

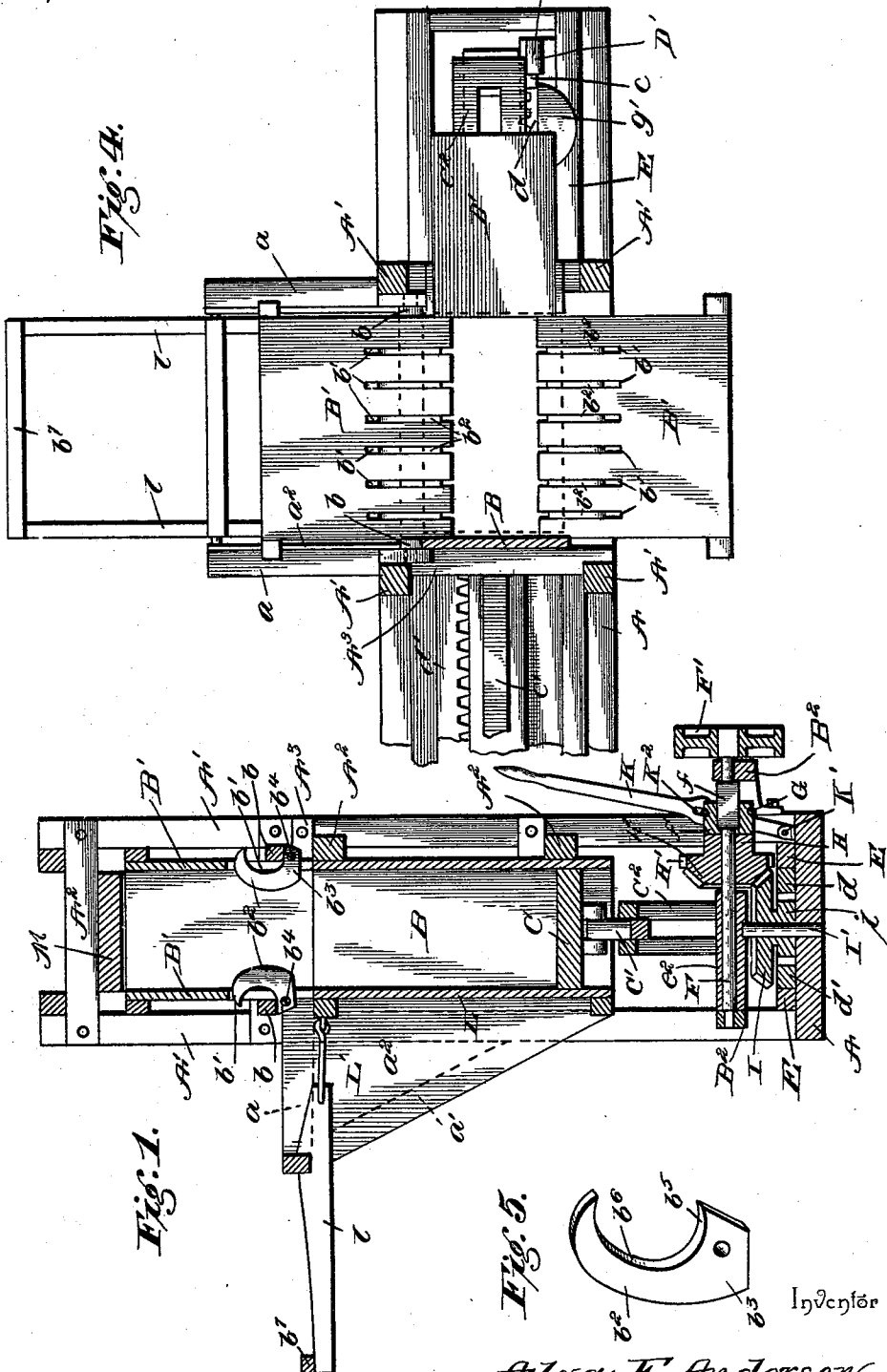
(No Model.)

2 Sheets—Sheet 1.

A. E. ANDERSON.
BALING PRESS.

No. 520,762.

Patented June 5, 1894.



Witnesses

John C. Shaw.
J. B. Owens.

By *W. S.* Attorneys.

Alva E. Anderson,

Chas. H. Co.

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Fig. 2.

