

R. HATHAWAY.
COTTON GIN FEEDER.

Patented Nov. 10, 1891.

Fig. 1.

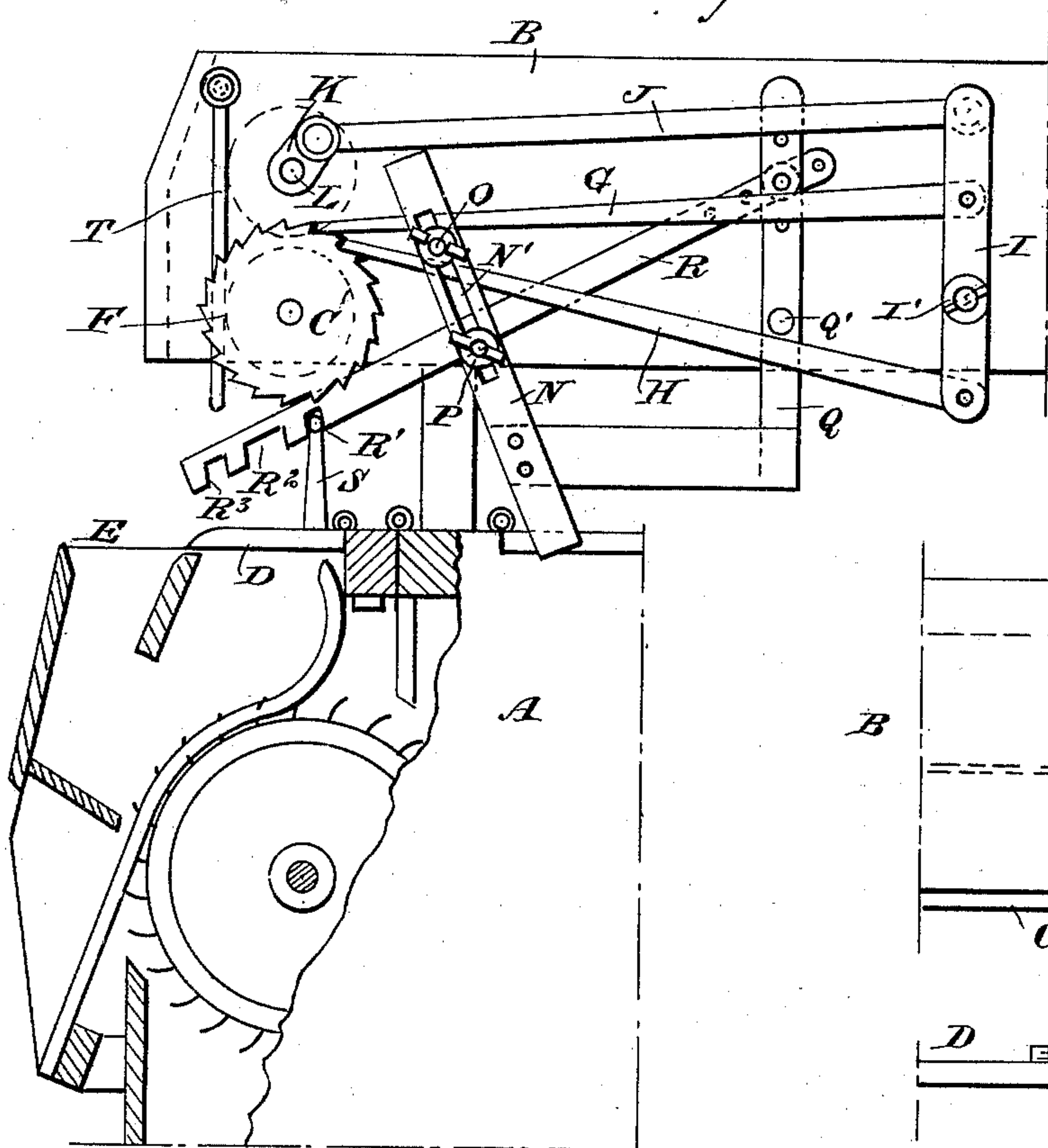


Fig. 3.

