

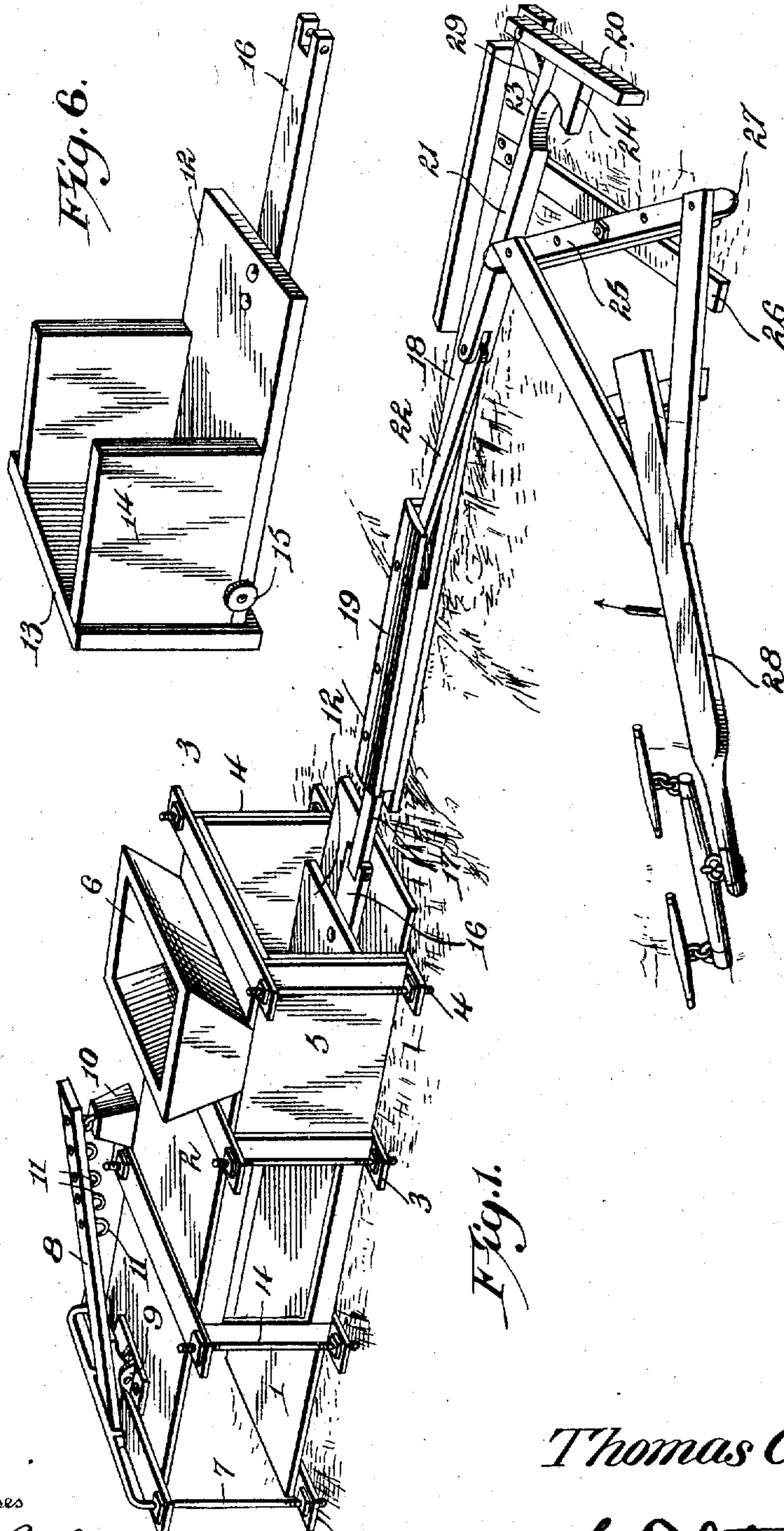
No. 795,557.

