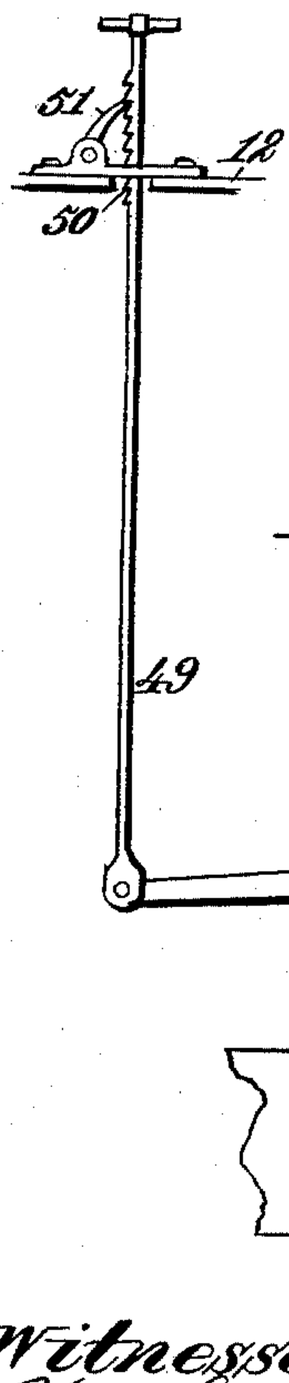


Fig. 4.

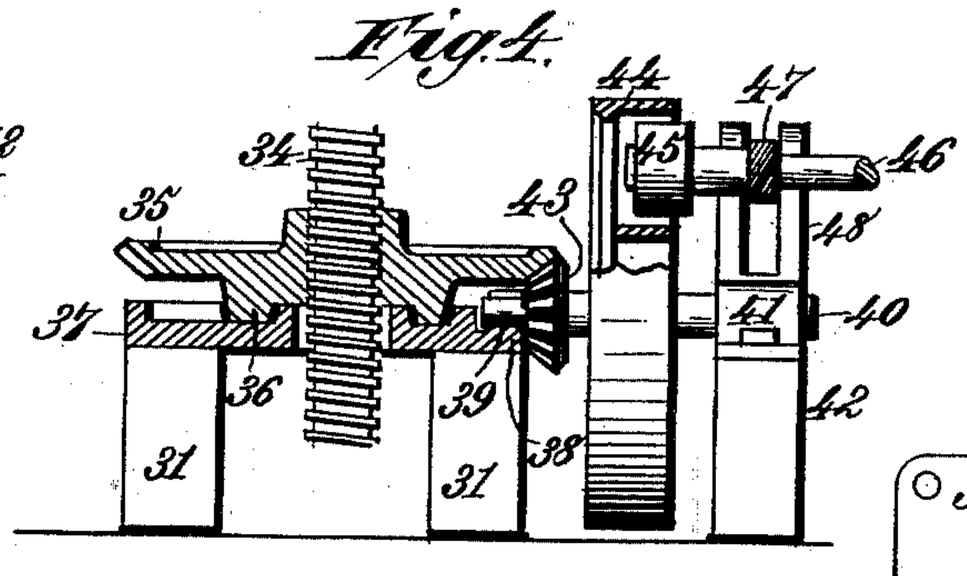


Fig. 6.

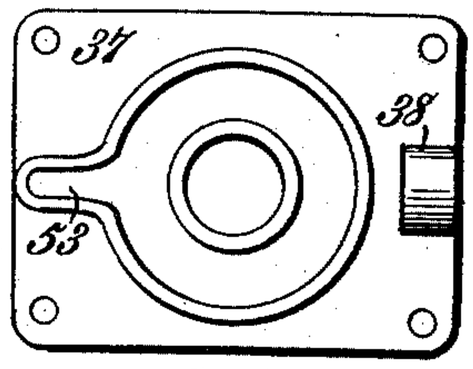


Fig. 5.

