

J. B. MILES.  
Cotton-Gin Feeder.

No. 15,381.

Patented June 22, 1856.

Fig. 1.

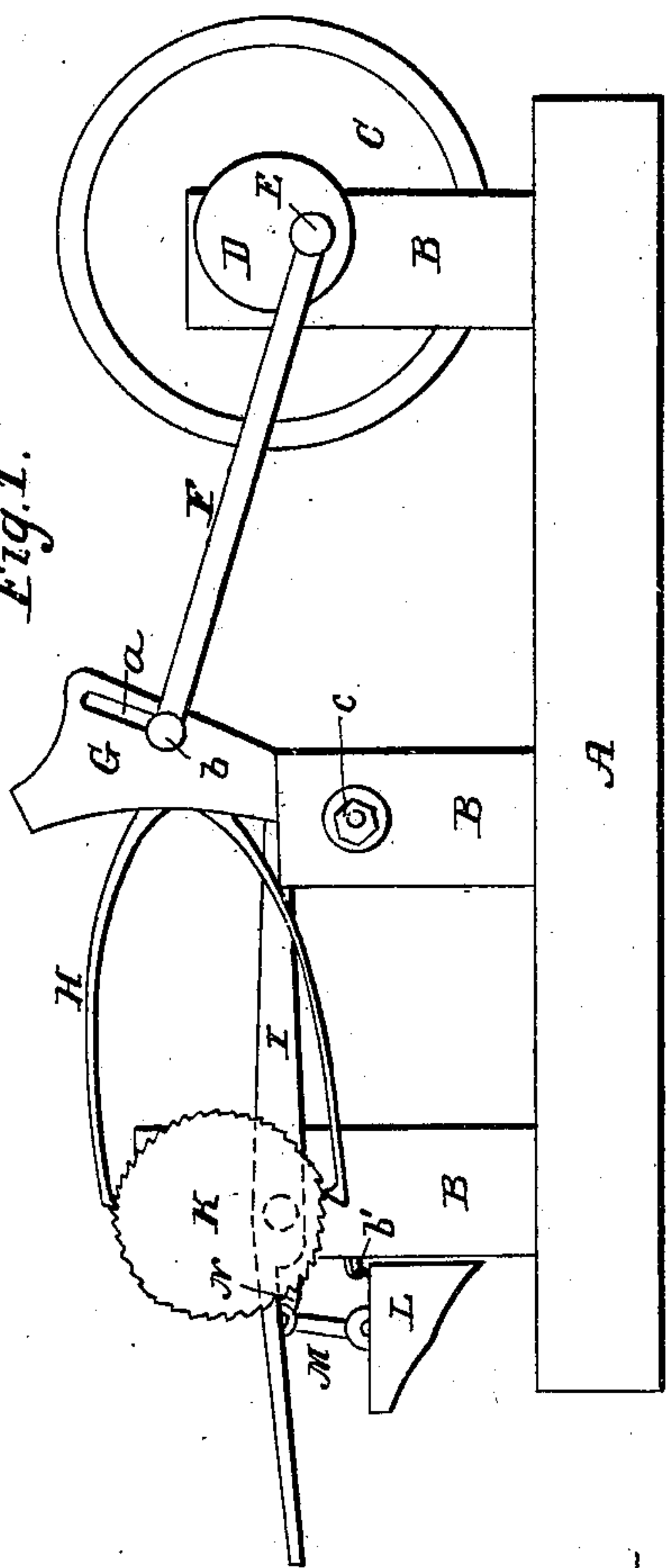


Fig. 2.

