(No Model.) 2 Sheets—Sheet 1.

R. I. KIRKPATRICK.

FEEDER FOR COTTON PRESSES.

No. 253,719. Patented Feb. 14, 1882.

Fig: 1.

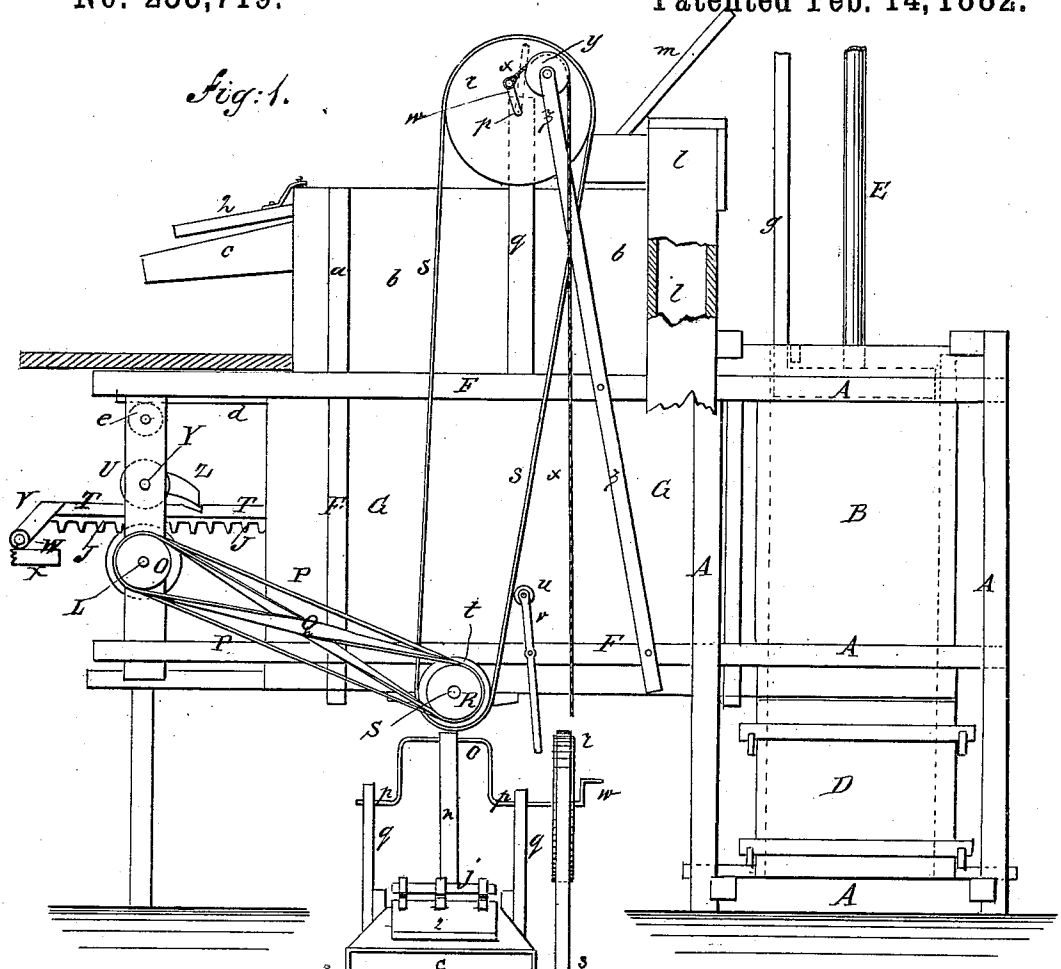


Fig: 3.

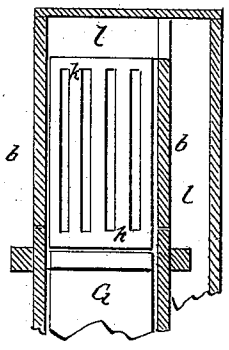
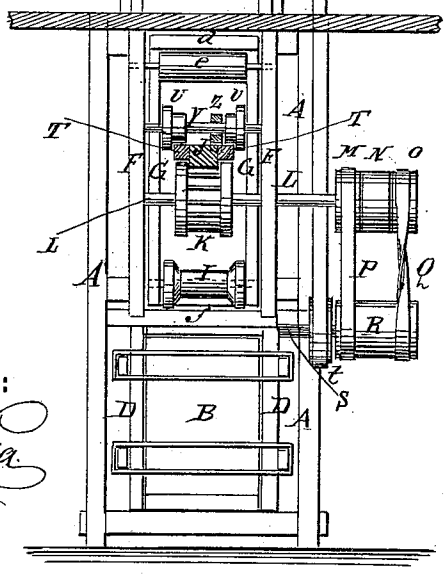


Fig: 2.



