

(No Model.)

J. HOLLINGSWORTH & C. BANISTER.
FEED REGULATOR FOR COTTON GINS.

No. 509,536.

Patented Nov. 28, 1893.

FIG. 1.

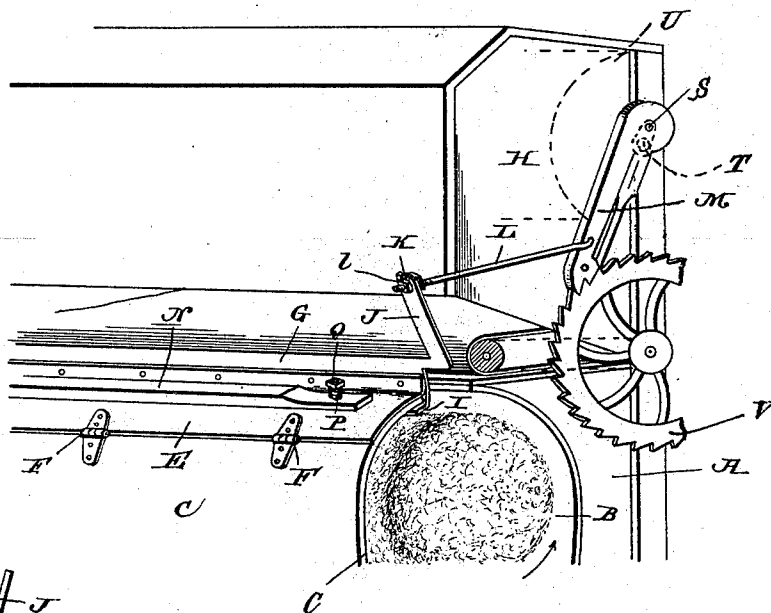


FIG. 2.

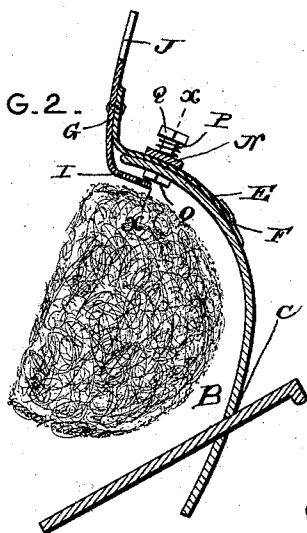


FIG. 3.

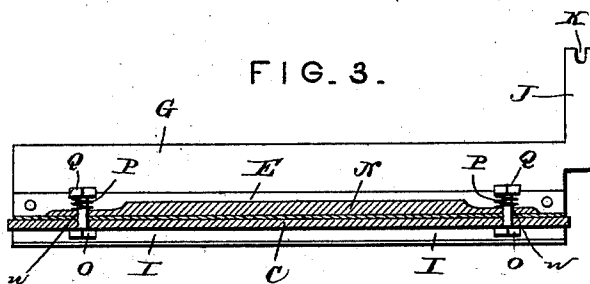
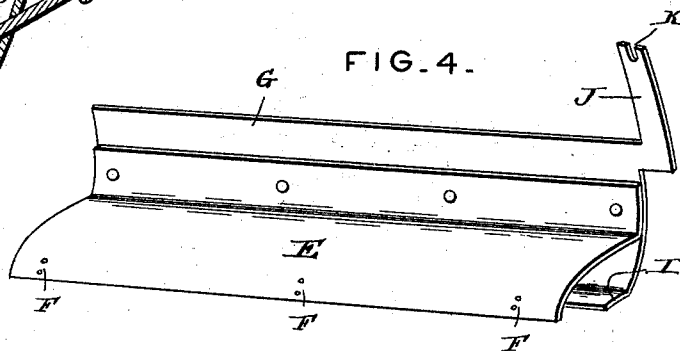


FIG. 4.



Witnesses

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UNITED STATES PATENT OFFICE.

JOSEPH HOLLINGSWORTH AND CHARLES BANISTER, OF WACO, TEXAS.

FEED-REGULATOR FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 509,536, dated November 28, 1893.

Application filed March 7, 1893. Serial No. 464,933. (No model.)

To all whom it may concern:

Be it known that we, JOSEPH HOLLINGSWORTH and CHARLES BANISTER, citizens of the United States, residing at Waco, in the county of McLennan and State of Texas, have invented a new and useful Feed-Regulator for Cotton-Gins, of which the following is a specification.

This invention relates to feed regulators for cotton gins: and it has for its object to provide an improved attachment which is capable of being attached to that class of cotton gins in which circular saws separate the cotton from the seeds, the seed cotton being fed by suitable mechanism into the roll box.

To this end the main and primary object of the invention is to provide a simple feed regulator attachment, whereby the rate of feeding into the roll box will be automatically stopped and started according to the size of the roll in the roll box, so as to effectually prevent the choking of the gin, which necessarily occurs when the cotton roll increases beyond the capacity of the roll box.

With this object and many others in view which will readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated and claimed.

In the accompanying drawings:—Figure 1 is a perspective view of the top feeding end of a cotton gin showing our improved feed regulator applied thereto. Fig. 2 is an enlarged detail sectional view more clearly showing the attachment of the regulator device to the gin breast-board. Fig. 3 is a detail longitudinal sectional view on the line *x—x* of Fig. 2. Fig. 4 is a detail in perspective of the regulator separated from the breast-board.