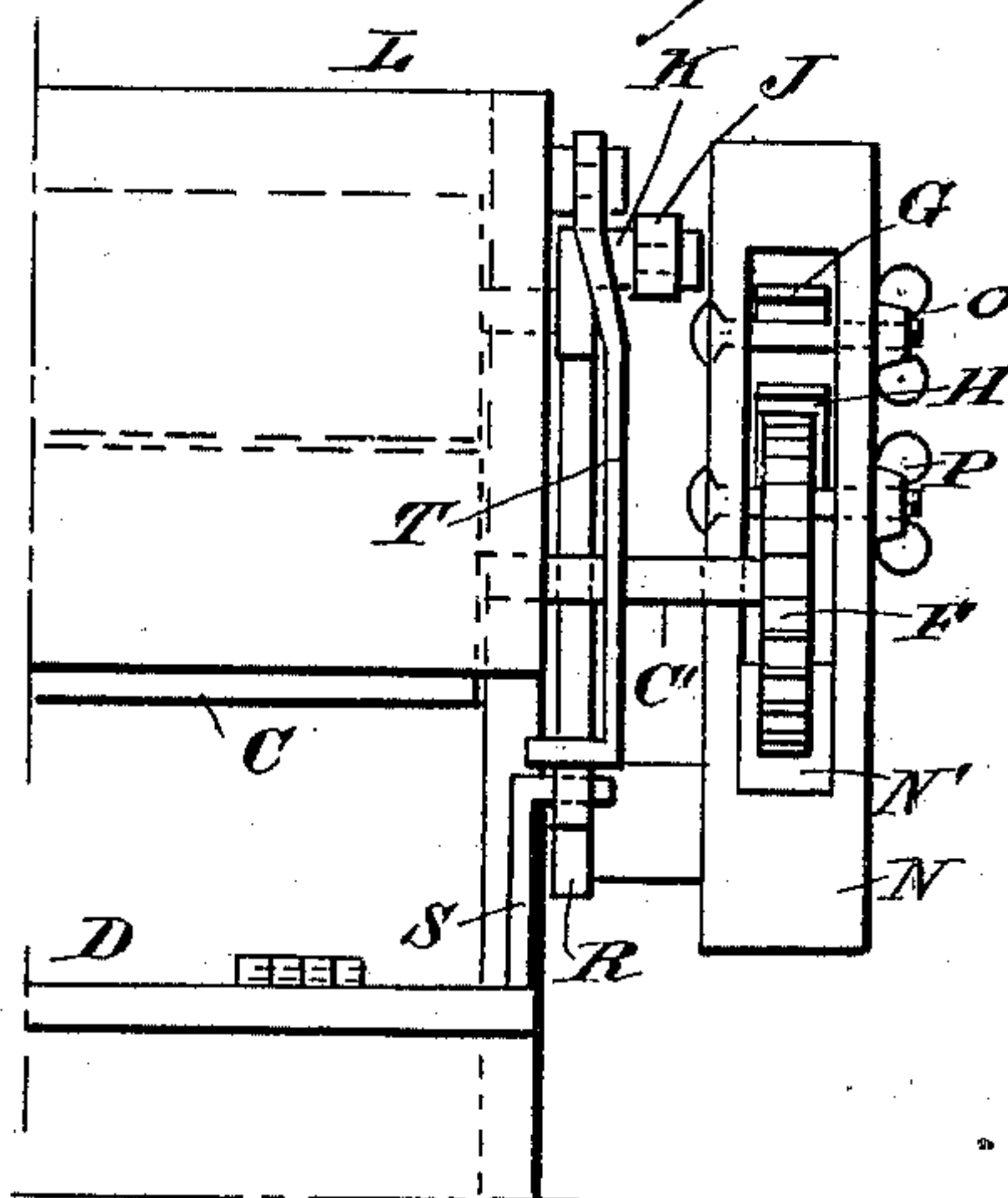
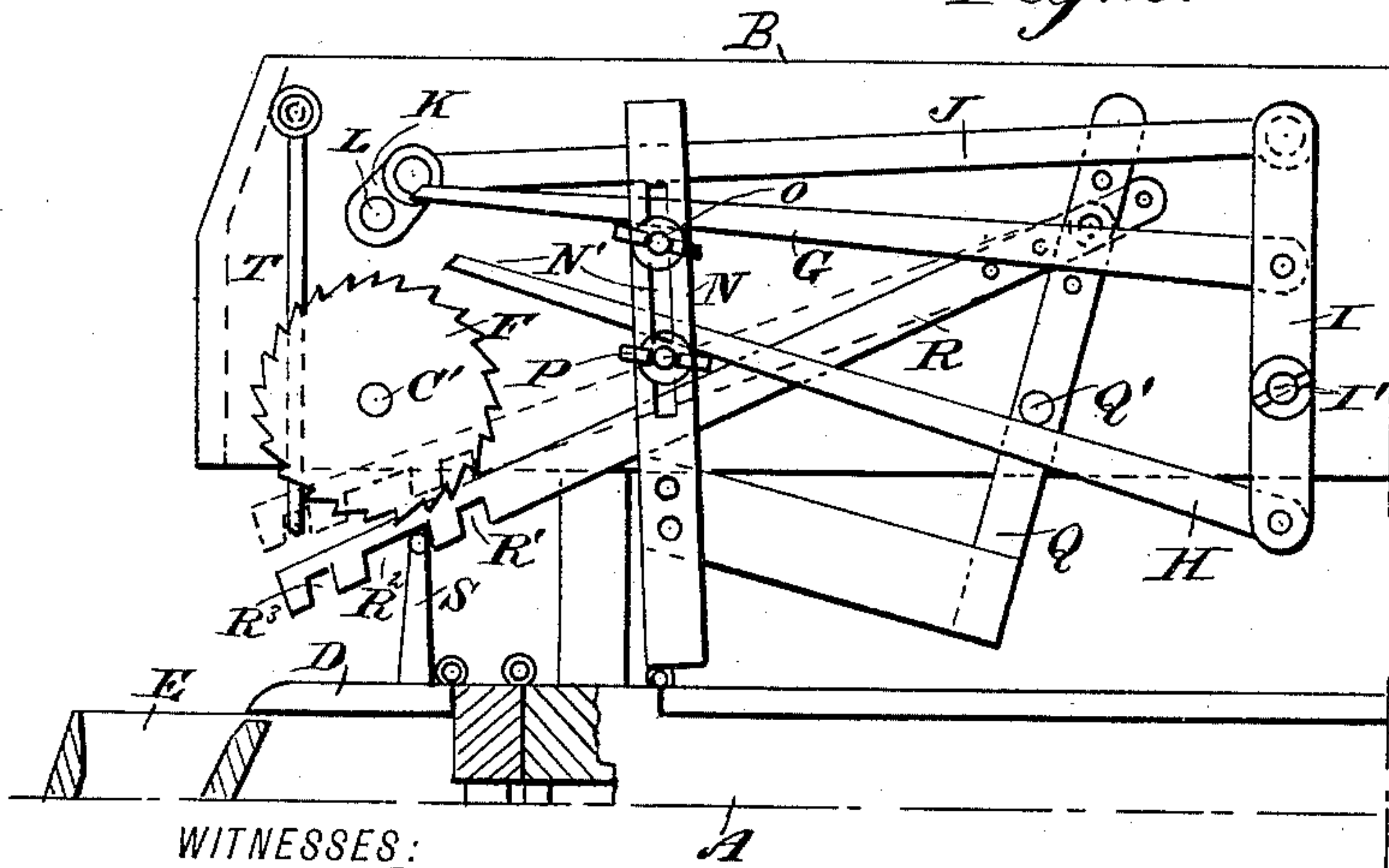