WITNESSES:

Chas. Nida.

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INVENTOR:

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N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

R. I. KIRKPATRICK.

FEEDER FOR COTTON PRESSES.

No. 253,719. Patented Feb. 14, 1882.

Fig: 4.

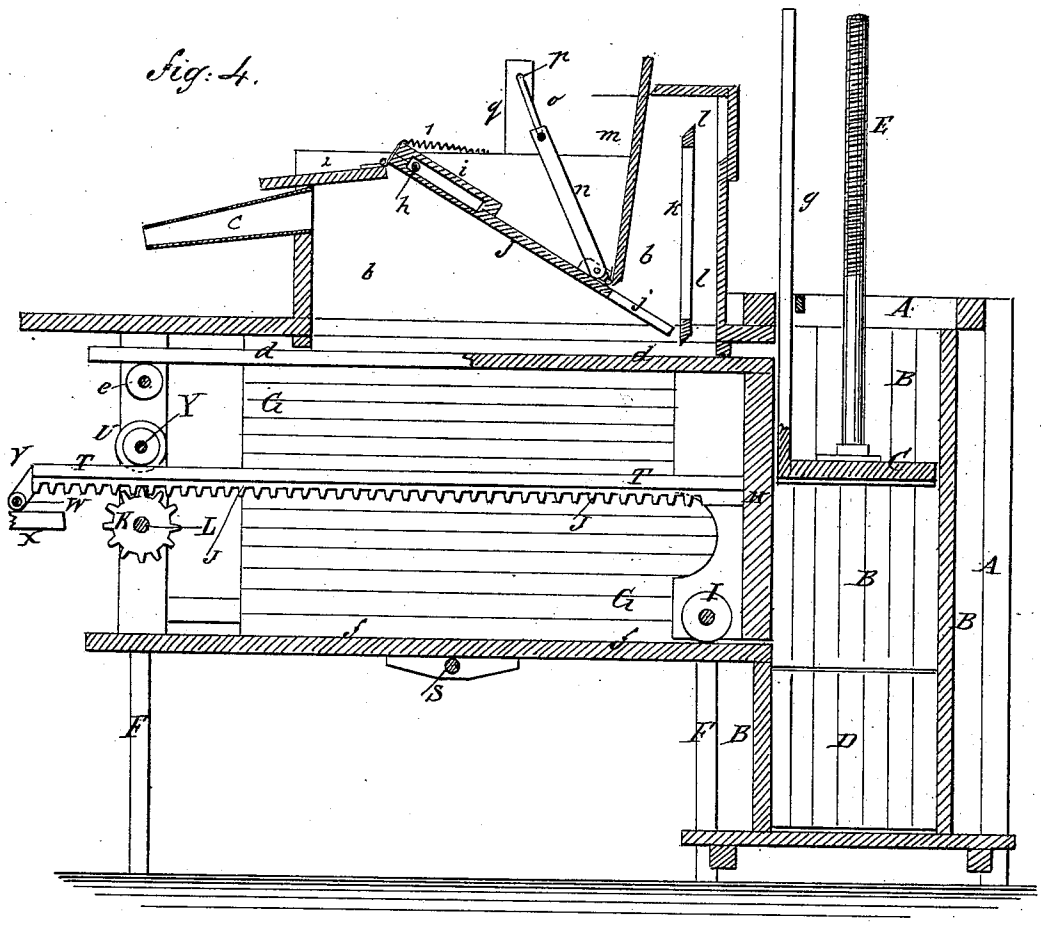
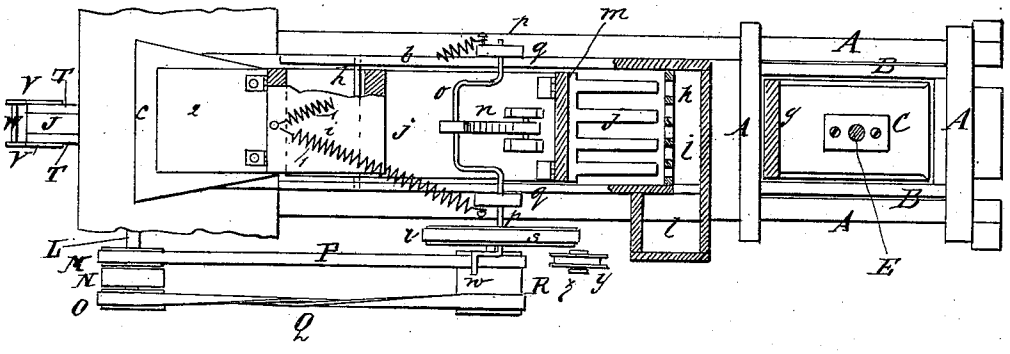