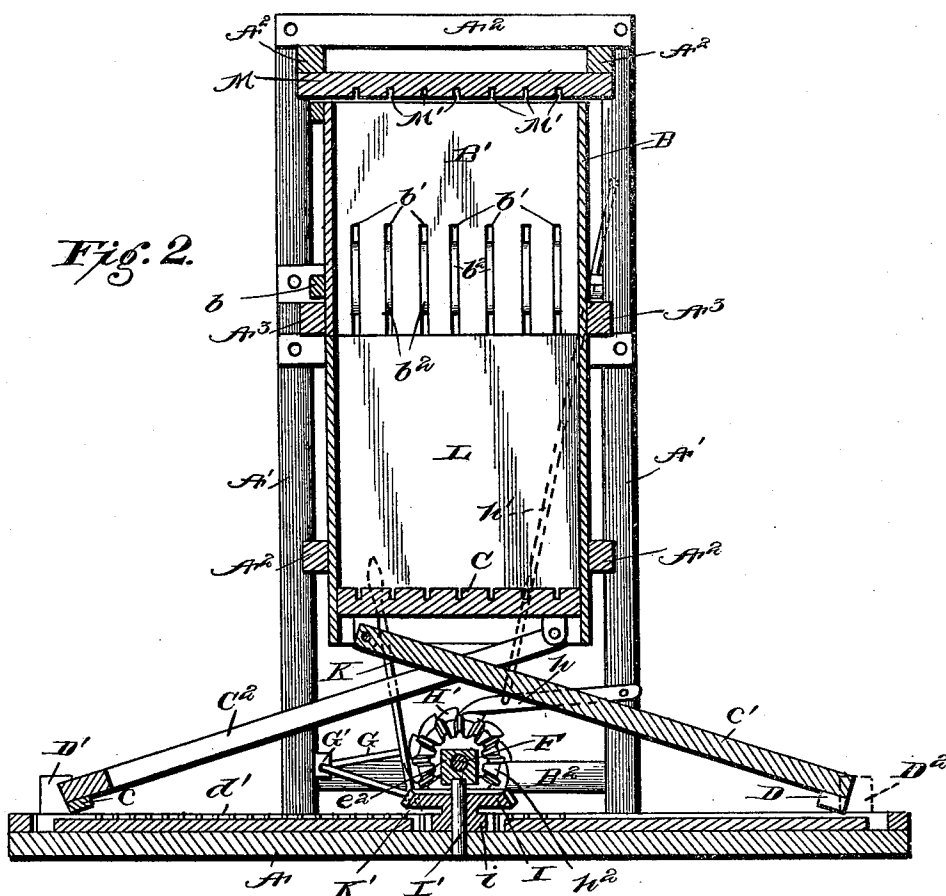
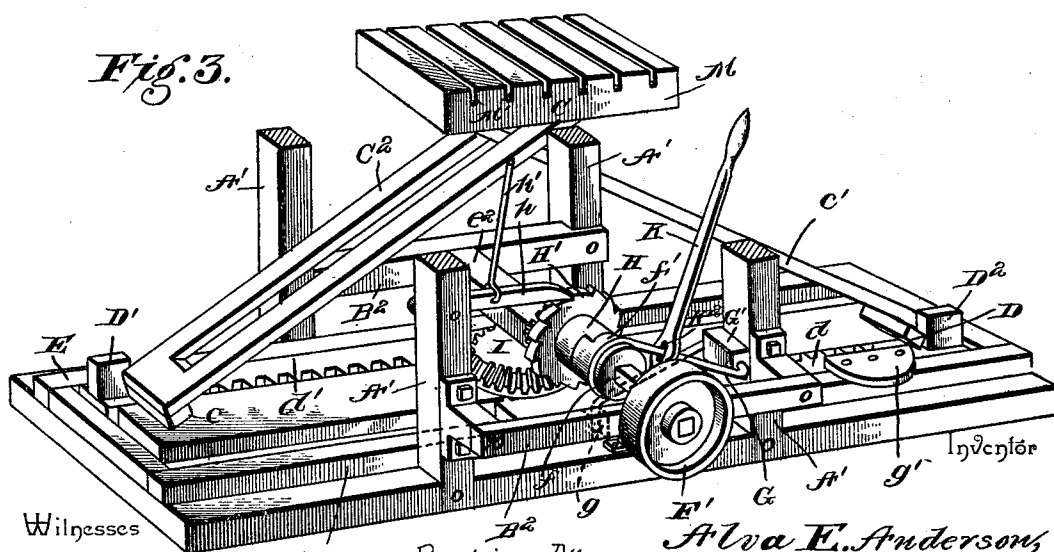


Fig. 3.



Witnesses

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UNITED STATES PATENT OFFICE.

ALVA E. ANDERSON, OF CLARKSVILLE, TEXAS.

BALING-PRESS.

SPECIFICATION forming part of Letters Patent No. 520,762, dated June 5, 1894.

Application filed February 14, 1894. Serial No. 500,175. (No model.)

To all whom it may concern:

Be it known that I, ALVA E. ANDERSON, a citizen of the United States, residing at Clarksville, in the county of Red River and State of Texas, have invented a new and useful Baling-Press, of which the following is a specification.

