(No Model.)

R. L. BRANDON.

FEED REGULATOR FOR COTTON GINS.

No. 405,245. Patented June 18, 1889.

Fig. 1.

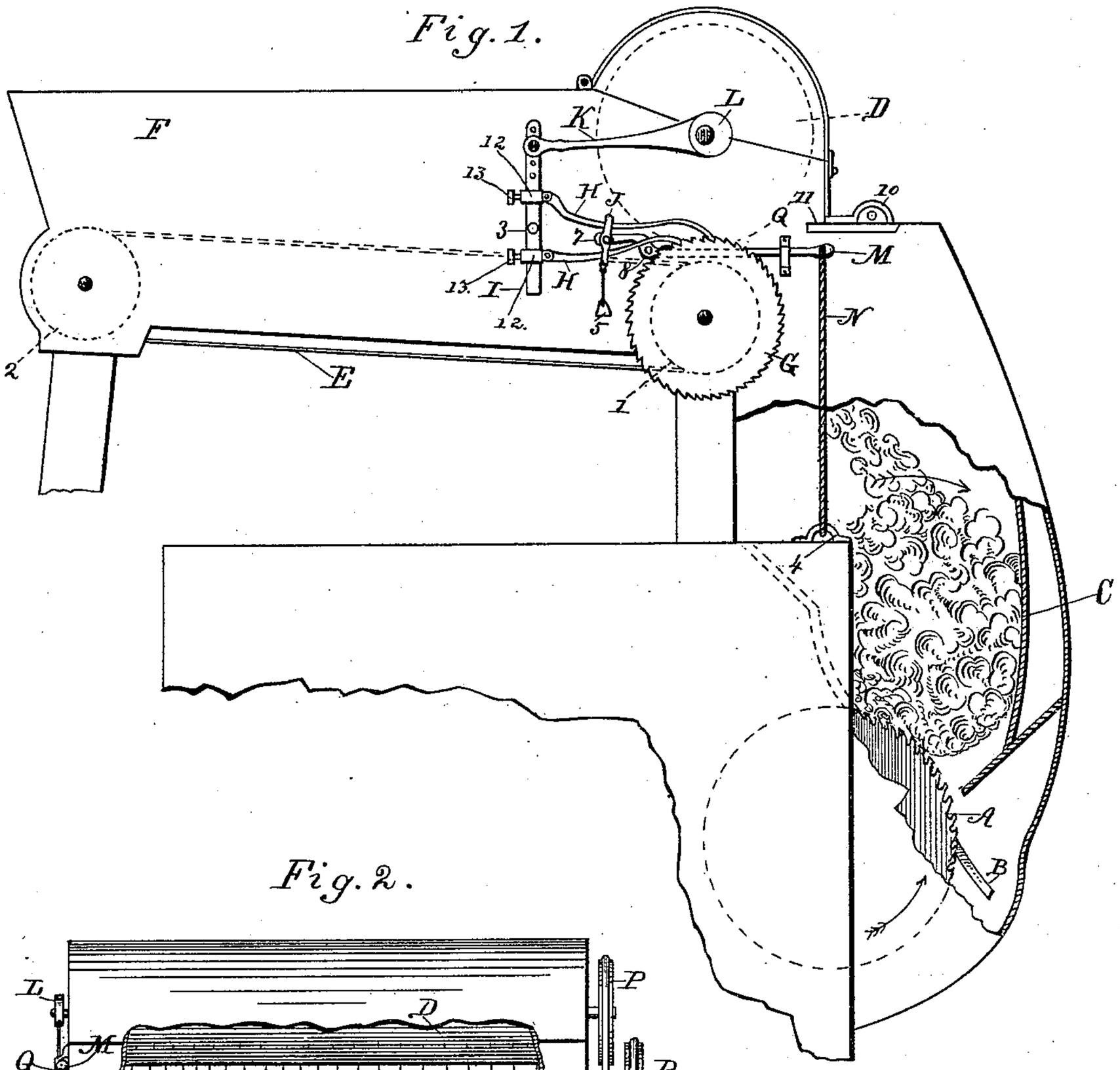
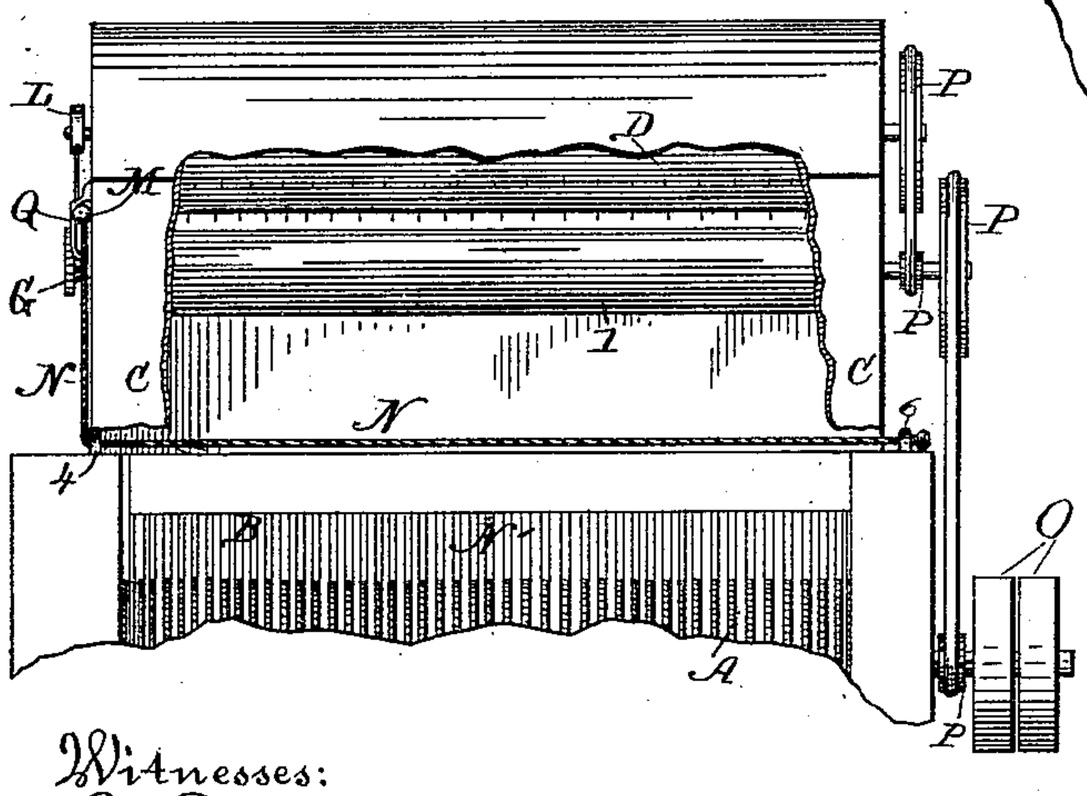