Fig: 5.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT I. KIRKPATRICK, OF LEBANON, TEXAS.

FEEDER FOR COTTON-PRESSES.

SPECIFICATION forming part of Letters Patent No. 253,719, dated February 14, 1882.

Application filed September 24, 1881. (No model.)

To all whom it may concern:

Be it known that I, ROBERT INSLEY KIRKPATRICK, of Lebanon, Collin county, Texas, have invented a new and useful Improvement in Feeders for Cotton-Presses, of which the following is a full, clear, and exact description.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1, Sheet 1, is a side elevation of my improvement. Fig. 2, Sheet 1, is a rear elevation of the same. Fig. 3, Sheet 1, is a sectional elevation of the escape-flue for air and dust. Fig. 4, Sheet 2, is a sectional side elevation of the improvement. Fig. 5, Sheet 2, is a plan view, partly in section.

The object of this invention is to provide an effective mechanism to receive cotton from the gin-spout and pack it into the baling-box of a press.

The invention consists in a feeder for cotton-presses, constructed with a box to receive the cotton from the gin, the said receiving-box being provided with a movable top board to force the cotton into the packing-box placed beneath the said receiving-box, and from which the cotton is forced into the baling-press by a follower.

The invention further consists in the combination, with the packing-box, its follower, and the drive-shaft, of a rack-bar, a gear-wheel, and pulleys and belts, whereby the said follower is moved forward and back; also, in the combination, with the rack-bar and its driving-gear wheel, of guide-pulleys for holding the said rack-bar and gear-wheel in gear and a pawl for holding the packing-box follower in place when pushed forward; and, also, in the combination, with the rack-bar, of arms and a roller and track for supporting the said rack-bar when the follower is drawn back.

The invention further consists in the combination, with the receiving-box and its movable top board having slotted lower end, of a rack, a flue, and a hinged board, whereby the dust and the air entering the said receiving-box with the cotton are allowed to escape freely; also, in the combination, with the movable top board and the driving-shaft, of a connecting-bar, a crank-shaft, a band and pulleys, and a spring, whereby the said top board will be operated to press down the cotton and clear the dust-flue rack; also, in the combination, with the driving-belt of the top board crank-shaft, of the belt-tightening pulley and lever, whereby the movement of the receiving-box top board can be stopped and started; and, also, in the combination, with the top-board crank-shaft, of a crank, a cord, and a guide-pulley, whereby the said top board can be raised and held.

The invention further consists in the combination, with the baling-box having open side and its follower, of a vertical board to close the said open side and prevent cotton from entering the baling-box when the follower is down; also, in the combination, with the packing-box having open upper side and its follower, of the horizontal board, to prevent cotton from entering the packing-box when its follower is pushed forward; and, also, in the combination, with the horizontal board attached to the packing-box follower, of the roller whereby the said board is supported, as will be hereinafter fully described.

A represents the frame, B the baling-box, and C the follower, of an ordinary cotton-press.

The box B is provided with doors D in its lower part for convenience in removing the bales. The follower C is raised and lowered by means of a screw, E, or other suitable means.

With the upper part of the press-frame A is connected the frame F of the packing or feed-box G, the forward end of which opens into the upper part of the rear or inner side of the baling-box B, so that the cotton can be pushed from the packing-box G into the baling-box B by the follower H. The follower H fits into the interior of the packing-box G, and is mounted upon a roller, I, which rolls upon the floor of the packing-box G as the said follower H moves in and out. The follower H is operated by a rack, J, and gear-wheel K, a screw, or other suitable means. The gear-wheel K is attached to a shaft, L, which is journaled to the packing-box frame F, and has three pulleys, M N O, placed upon its projecting end. The side pulleys, M O, are loose, and carry respectively the straight belt P and the crossed belt Q.