Fig. 2.



WITNESSES:

Donn Twitchell
C. Sedgwick

INVENTOR

BY *R. Hathaway*
Munn & Co
ATTORNEYS.

UNITED STATES PATENT OFFICE.

RALPH HATHAWAY, OF MEMPHIS, TENNESSEE.

COTTON-GIN FEEDER.

SPECIFICATION forming part of Letters Patent No. 463,052, dated November 10, 1891.

Application filed August 7, 1891. Serial No. 401,998. (No model.)

To all whom it may concern:

Be it known that I, RALPH HATHAWAY, of Memphis, in the county of Shelby and State of Tennessee, have invented a new and Improved Cotton-Gin Feeder, of which the following is a full, clear, and exact description.

The invention relates to cotton-gins; and its object is to provide a new and improved feeding mechanism which is simple and durable in construction, very effective in operation, and arranged to automatically feed the proper quantity of cotton to the gin as required by the latter.

The invention consists of a lever controlled from the gin-lid and controlling the feed-pawls of the feed-roller.

The invention also consists of certain parts and details and combinations of the same, as will be hereinafter described, and then pointed out in the claims.

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

Figure 1 is a side elevation of the improvement as applied, with parts of the gin in section. Fig. 2 is a like view of the same in a different position, and Fig. 3 is a front view of the same.

The gin A, of any approved construction, supports on top the feed-box B, containing in its front end the usual feed-roller C, located above the hinged lid D of the gin, the said lid guiding the cotton to the feed-hopper E, leading to the drum of the gin.

On one end of the shaft C' of the feed-roller C is secured the ratchet-wheel F, engaged by the two pawls G and H, pivotally connected with a lever I, having its fulcrum I' on the feed-box B, the fulcrums of the feed-pawls G and H being at opposite sides of the fulcrum I'. Thus when the lever I receives a rocking motion the feed-pawls G and H alternately operate on the ratchet-wheel F, so as to impart a continuous rotary motion to the latter and consequently to the feed-roller.