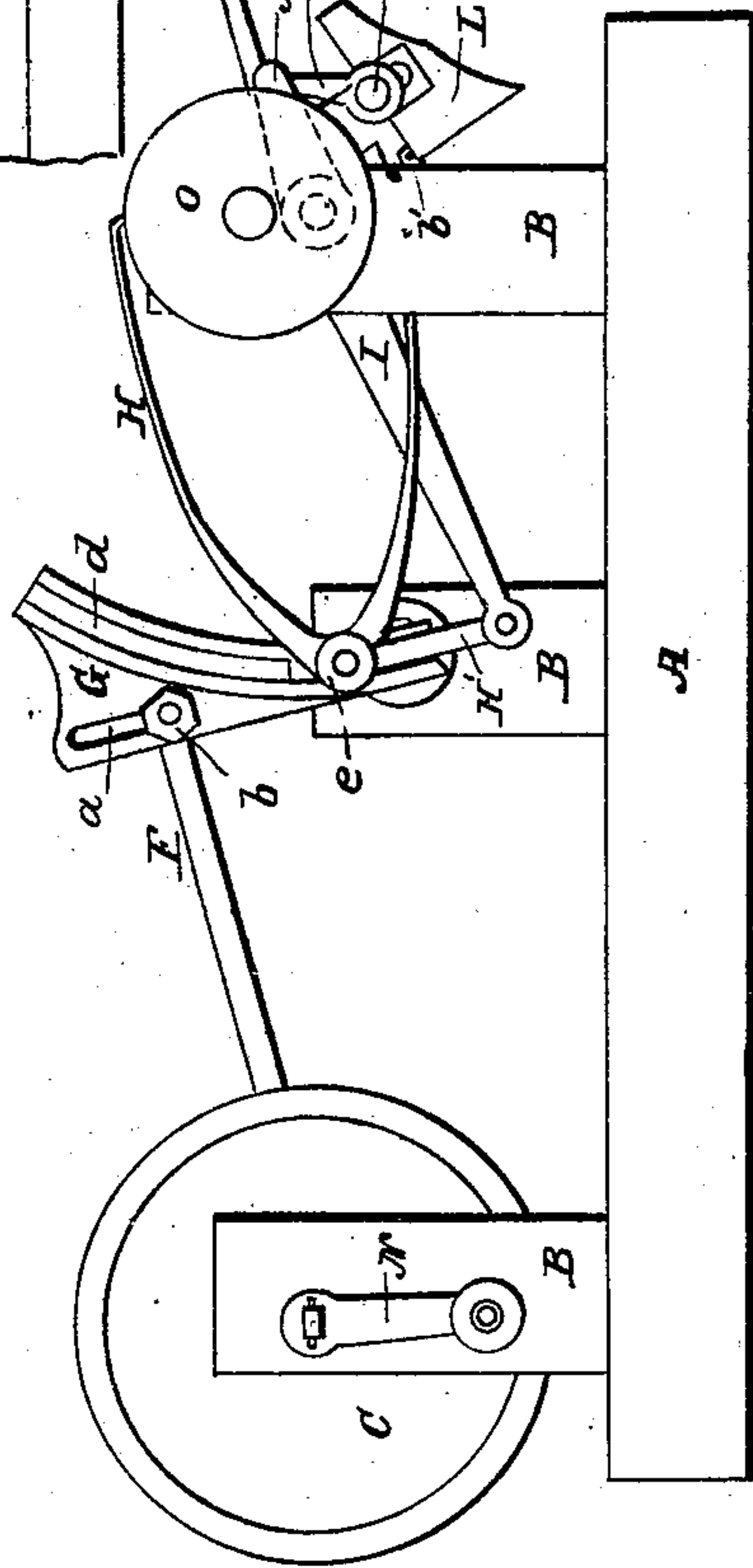
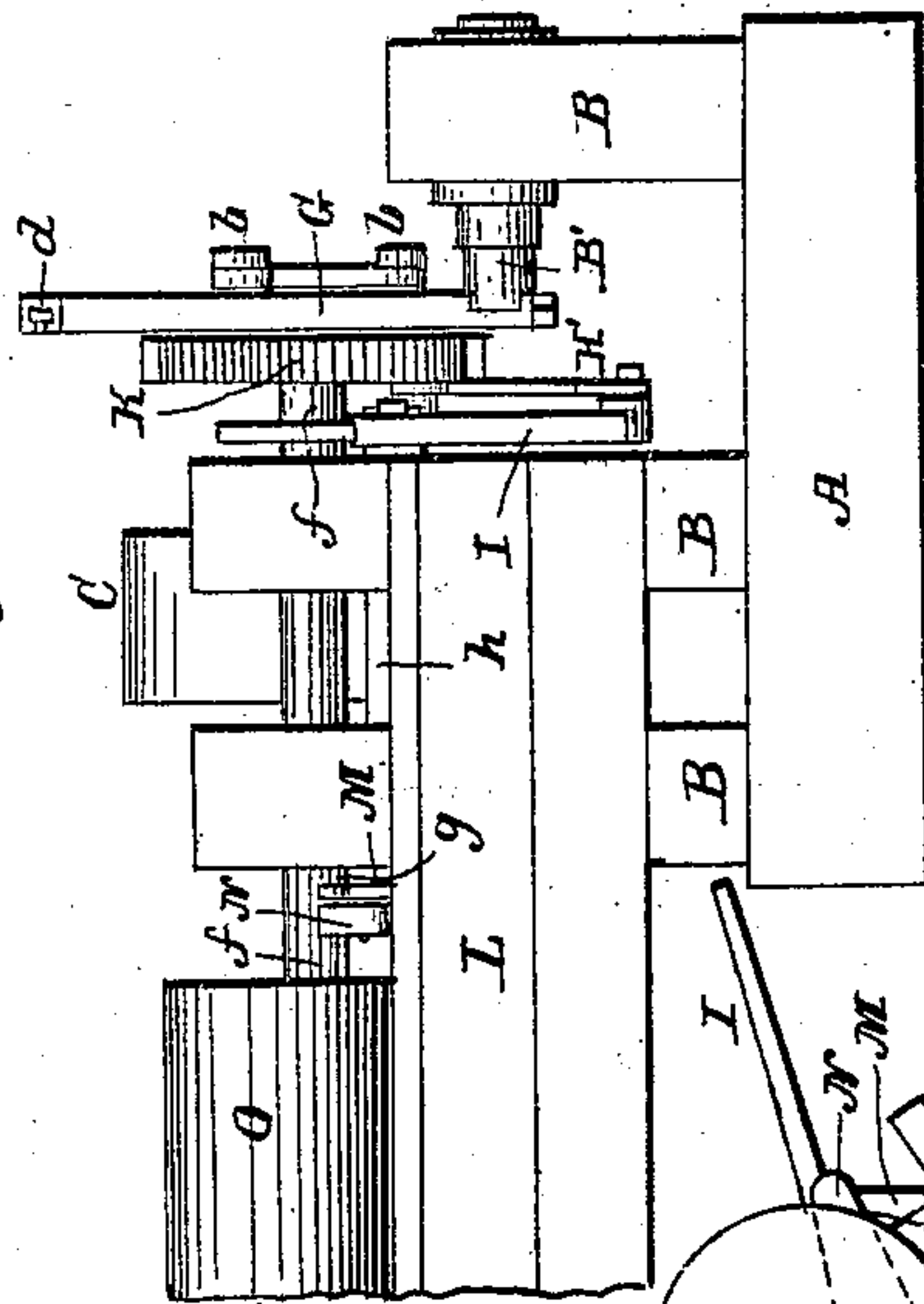