Referring to the accompanying drawings, A represents the top feeding end of an ordinary gin, in which is located the usual roll box B, inclosed at one side by the gin breast board C, having the usual upper curved end, the roll of cotton in said roll box being designed to be confined between the breast board and the gin ribs between which the gin saws operate in the ordinary manner. Pivoted or hinged to the outside of the upper curved end, of the gin breast board C, is the curved regu-

ator plate E. The curved regulator plate E, is hinged at one edge at F, to the breast-board C, and following the curvature of the curved end of said breast-board, carries at its other movable edge the curved front plate G. The curved front plate G, extends above and below the moving edge of the main regulator plate E, and serves in the auxiliary capacity of forming a guard to direct the cotton into the roll box from the gin feeder H, which is arranged above the gin and is of any improved construction. The lower edge of the curved front plate G, below the plate E, is provided with an inturned roll flange I, which embraces the upper end of the breast-board and projects into the roll box, so that the roll of cotton therein can readily come in contact with the roll flange, in order to lift or swing the regulator, when the size of the roll becomes too large, as will be more particularly referred to.

An attaching arm J, is secured at one end of the curved front plate G, and is provided with an upper slotted end K, which is adapted to adjustably receive the threaded end of the connecting rod L, on which end work the adjusting nuts *l*, on both sides of the attaching arm, so as to provide for the adjustable connection of the connecting rod thereto. The other end of the connecting rod L, is connected to the swinging pawl M, of any suitable pawl and ratchet feed which are very commonly employed in gin feeders. The swinging pawl M, is pivotally connected at its upper end to the eccentric or crank arm pin S, carried on one end of the feed drum shaft T, which shaft rotates with the ordinary feed drum U, one end of which is shown in dotted lines, and which works inside of the gin feeder H, in the ordinary manner. It will of course be understood that the ratchet wheel V, which the pawl engages, is shown projected from the front apron roller of the feed apron, with which it is connected to operate the feed apron of the feeder in the ordinary manner. The construction of the feeder is well known in the art, and this short description is simply intended to show the means of operating the pawl M.

In order to normally hold the regulator plate E, onto the curved end of the breast board, and to cause the parts of the regulator to resume their normal positions when the

feeding of the gin is to be continued, we employ the longitudinally disposed adjusting bar N. The longitudinally disposed adjusting bar N, is provided with perforated ends *n*, loosely taking over the projecting bolts O. The bolts O, are secured in the curved end of the breast-board and extend through perforations in the regulator plate E, so as to project above the adjusting bar, and accommodate on their projecting ends the springs P, which bear on the adjusting bar and serve to hold the regulator plate onto the gin breast and to normally project the flange I, into the roll box.

Now it is thought that the operation of the herein-described regulator will be apparent. Normally, the gin feeder is in operation with the pawl M, in engagement with the ratchet wheel V of the feed mechanism. At the same time, the flange I, projects into the roll box. Now, if by any cause there is too much cotton fed into the roll box, the size of the roll will necessarily increase and come in contact with the roll flange I, of the regulator. This presses up the roll flange and thereby lifts or swings up the entire regulator attachment, which, in turn, draws on the connecting rod L and causes the pawl M, to be lifted out of engagement with the ratchet wheel V. This immediately stops the feeding, but as soon as the roll reduces to the proper size, it allows the several parts of the regulator to resume their normal positions. The size of roll allowed to be operated on may be regulated by adjusting the nuts Q, working on the bolts O, over the springs P, also by means of adjusting the nuts *l*, on the connecting rod.

Changes in the form, proportion and the minor details of construction as embraced within the scope of the appended claims, may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having thus described our invention, what we claim, and desire to secure by Letters Patent, is—

1. In a gin feed regulator, the combination

with a gin, and the gin feeding mechanism; of a regulator plate hinged at one edge to the outside of the gin breast, and provided at its other edge with an inturned roll flange embracing the upper edge of the breast and adapted to project into the roll box of the gin, a spring device for normally holding the regulator plate flat on the gin breast, and a suitable connection from the moving edge of said regulator plate to the gin feeding mechanism for controlling the latter, substantially as set forth.

2. The combination with a gin and the gin feeding mechanism; of a feed regulator comprising a regulator plate hinged at one edge to the gin breast board, a curved front plate at the moving edge of the regulator plate and provided at its lower edge with an inturned roll flange adapted to project into the gin roll box, a connecting rod adjustably connected at one end to said front plate and at its other end to the gin feeding mechanism, and an adjustable spring device bearing on the top of said regulator plate, substantially as set forth.

3. The combination with a gin, and the gin feeding mechanism; of a feed regulator comprising a regulator plate hinged at one edge to the gin breast board and carrying at its other edge a curved end plate having an inturned flange adapted to project into the gin roll box, bolts arranged to project through perforations in said regulator plate, an adjusting bar loosely fitted over said bolts, springs arranged on the bolts and bearing on said bar, a slotted attaching arm secured to said end plate, and a connecting rod adjustably connected at one end to said attaching arm and at its other end to the gin feeding mechanism, substantially as set forth.

In testimony that we claim the foregoing as our own we have hereto affixed our signatures in the presence of two witnesses.

JOSEPH HOLLINGSWORTH.

CHARLES BANISTER.

Witnesses:

W. A. CASSEDAY,

R. S. VAUGHAN.