One end of the lever I is pivotally connected by a pitman J with a crank-arm K, held on a shaft L, mounted to turn in suitable bearings in the feed-box B and carrying the usual second feed-roller located above the first feed-roller C. The shaft L receives a continuous

rotary motion, so that a rocking motion is imparted by the crank-arm K and the pitman J to the lever I to cause the feed-pawls G and H to rotate the lower feed-roller C in the manner above described. The device thus far described is not new and is used on gins. Now in order to control the feed-pawls G and H according to the working capacity of the gin A the following device is provided: The two feed-pawls G and H pass through an arm N, formed with a slot N', in which are held adjustably two bolts O and P, of which the former is located below the feed-pawl G and is adapted to engage the latter when the arm N is raised. The other bolt P is located below the feed-pawl H and is adapted to raise the latter when the arm N swings upward. The arm N is fastened to a lever Q, pivoted at Q' to one side of the feed-box B, the said lever being also pivotally connected with a link R, formed at its free end with a series of notches R', R², and R³, of which the first two are adapted to be engaged by a projection S, secured on the lid D, as plainly shown in the drawings. The last-mentioned notch R³ is adapted to be engaged by an arm T, pivoted on the box B and formed at its lower end with a hook for engaging the said notch R³.

The operation is as follows: When the gin is running, the projection S engages the notch R', so that the lever Q and the arm N are in their normal positions, so that the bolts O and P are out of engagement with the feed-pawls G and H, respectively, and the latter actuate the ratchet-wheel F and the feed-roller C in the usual manner. Now when the gin contains more cotton than can be worked off by the drum the surplus cotton presses on the lid D, so that the latter is raised, carrying along the projection S. The latter, on account of being in engagement with the link R, pushes the latter rearwardly, so that the lever Q is caused to swing, thereby moving the arm N upward. The bolt O is first brought into contact with the feed-pawl G, so that the latter is raised off the ratchet-wheel F, and the feed-pawl H alone is working on the ratchet-wheel F, so that the speed of the roller C is reduced about one-half. In case an obstruction is in the gin, so that the lid D is raised still further, then the bolt P is finally brought into contact with the feed-pawl H,

and the latter is also raised off the ratchet-wheel F, so that the feeding ceases entirely. It is understood that the bolts O and P are arranged relatively to the feed-pawls G and H, and that the feed-pawl G is first lifted out of contact with the ratchet-wheel F by its bolt O before the other bolt P engages its feed-pawl H. As soon as the gin works off the cotton, the lid swings back to its former position, so that the feed-pawls H and G are both let down on the downward swinging of the arm N, so that the free ends of the said feed-pawls are again brought in contact with the ratchet-wheel F, and the feeding proceeds in the usual manner.

When it is desired to throw off the feed, the operator takes hold of the lower end of the link R, lifts the same so as to disengage the lug S from the notch R', and then the operator pushes the link R rearward until the notch R² engages the projection S, as illustrated in Fig. 2, whereby the lever Q has been swung in such a position that the arm N, with its bolts O and P, has lifted the feed-pawls G and H out of contact with the ratchet-wheel F. When the operator desires to examine the gin, he takes hold of the link R, lifts the same out of engagement with the lug S, and extends it with the notch R³ on the end of the pivoted arm T. By doing this the lever Q is moved into a position similar to the one shown in Fig. 2, whereby the feed-pawls G and H are thrown out of engagement with the ratchet-wheel F and the feeding ceases.

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

1. In a gin-feeder, the combination, with the feed-pawls and the pivoted gin-lid, of a link adapted to engage the said lid, a lever pivotally connected with the said link, an arm held on the said lever, and bolts held on the

said arm and adapted to engage the said feed-pawls, substantially as shown and described.

2. In a gin-feeder, the combination, with the gin-lid provided with a lug, the feed-pawls, and the feed-roller, of a link adapted to be engaged by the said lug, a lever pivotally connected with the said link, and bolts held adjustably on an arm of the said lever, the said bolts being adapted to engage the said feed-pawls, substantially as shown and described.

3. The combination, with the gin-lid having a lug or projection and the feed-pawls, of a pivoted lever having an arm provided with transverse bolts below the respective pawls, a link connected with said lever and having a notched outer end engaging the lid lug or projection, and a suspension-arm above the lid to engage said notched end and hold the link raised, substantially as set forth.

4. In a gin-feed, the combination, with the two feed-pawls, of a vertically-rocking lever having two transverse bolts or pins below the said pawls, the upper bolt or pin being nearer to the upper pawl than the lower bolt or pin is to the lower pawl, whereby the pawls will be successively operated, and means for operating the said rocking lever, substantially as set forth.

5. The combination, with the pivoted gin-lid and the feed roll and pawls, of the vertically-rocking lever having a longitudinally-slotted arm N, extending up past both pawls, two transverse bolts extending through the slot under the pawls and provided with adjusting-nuts, and a link connecting the lever with the gin-lid, substantially as set forth.

RALPH HATHAWAY.

Witnesses:

J. W. JEFFERSON,
J. M. COLEMAN.