My invention relates to an improvement in that class of presses which are used for baling cotton, and it is mechanically related to those wherein a compression chamber is provided and a head or compressor block made to advance into the same, thus compressing the matter operated upon.

The object of the invention is to produce a press which will be more effective in operation and at the same time expeditious.

A further object is to provide superior means for forcing the head block into the compression chamber.

To these various ends my invention consists of certain improved features of construction and combination and arrangement of parts, which will be more fully described hereinafter and finally embodied in the claim.

In the accompanying drawings:—Figure 1 represents a vertical section of a press constructed after the manner of my invention; Fig. 2 a similar view, the section being taken at right angles to that of the first figure; Fig. 3 a detached perspective view of the head plate and the mechanism for operating it; Fig. 4 a sectional view of the upper portion of the machine showing the mode of removing the compressed bale; Fig. 5 a detail of one of the retaining hooks.

The reference letter A indicates the base-portion of my machine, which may be formed of any suitable material wood being preferred, and which has the four frame beams A' arising vertically therefrom. These beams, A', are braced as against each other, and the whole structure consequently stiffened, by means of the cross-braces A² and A³, which extend from one beam to another as shown in the drawings. The beams A³ are two in number, and are located near the upper end of the beams A' and opposite each other. The left hand ends of the beams A³ are extended to form the arms a, and these are provided with braces a', by which they are strengthened.

Rigidly secured to each of the arms a and the braces a' are the walls a², which are preferably continuations of the walls B, of the body or compression chamber of the press. These walls B extend, as a unit, from a point just above the base A to the level of the braces A³ where they are formed on three sides into the swinging bulk-heads B', the remaining side being left intact and integral with the walls below. The bulk-heads B' are, as before stated, three in number, and hinged at their lower edges by means of the trunnions b, whereby they may be swung horizontally, thus admitting the withdrawal of the cotton. Formed in the lower edges of the bulk-heads which are opposite each other are the short vertical slots b', in which are arranged the retaining hooks b². These devices, hooks b², are preferably twelve in number, six for each side of the bulk-head, and consist of a shank portion b³ pivoted to the rods b⁴ so as to be capable of swinging to the right through the slots b', but incapable of swinging inwardly owing to the shoulder b⁵, which bears against the trunnion b. Formed integral with the shank b³ and adapted to lie horizontally is the arm b⁶. As the cotton passes up into the chamber above the retainers b², they swing outwardly to allow it to pass, but will prevent the retraction of the cotton by swinging back to their normal position. When the cotton is to be removed the hooks b² will swing into the recesses or slots b', and in a position which will place them out of the way.

Adapted to fit snugly within the walls B' and movable vertically therein is the head or compressor-plate C. Pivoted to the left hand end of the block C is the rod C² which is slotted longitudinally throughout its length and provided at its lower end with a lateral stud c. This rod C² extends diagonally across the base A, and is arranged with its lower end normally at the right hand extremity of the base. The remaining left hand end of the block C, is provided with the second rod c', which is pivotally connected thereto and which extends diagonally through the slot of rod C² and in a direction opposite that taken by the said rod. Formed on the lower end of rod c' and projecting in a direction opposite to that taken by the stud c, is a stud D. The studs C and D are adapted to engage the shoulders

D' and D² formed on the rack-bars *d* and *d'*, and these bars *d* and *d'* are arranged with their teeth disposed inwardly and so as to be movable longitudinally in the guide-ways E. Guide-ways E are disposed longitudinally on the base A, and the rack-bar *d* is provided with the cam-plate *g'* adapted for operation, as will be described hereinafter.

Mounted in the boxes *e* and *e'* of the cross-beams B² is the revoluble shaft F which is provided with the pulley F' by which power for driving is transmitted. This shaft is provided with the square portion *f* just inside the right hand beam B², upon which square portion the clutch member *f'* is mounted, so as to be capable of independent longitudinal movement and incapable of independent rotary movement. Embracing the member *f'* is the arm G which extends across to one of the standards A, where it bends inwardly and passes loosely through the eye G' secured to the standard. From this point the arm extends downwardly to a point just below the shaft F whereat it bends downwardly and lies normally in the recess *g* and alongside the rack-bar *d*. This end of the arm G is adapted to be engaged by the cam-plate *g'* of the rack-bar *d*. The cam-plate *g'* is arranged at the outer end of its rack-bar, and when it engages the arm G, as it will do when the block C is raised to its limit, this arm will be forced out and the clutch member *f'* will be forced to disengage its companion H.