PATENTED JULY 25, 1905.

T. C. SMITH.
BALING PRESS.

APPLICATION FILED MAR. 9, 1905.

2 SHEETS—SHEET 1.



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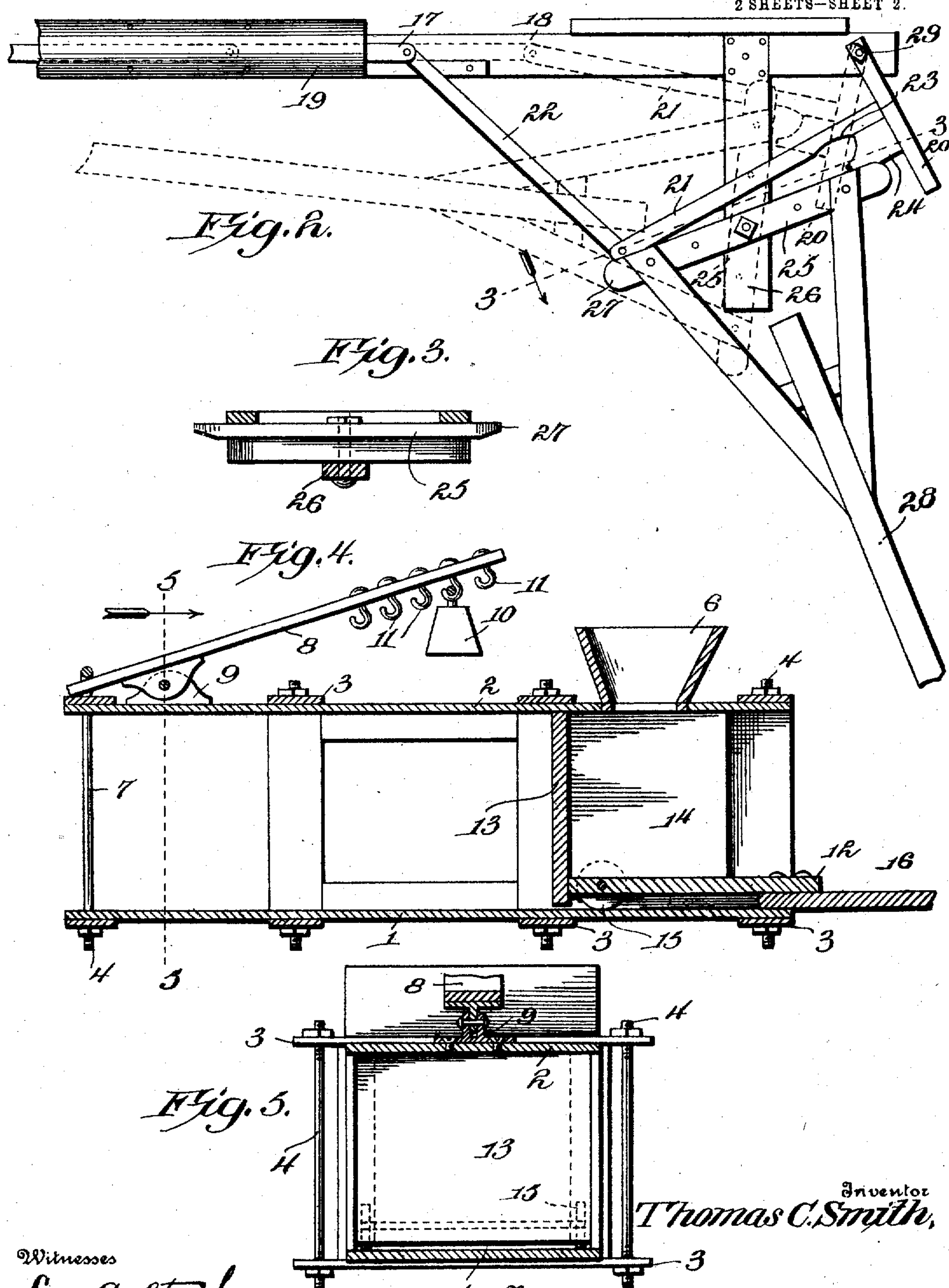
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UNITED STATES PATENT OFFICE.