The central pulley, N, is designed to receive the straight belt P when the follower H is to be moved forward and the crossed belt Q when the follower H is to be moved back. The belts P Q pass around the long pulley R attached to the driving-shaft S, which revolves in bearings attached to the frame F or other suitable support, and is connected with any convenient driving-power by a belt and pulleys or other suitable gearing.

To the sides of the rack-bar J are attached side bars, T, upon the upper sides of which rest guide-pulleys U, to keep the said rack J in gear with the gear-wheel K. To the outer ends of the bars T are attached short downwardly and outwardly inclined arms V, to and between the lower ends of which is pivoted a roller, W, which, when the rack J and follower H are drawn outward, rests upon a bar, rail, or track, X, to support the outer end of the said rack. The bar X is attached to the frame of the building or other suitable support. The guide-pulleys U revolve upon a shaft, Y, attached to the packing-box frame F; and to the said shaft Y, between the said pulleys U, is attached a pawl, Z, to engage with a notch in the upper side of the rack-bar J, and hold the follower H, when pushed fully forward, against the rearward pressure of the cotton while being forced downward in the baling-box B by the follower C.

To the upper forward part of the frame F is attached the frame *a* of the box *b*, which receives the lint or cotton from the discharge-spout *c* of a cotton-gin.

The receiving-box *b* is made open at the bottom, and opens into the top of the packing-box G. When the follower H is pushed forward the cotton that enters the receiving-box *b* rests upon a board, *d*, the forward end of which is attached to the upper end of the follower H. The outer part of the stop-board *d* rests upon and is supported by a roller, *e*, pivoted to the rear upper part of the packing-box frame F. With this construction, when the follower H is drawn back the cotton resting upon the stop-board *d* will be pushed off by the rear end of the receiving-box *b*, and will fall to the packing-box floor *f*, ready to be forced into the baling-box B by the advance of the follower H.

To the inner side of the follower C is attached the lower end of a board, *g*, which, when the said follower C descends, closes the open forward end of the packing-box G and prevents any cotton from entering the baling-box B before the said follower is again raised.

To the upper rear part of the receiving-box *b* is attached a rod, *h*, which passes through a long keeper, *i*, attached to the upper side of the board *j*. The board *j* inclines downward, and is designed for the cotton to strike against as it enters the receiving-box *b* from the gin-spout *c*. The lower end of the inclined board *j* is slotted to allow the air and dust entering the receiving-box *b* with the cotton to escape freely.

In the forward part of the receiving-box *b* is placed a perforated or slotted board or rack, *k*, to allow the air and dust to enter the flue *l*, which passes down at the side of the machine and discharges the air and dust upon the ground or into some suitable receiver.

To the upper side of the forward part of the stop-board *j*, just above its slots, is hinged the lower end of the board *m*, which rests against the inner edge of the top of the flue *l* to cause all the air and dust from the receiving-box *b* to enter the said flue *l*.

To the board *j*, at or near the hinging-point of the board *m*, is hinged the lower end of a connecting-bar, *n*, the upper end of which is pivoted to a crank, *o*, formed upon the shaft *p*. The crank-shaft *p* revolves in bearings in supports *q* attached to the receiving-box frame *a*, and to it is attached a large pulley, *r*, around which passes a belt, *s*. The belt *s* also passes around a pulley, *t*, attached to the driving-shaft S at the inner side of the long pulley R. With this construction, as the machine is operated the board *j* will be drawn back and raised and carried forward and lowered, so as to clean off any cotton that may lodge upon the rack *k* and press the cotton into the packing-box G when the follower H is drawn back, and into the lower part of the receiving-box *b* when the follower H is pushed forward. The belt *s* is put on slack, and is made taut by a pulley, *u*, pivoted to the end of the lever *v*, which is pivoted to the frame F in such a position that its free end can be readily reached and operated to slacken the belt *s* and stop the movement of the crank-shaft *p* and board *j* when desired.