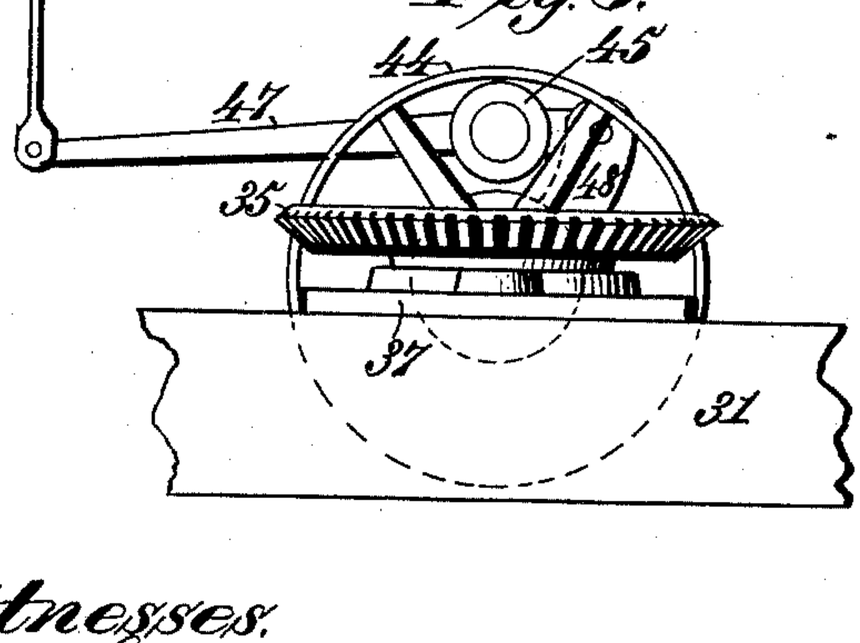
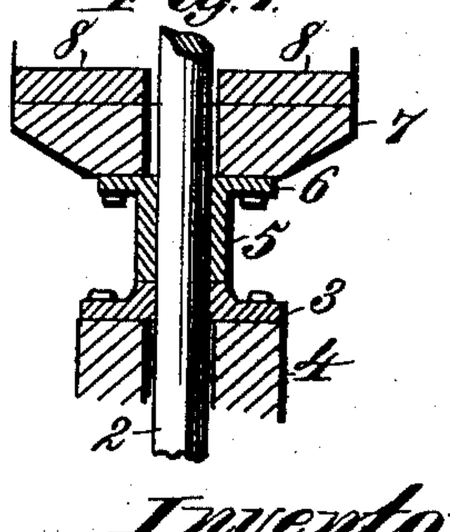


Fig. 7.



Witnesses.
Robt Truett.
Dennis Sumby

Inventor.
Robert S. Munger.
By James L. Norris.
Atty.

UNITED STATES PATENT OFFICE.

ROBERT S. MUNGER, OF BIRMINGHAM, ALABAMA.

DUPLEX COTTON-PRESS.

SPECIFICATION forming part of Letters Patent No. 483,633, dated October 4, 1892.

Application filed March 31, 1891. Serial No. 387,181. (No model.)

To all whom it may concern:

Be it known that I, ROBERT S. MUNGER, a citizen of the United States, residing at Birmingham, in the county of Jefferson and State of Alabama, have invented new and useful Improvements in Duplex Cotton-Presses, of which the following is a specification.

My invention relates to certain improvements in cotton-presses; and it consists in the novel features of construction and new combinations of devices hereinafter claimed.

To enable others skilled in the art to understand and practice my said invention, I will describe the same in detail, reference being had to the accompanying drawings, in which—

Figure 1 is an elevation of a duplex press embodying my invention. Fig. 2 is a detail section upon a reduced scale, showing the cotton-retaining devices. Fig. 3 is a detail section upon a horizontal plane, showing one of the retaining devices shown in Fig. 2. Fig. 4 is a sectional elevation of the gearing operating the screw-shaft by which the compressed bale is driven from the press-box. Fig. 5 is a detail elevation of the gearing shown in Fig. 4, together with the devices for throwing the same into and out of operation. Fig. 6 is a plan view of the gear-support shown in Fig. 4. Fig. 7 is a detail section of the pivotal bearing supporting the duplex press.

In the said drawings the reference-numeral 1 denotes the duplex press-box, which is supported upon a vertical axis 2, which passes at its lower end down through a metallic plate 3, Fig. 7, mounted upon a heavy stud 4, through which the axis 2 also projects. Surrounding said axis is a sleeve 5, which rests at its end upon the metal bearing-plate 3 and is provided with a flange 6, which is bolted to a block 7, upon which rest the parallel tie-plates 8, which connect the two press-boxes and form a support for the horizontal beams 9, which, braced by the diagonal beams 10, form the support for the two similar press-boxes. These boxes pass down through the floor of the room, said floor being indicated by the numeral 12, and project about equally below and above the same, being arranged in convenient proximity to the condenser, from which one press-box is filled while the bale is being removed from the other box. Surrounding the press-boxes is a frame 13, upon which is erected a cylinder 14, having a piston 15, adapted to rise and fall in said cylinder and carrying a packer 16 upon its end of such size as to readily enter the press-box when the latter is brought beneath the cylinder. This cylinder is connected with a steam-boiler by means of a pipe 17, entering the top of the cylinder above the piston. Connected to the packer are ropes, wires, or cables 18, which run over pulleys 19, journaled upon a cross-head 20 on the upper end of the cylinder, and to these ropes, wires, or cables are attached weights 21, whereby the packer is drawn up after each downward movement. The steam is admitted to the cylinder by way of the steam-pipe 17, which enters the upper end of the cylinder and is provided with a valve 23, operated by a lever 24. The packer is thus driven down by the action of steam and is raised by the weights 21.