THOMAS C. SMITH, OF BERKELEY SPRINGS, WEST VIRGINIA.

BALING-PRESS.

No. 795,557.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed March 9, 1905. Serial No. 249,238.

To all whom it may concern:

Be it known that I, THOMAS C. SMITH, a citizen of the United States, residing at Berkeley Springs, in the county of Morgan and State of West Virginia, have invented certain new and useful Improvements in Baling-Presses; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to baling-presses, and more particularly to means for operating the plunger of the machine.

The object of the invention is to provide a power adapted to be operated by one or more draft-animals, said power coacting with a toggle in such a manner as to produce two complete pressing operations to each rotation of the power-beam.

Another object is to dispense with the use of springs or like devices for the purpose of returning the plunger to its initial position subsequent to a pressing operation, such return movement being produced by the power-beam.

With the above and other objects in view the invention consists of a press of any preferred construction having a plunger arranged therein and connected in any suitable manner to one end of a toggle, the other end thereof being connected to a fixed pivot. A lever is fulcrumed adjacent the toggle and is secured to a beam to which one or more draft-animals are adapted to be secured, and this lever during the rotation thereof serves to extend the toggle each time the ends thereof contact with it. An extension is so arranged upon the toggle as to engage the lever during its rotation in such a manner as to retract or break the toggle, and thereby return the plunger connected to it to its original or initial position.

The invention also consists in further novel construction and combination of parts hereinafter more fully described and claimed.

In the accompanying drawings I have shown the preferred form of my invention.

In said drawings, Figure 1 is a perspective view of a baling-press having my improved power connected thereto. Fig. 2 is an enlarged plan view of the power and showing the operating-lever contacting with the toggle prior to extending the same. This view also illustrates in dotted lines the positions assumed by the parts when the lever is engaged

by the toggle prior to the operation of breaking or retracting the same. Fig. 3 is a section on line 3 3, Fig. 2. Fig. 4 is a central vertical section through the body of the press and the plunger. Fig. 5 is a section on line 5 5, Fig. 4; and Fig. 6 is a detail perspective view of the plunger.

Referring to the figures by numerals of reference, 1 and 2 are the top and bottom, respectively, of the body of the press, and cross-strips 3 are secured thereto and have their ends connected by means of rods 4. Side walls 5 are arranged between the top and bottom at opposite sides of a feed-hopper 6, which is disposed upon the top 2. A bail 7 connects one end of the top and bottom of the press and extends across said top. The central portion of this bail is engaged by one end of a lever 8, which is fulcrumed between ears 9, secured upon the top 2. A weight 10 is adjustably connected to the lever 8 and is preferably supported therefrom by any one of a series of hooks 11. It will be understood that this weight causes the opposite end of lever 8 to press upward against the bail 7, thereby forcing the fulcrum of the lever downward and serving to press the top and bottom of the press toward each other. This action is permissible in view of the fact that no supports are provided for the top at points adjoining the end to which the lever 8 is connected.

A plunger comprising a base 12, a head 13, and side flanges 14 is adapted to reciprocate within the press between the walls 5 thereof, and in order to reduce friction this plunger has rollers 15, which travel upon the bottom of the press. A stem 16 projects from the base 12 and is pivoted to a rod 17, slidably mounted upon a suitable bed 18. That portion of the bed upon which the rod is mounted is preferably covered by a shield or guard 19, whereby an animal or animals employed for operating the press may pass thereover without injuring the rod.