Fig. 2.



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UNITED STATES PATENT OFFICE.

ROBERT LINDSAY BRANDON, OF NEAR FORT ADAMS, MISSISSIPPI.

FEED-REGULATOR FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 405,245, dated June 18, 1889.

Application filed April 19, 1888. Serial No. 271,198. (No model.)

To all whom it may concern:

Be it known that I, ROBERT LINDSAY BRANDON, a citizen of the United States, residing near Fort Adams, in the county of Wilkinson and State of Mississippi, have invented certain new and useful Improvements in Feed-Regulators for Cotton-Gins; 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.

In the annexed drawings, Figure 1 represents a broken side elevation of a portion of a cotton-gin embodying my invention. Fig. 2 is a broken front view of the same.

The object of my invention is to produce an equal and uniform feed in a cotton-gin that shall also be automatic or self-regulating; and the invention consists in the combination and arrangement of the several parts, as hereinafter described and shown.

Identical letters and figures in the drawings represent corresponding parts.

Letter A indicates the saws, and B the ribs of the grid; C, breast-board; D, evener-cylinder; E, endless apron; F, hopper; G, ratchet-wheel; H H, pawls; I, rocker-arm, and J link with its weight 5; K, connecting-rod, and L eccentric upon shaft of evener-cylinder; M, lever to regulate feed; N, cord running from staple 6, through staple 4, to lever M; O, main driving-pulley, and P pulleys by which evener-cylinder is run; Q, keeper for lever M; 1 and 2, front and rear supporting-rollers of endless apron; 3, pivot of rocker-arm I; 7, pivot of link J, and 8 pivot of lever M; 10, hinge of breast-broad C, and 11 projection to operate lever M.