Fig. 3.



# UNITED STATES PATENT OFFICE.

JAMES B. MILES, OF CHICOT, ARKANSAS.

## IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. 15,381, dated July 22, 1856.

*To all whom it may concern:*

Be it known that I, JAMES B. MILES, of Chicot county, and State of Arkansas, have invented a new and Improved Self-Regulating Feeder for Cotton-Gins; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

Figure 1 is a side view with the feed or regulating board down. Fig. 2 is a side view with the feed or regulating board elevated. Fig. 3 is a front end view.

The nature of my invention consists in the combination of the ratchet-wheel and double-spring ratchets with eccentric levers, with feed-rollers and revolving board, for the purpose of a self-regulating feeder for cotton-gins.

To enable others skilled in the art to make and use my invention, I will proceed to describe its construction and operation.

In the construction of my invention I use any of the known materials for such purposes.

In Fig. 1, A is the base; B, the uprights for bearings of shafts; C, driving-pulley; D, eccentric-wheel on the end of shaft passing through driving-wheel; E, eccentric-pin; F, connecting-rod; G, eccentric lever; *a*, slot; *b*, pin for attaching the connecting-rod; H, double-spring ratchets; I, lever; K, ratchet-wheel; L, revolving board; *b'*, hinge of board; M, lever attached to the swing-board; *c*, the bearing of the eccentric lever G.