Within recesses 24^a in the walls of the press-box are arranged vertical brackets 25, having upon their rearward faces lugs 26, upon which are pivoted links 27, to the inner ends of which are pivotally connected serrated bars 28, the serrations 29 thereon being so formed as to engage any fibrous material having a tendency to rise in the press-box. The links are preferably mounted upon rods or shafts 26^a, journaled in the lugs of the brackets, and upon the upper shaft or rod is rigidly mounted an arm 27^a, the end of which is curved upward to enable it to be engaged with rings or catches 30, mounted on one of the transverse beams of the press-box, whereby the serrated edges of the bars 28 are projected inward and slightly beyond the plane of the inner walls of the box, where they will readily engage the compressed cotton after it is driven down by the packer and will resistits tendency to rise and resume its loose uncompressed condition. These bars 28 are arranged at various points within the box, as shown in Fig. 1, and in a plane above the floor of the room. By simply casting off the catches or rings 30 the gravity of the upper links 27 will withdraw their serrated edges within the slotted recesses in the wall of the press-box, thereby permitting the compressed mass to be expelled.

Upon the press-sills 31, which support the stud 4, rest the legs 32, which are fastened upon

the press-follower, these parts being so arranged that they lie directly beneath the press-box containing the compressed bale as the duplex box is swung upon its central axis to bring the empty box, from which the bale has been discharged, beneath the condenser. Swiveled upon the press-follower 33 is a screw-shaft 34, with the thread of which meshes a miter-gear 35, having a central opening, through which said shaft passes, going downward between the sills and into a depression or hole beneath of suitable depth. This miter-gear 35 is provided upon its lower face with a circular rib or annulus 36, which lies in a channel of similar form in a wear-plate 37, resting upon and bolted to the press-sills. Upon one side of the wear-plate 37 is formed a journal-box 38, which receives the journal 39 of a shaft 40, which is supported at its other end in a bearing 41 upon a sill 42. Upon the shaft 40, between the press-sills and the sill 42, is rigidly mounted a gear 43, having a flange 44, beneath and within which is arranged a friction-gear 45, carried by a shaft 46, which receives support at a point near the miter-gears in a lever-arm 47, fulcrumed upon a bifurcated bracket 48, mounted upon the sill 42. At the end of this lever is attached a draw-rod 49, which passes up through the floor and is provided with a rack-bar 50, with which a pawl 51 engages, holding the rod at any point to which it is adjusted. By raising the rod the friction-gear 45 is brought into engagement with the flange 44 of the gear 43 and motion is imparted to a miter-pinion meshing with the large miter-gear 35.

The wear-plate supporting the miter-gear 35 is provided with a pocket 53, communicating with the annular channel in which the gear runs, whereby oil may be introduced to said channel.

The press-boxes are closed at the bottom or lower end by means of a loose flooring of any usual construction capable of rising with the press-follower and sustained by strips or shoulders on the inner face of the box.

By setting the serrated bars or strips 28 in slots in the walls of the press-boxes the latter are not deprived of strength, nor is it necessary to provide means for uniting the walls at their angles and for disengaging the serrations by moving the walls bodily outward.

What I claim is—

In a cotton-press, the combination, with the press-box having its side walls provided with vertical slots, of movable serrated bars arranged in said slots and adapted to hold the compressed cotton as it is driven down by a packer, links pivotally connected with the upper and lower ends of said bars and projecting outward through the slotted press-box, shafts mounted in brackets on the outside of said press-box and pivotally supporting the outer ends of the said links, an upwardly and outwardly curved arm mounted on each upper shaft, and a catch to engage and hold said arm until the serrated bars are to be released, substantially as described.

In testimony whereof I have affixed my signature in presence of two witnesses.

ROBERT S. MUNGER.

Witnesses:

THOS. HARDMAN,

D. C. BUCKSHAW.