The bed 18 may be of any desired length, and to its outer end is pivoted a strip 20, having one member 21 of a toggle rigidly connected to the central portion thereof and extending at right angles therefrom. This member is pivoted to the second member 22 of the toggle, which in turn is pivotally connected to the rod 17. Member 21 is recessed in one edge, as shown at 23, and partly overlapping this recess is a block 24, which is for a purpose hereinafter more fully described. A lever 25 is centrally fulcrumed at a point

in close proximity to the member 21 and may, if desired, be mounted upon an arm 26, extending from bed 18, whereby said lever may be maintained in proper relation to the toggle under all conditions. The lever is of such length that when turned at right angles to the bed 18 it will cause the members of the toggle to aline, and ears 27 project from the ends of the lever and are adapted to overlap the member 21 when said lever is in contact with the toggle.

A power-beam 28 is connected in any suitable manner to the lever 25 and is provided with means whereby one or more draft-animals may be secured to it.

In using the mechanism herein described the beam 28 is caused to rotate in the direction of the arrow in Fig. 1. One end of the lever 25 will therefore be swung against the member 21 of the toggle, causing said member to move upon its pivot 29 and pressing the member 22 forward until the lever 25 assumes a position substantially at right angles to the bed 18, as shown by dotted lines in Fig. 2. As beam 28 continues to rotate the advancing end of the lever 25 will move into the recess 23 and abut against the block 24. Said block will be forced out of the path of the lever as said lever rotates, and therefore the toggle will be moved backward to its normal or broken position, as shown by full lines in Fig. 2, and the plunger will be retracted. The material to be pressed may be fed into the press through the hopper 6 and between the plunger and a dividing-block (not shown) and which is adapted to be placed between the weighted portions of the top and bottom of the press. Each rotation of the power-beam 22 will, as is obvious, produce two forward movements of the plunger, and any material fed through the hopper 6 will therefore be quickly compressed against the dividing-block within the machine. If for any reason said block should become wedged or otherwise held against movement during the operation of the power, the weighted beam 8 will allow a certain amount of expansion in the compression-chamber, and thereby release the block and prevent any of the parts of the power from breaking.

By providing a power such as herein described it will be noted that I obviate the use of springs, weights, or other like devices for returning the plunger to its initial position, and, moreover, by the utilization of a toggle and a lever without any connecting devices whatsoever I am enabled to produce two distinct compressing operations during one revolution of the lever.

It will be seen that the power is very simple and inexpensive and is of such a nature as

to be readily attached to presses of various constructions in which reciprocating plungers are employed.

In the foregoing description I have shown the preferred form of my invention; but I do not limit myself thereto, as I am aware that modifications may be made therein without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of my invention.

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

1. A power mechanism of the character described comprising a pivoted strip, a toggle having a movable end and rigidly connected at its other end to said strip, a rotatable operating-lever, the ends of which are adapted to successively contact with and extend the toggle and means upon the toggle for successively engaging the ends of the lever to retract the toggle.

2. A power of the character described comprising a pivoted strip, a toggle having a movable end and rigidly connected at its other end to the strip at a point removed from the pivot thereof, a rotatable operating-lever having ends adapted to successively contact with and extend the toggle and means upon the toggle for successively engaging the ends of the lever during the rotation thereof.

3. A power of the character described comprising a pivoted strip, a toggle having a movable end and its other end rigidly connected to the strip at a point removed from its pivot, a rotatable operating-lever having ends adapted to successively bear upon and extend the toggle and a block upon the toggle in the path of and adapted to be engaged by the ends of the lever.

4. In a baling-press, the combination with an expansible compression-chamber and means for normally holding said chamber against expansion; of a plunger slidably mounted within the compression-chamber, a pivoted strip, a toggle rigidly connected at one end to said strip and at its opposite end to the plunger, a rotatable operating-lever having ends adapted to successively contact with and extend the toggle and an engaging device upon the toggle for successively engaging the ends of the lever during the rotation thereof.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS C. SMITH.

Witnesses:

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T. H. B. DAWSON.