Mounted loosely on the shaft F adjacent to the clutch member *f'* is the companion clutch member H, which is adapted to mesh with the former member and to be revolved by such connection. The member H is provided with a ratchet H' which co-operates with the pawl *h* whereby the member is prevented from retracting during the baling operation. Attached to this pawl *h* is the wire *h'*, which extends upwardly and is attached at its upper end to one of the standards or beams A'. By this means the pawl may be lifted from engagement with the ratchet H'.

Formed integral with or rigidly secured to the member H is the miter-gear *h'*, which meshes with a similar gear I, mounted upon the rigid spindle I', which is in turn mounted upon the base A, and in the bearing *e'*. The bearing *e'* consists of a square tube rigidly secured to one of the cross-beams B², and projecting inwardly over the spindle I'. Rigidly secured to or formed integral with the gear I and mounted upon the spindle I' is the pinion gear *i*, which meshes with the teeth of rack-bars *d* and *d'* and by which the bars are made to move in their respective grooves.

K indicates a hand-lever which is fulcrumed to the base A at K' and which is provided with an eye or loop K² which is adapted to embrace the arm G, and by which the arm, and consequently the clutch member *f'*, may be moved laterally.

Pivoted at the base of the braces *a'* is the swinging wall of bulk-head L, which extends

up to the arms *a*, and which has its upper end provided with the links L'. These links are connected to the levers *l*, which are fulcrumed in the arms *a* and provided at their outer ends with the cross-bar *b'* by which they may be operated in unison. By means of this arrangement the bulk-head L may be swung on its pivot so as to open the compression chamber and admit the introduction of cotton. M indicates a head piece which is arranged at the highest extremity of the compression chamber and which is adapted to be engaged by the cotton to be baled. This block M has its under side formed with the transverse slots or grooves M', which are adapted for the reception of the binding wires.

To use my machine for baling cotton or analogous matter, the bulk-heads B' are closed so that the cotton will be confined therein and the retaining hooks *b'* allowed to assume their operative position. The bulk-head L is then opened and the cotton to be baled inserted into the compression chamber, the head or compressor-plate C, having been first lowered so as to make the space above it as large as possible. The space is then filled with cotton and the bulk-head L closed, whereupon the clutch members *f'* and H are made to engage by means of the lever K. This will be followed by the inward movement of the rack-bars *d* and *d'* and a consequent movement of the bars C² and *c'*, which will result in the raising of the block C and in the compression of the cotton. When the block C has been raised as far as possible, and the cotton in consequence thereof compressed, the cam plate *g'* will engage the lower end of the rod G and cause it to move outwardly. This will be followed by an outward movement of the upper end of the rod and a disengagement of the clutch members *f'* and H, which will result in the downward movement of the block C and in the outward movement of the bars *d* and *d'*. The cotton will be held in the upper portion by means of the retaining hooks *b'* and when it is desired to remove the bale the bulk-heads B' are opened and the binding wires or cords passed under the bale and secured. It may be then removed by drawing it out laterally, and this will be permitted by reason of the retreat of the hooks *b'* into their respective slots *b'*.

It will be understood that owing to the arrangement of bulk-heads B' on three sides of the compression chamber the bale may be removed from either side, whichever may be the most convenient. When the bale has been removed and the compressor-plate C, at the bottom of the chamber and it is desired to continue the pressing operation, the bulk-heads B' should be closed and the chamber filled as before described. The clutch is made to positively engage shaft F, and the operation just described will be repeated. This is continued until the requisite amount of cotton has been compressed and baled.

From the above it will be seen that, owing to the mechanism for raising plate C, the cotton can be compressed with great rapidity and that a vast amount of power may be brought to bear on the bale by reason of the operation of the lever-bars C² and c'. The extreme simplicity of the gearing makes the machine of the most durable character, and, owing to this fact, it may be produced at a comparatively small cost.

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

In a cotton press, the combination of a vertically-disposed compression chamber, a plunger-block operating therein, a rod connected to each end of the block and extending diagonally across each other, two horizontal rack-bars connected one to each end of said rods, a gear connected to the rack-bars and operating to raise and lower the plunger-block, a drive-shaft arranged horizontally above the said gear, a clutch-member mounted loosely on the shaft and geared with said first gear, a companion clutch-member revolving with the

shaft and operating with the first clutch-member, a rod connected to the movable clutch-member and extending outwardly, thence parallel with the shaft and finally at right angles to the shaft and parallel with the rack-bars, a box for loosely holding the part of the rod which is parallel with the drive-shaft, a cam-plate on one of the rack-bars and adapted to engage the free end of the rod when the plunger-block has been raised to its limit, and to move the rod bodily, and a lever connected to the rod and adapted to permit the clutch-members to be engaged, whereby, as the gearing raises the plunger-block, the cam on the rack-bar operates to disengage the gearing and allow the block to descend, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

ALVA E. ANDERSON.

Witnesses:

D. W. HUNTER,
JOSEPH E. BROWN.