In Fig. 2, A is the base; B, the uprights; C, the driving-pulley; N, the crank on the shaft of the driving-pulley; F, connecting-rod; G, eccentric lever; *a*, slot in it; *b*, pin passing through slot *a*; *d*, the groove in eccentric lever; H, double-spring ratchet; *e*, bearing of the spring-ratchet H; J, lever for regulating the feed; H', connecting-lever between the lever J and the bearing of the ratchet H; O, the feed-roller on the same shaft with ratchet-wheel K, as seen in Fig. 1; *f*, end of shaft; L, a swing-board; M, lever attached to swing-board L, for regulating feed, having a joint at the board and one at lever N; *g*, bearing of lever M.

In Fig. 3, A is the base; B, the uprights; C, the pulley-wheel; B', the shaft or bearing of eccentric lever; *b*, the bearing of connecting-rod F; G, eccentric lever; K, ratchet-wheel;

*f*, shaft of ratchet-wheel and feed-roller; O, feed-roller; J, regulating-lever; *h*, the shaft to which said lever is attached; N, the lever on the other end of shaft *h*; M, lever attached to swing-board connecting with lever N; *g*, bearing at the board; *g'*, bearing at lever N; L, swing-board.

In the operation of my invention my feeder can be attached to the gin-stand itself, and form a part of it; or it can be made separate and attached to the gins now in use by means of a pulley on the saw-shaft, and operated by a band extending to pulley C, for operating the feeder.

The general arrangement of the invention is the same whether the machine is a part of the gin-stand or a separate attachment. Motion being given the pulley C, as it revolves on its shaft the connecting-rod F operates on the eccentric lever G, which operates the double-spring ratchets H, which catch into the ratchet-wheel K, which revolves the feed-roller O. The feed-roller can be made with teeth on it, may be fluted, or a band may be passed around it for feeding the cotton to the gin. It will be seen that by means of the double-spring ratchets the teeth feed alternately, and as the wheel C revolves they catch twice at each revolution, one pushing the wheel K while the other pulls it, thus keeping up a nearly continuous motion on the feed-roller. When the cotton is first fed to the gin, the swing-board is down, with its rear side against the post B', as seen in Fig. 1, and the bearing-point of the ratchet H is elevated in the groove *d* by means of the slide *i*, which works in it, and which is the bearing of the spring-ratchets, as seen in Fig. 2. When the machine is in this position, the feeder is set for feeding rapidly; but as the machine may feed too rapidly, the roll of cotton will pass under the swing-board and press against its concave side, pressing it toward the frame, and as this is pressed up by the roll of cotton the levers J and N, which are attached to the opposite ends of shaft *h*, are elevated and the bearings of the double ratchets are depressed by sliding in the groove *d* in the eccentric lever G, as seen in Fig. 2 at *e* and *i*. When the motion becomes short and the feed is slow, and as the roll of cotton is reduced, the weight of the swing-board is sufficient to depress it to its original



position, and the rear end of the ratchets will then be elevated in the groove *d* again, causing the speed of the feeder to increase, as before described, thus regulating alternately between a speed fast or slow, as the case may require.

I do not confine myself to the particular arrangement which is herein represented, for I may find it necessary, in adapting my invention to cotton-gins, to depart somewhat from the form of construction, but not the principle of feeding by the machine.

The swing-board is placed below the roller O, and it and the roller are to be the same length and width as the gin. The cotton is to

be placed in a hopper and let down to the feed-roller through a feed-spout at an angle sufficient to feed the cotton by its own pressure.

Having thus fully described the construction and operation of my invention, what I claim as new, and wish to secure by Letters Patent, is—

The arrangement of the swing-board L, in combination with the mechanism herein described, so that the varying size of the roll of cotton in the gin shall govern the feed and keep it uniform, or nearly so.

JAMES B. MILES.

Witnesses:

T. G. CLAYTON,

C. M. ALEXANDER.