The construction, operation, and effect of my machine are as follows: The motive power is applied in the usual way to the main driving-pulley O, and thence by belts and pulleys P P P P to the evener-cylinder D, which, as will be shown, operates the endless apron E, all supported and running in a suitable frame. This apron E runs upon the rollers 1 and 2, Fig. 1, and to roller 1 is secured a ratchet-wheel G, which is operated by means of the pawls H H. Upon the shaft of the evener-cylinder D is secured an eccentric L, which operates a connecting-rod K, pivoted at the other end to the rocker-arm I. This rocker-arm is pivoted upon a suitable support at 3, and fitting around said rocker-arm, yet adapted to be moved thereon, are adjustable slides or clamps 12 12, Fig. 1—one above and the other below the pivotal point of said arm, and retained in such position as may be found desirable by means of set-screws 13 13, which pass through said slides and bear upon the shaft. To these slides are pivoted pawls H H, which engage and actuate the ratchet-wheel G on a roller of the endless apron E, each pawl acting alternately as propeller, and then retiring for fresh engagement with the ratchet. The point of pivoting the pitman K to the rocker-arm I may be changed to either of the holes in the upper end of said shaft, as shown, Fig. 1, and the position and action of the pawls upon the ratchet-wheel may also be changed by moving the slides 12 12, and by such adjustments the movement of the endless apron and the amount of feed to the evener-cylinder and the saws may be accelerated, modified, or arrested. These pawls work through separate slots in a link J, to the bottom of which is attached a weight 5, which serves to hold the pawls to their engagement with the ratchet-wheel G.

M is a lever, the use and object of which are, in conjunction with link J, to regulate or arrest the feed from the endless apron E to the evener-cylinder D. This lever is fulcrumed on a pivot at 8, suitably supported, and is also pivoted to the link J at 7 and works through the keeper Q, as shown, Fig. 1.

It is evident that by the depression of the long end of lever M at Q the link J will be raised and the pawls H H disengaged from their engagement with the ratchet-wheel G whenever, from too heavy a feed or from other reasons, it is desired to check or arrest the feed. This operation can be effected in three ways:

First. By the hand of the operator.

Second. By the automatic action of the cotton as it falls into the saw-chamber from the evener-cylinder, by means of a cord N, which is secured by a staple 6 near the front end of the frame, and runs thence horizontally and taut through the saw-chamber to and through

the guide-staple 4 at the left of said frame, and thence upward, where it is attached to lever M. Whenever the cotton is fed to the saws faster than they can dispose of it, the over-accumulation of cotton in the roll-box causes an increase in the bulk of the roll, and it consequently presses against the cord N and deflects it, which thus necessarily pulls upon and depresses the lever M at Q, which thus raises the link J and disengages the pawls from the ratchet until the saws having disposed of the extra feed the pressure on the cord N is relieved, the link drops, the pawls resume their engagement with the ratchet-wheel, and the apron again moves.

Third. The breast-board, as shown, is hinged at 10, and is provided with a projection at 11, which projection, when the breast-board is raised to open the saw-chamber, will press upon the front end of lever M, and also stop the feed until the board is lowered again to its former position.

It is obvious that the sensitiveness of the lever M to the action of the cord N may be increased or decreased by varying the point of attachment of the cord N thereto; in other words, by varying the length of said lever.

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

1. In a cotton-gin, the combination, with a feed-ratchet and its operating pawl or pawls and means for actuating said pawls, of link J and lever M, on which said link is carried, and the cord N and roll-box or saw-chamber, the said cord being connected at one end to the lever M and extending across the roll-box or saw-chamber in position to be deflected by an overaccumulation of cotton, substantially as shown and described.

2. In a cotton-gin, the combination, with a feed-ratchet and its operating pawl or pawls and means for actuating said pawls, of link J and lever M, on which said link is carried, and a hinged breast-board C, provided with projection 11, whereby, when said breast-board is raised, the lever M is depressed and the feed is cut off, substantially as shown and described.

In testimony whereof I affix my signature in presence of two witnesses.

ROBERT LINDSAY BRANDON.

Witnesses:
H. T. VAN EATON,
ROBERT BRITTAIN.