To the end of the crank-shaft *p* is attached, or upon it is formed, a crank, *w*, to which is attached the end of a cord, *x*. The cord *x* passes over a pulley, *y*, pivoted to a standard, *z*, attached to the frame of the machine, and extends down into such a position that it can be readily grasped and operated by the pressman to turn the crank-shaft *p* and raise the board *j* to its highest position when the belt *s* has been slackened and the revolution of the said crank-shaft *p* stopped, so as to give a free space for the cotton to enter the receiving-box *b* and for the dust and air to escape into and through the flue *l*.

The board *j* is held forward by spiral or other springs, 1, so that its movements will be properly controlled by the crank-shaft *p*.

To the rear end of the board *j* is hinged or otherwise attached a board, 2, a strip of cloth, or other suitable cover for the opening between the said board and gin discharge-spout *c*, to prevent the dust and air from escaping through the said opening into the lint-room.

With this construction the gins can be operated continuously, the cotton being detained in the packing-box and in the receiving-box while the bale is being pressed, bound, and removed.

One, two, or more gins can be connected with one receiving-box, if desired.

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

1. A feeder for cotton-presses, constructed substantially as herein shown and described, consisting of the packing-box and its follower and operating mechanism and the receiving-box and its movable top board, as set forth.

2. The combination, with the baling-box B of a cotton-press and the discharge-spout *c* of a cotton-gin, of the packing-box G, the follower H and its operating mechanism, and the receiving-box *b* and its movable top board, *j*, substantially as herein shown and described, whereby the cotton from the gin discharge-spout is forced into the baling-box of the press, as set forth.

3. In a feeder for cotton-presses, the combination, with the packing-box G, the follower H, and the drive-shaft S, of the rack-bar J, the gear-wheel K, and the pulleys and bands M N O R P Q, substantially as herein shown and described, whereby the said follower can be moved forward and back, as set forth.

4. In a feeder for cotton-presses, the combination, with the packing-box G, the gear-wheel K, the guide-roller U, the shaft Y, and the pawl Z, of the follower H, provided with the roller I, and the rack J, provided with a notch on its upper side, substantially as and for the purpose set forth.

5. In a feeder for cotton-presses, the combination, with the rack-bar J, of the arms V, roller W, and track X, substantially as herein shown and described, whereby the said rack-bar will be supported when drawn outward, as set forth.

6. In a feeder for cotton-presses, the combination, with the receiving-box *b* and the movable top board, *j*, having slotted lower end, of the rack *k*, the flue *l*, and the hinged board *m*, substantially as herein shown and described, whereby the dust and air entering the receiving-box with the cotton are allowed to escape freely, as set forth.

7. In a feeder for cotton-presses, the combination, with the movable top board, *j*, and the driving-shaft S, of the connecting-bar *n*, the crank-shaft *p*, the pulleys and band *r t s*, and the springs 1, substantially as herein shown and described, whereby the said top board will be operated to press down the cotton and clear the dust-flue rack, as set forth.

8. In a feeder for cotton-presses, the combination, with the belt *s*, that operates the crank-shaft *p* of the receiving-box top board, *j*, of the pulley and lever *u v*, substantially as herein shown and described, whereby the movement of the receiving-box top board can be stopped and started, as set forth.

9. In a feeder for cotton-presses, the combination, with the crank-shaft *p*, that operates the receiving-box top board, *j*, of the crank *w*, and the cord *x*, and guide-pulley *y*, substantially as herein shown and described, whereby the said top board can be raised and held, as set forth.

10. In a feeder for cotton-presses, the combination, with the baling-box B, having open side, and the follower C, of the vertical board G, attached to the inner side of the said follower, substantially as herein shown and described, whereby cotton is prevented from entering the baling-box when the follower is forced down, as set forth.

11. In a feeder for cotton-presses, the combination, with the packing-box G, having open upper side, and the follower H, of the horizontal board *d*, having its forward end attached to the upper end of the said follower, substantially as herein shown and described, whereby the cotton is prevented from entering the said packing-box when the follower is pushed forward, as set forth.

12. In a feeder for cotton-presses, the combination, with the horizontal board *d*, attached to the packing-box follower H, of the roller *e*, pivoted to the rear upper part of the packing-box frame F, substantially as herein shown and described, whereby the said board is supported, as set forth.

ROBERT INSLEY KIRKPATRICK.

Witnesses:
JOHN W. STEVENS,
J. T. REASOR.