

(No Model.)

3 Sheets—Sheet 1.

J. D. MILBURN.

COTTON GIN.

No. 274,806.

Patented Mar. 27, 1883.

Fig. 1.

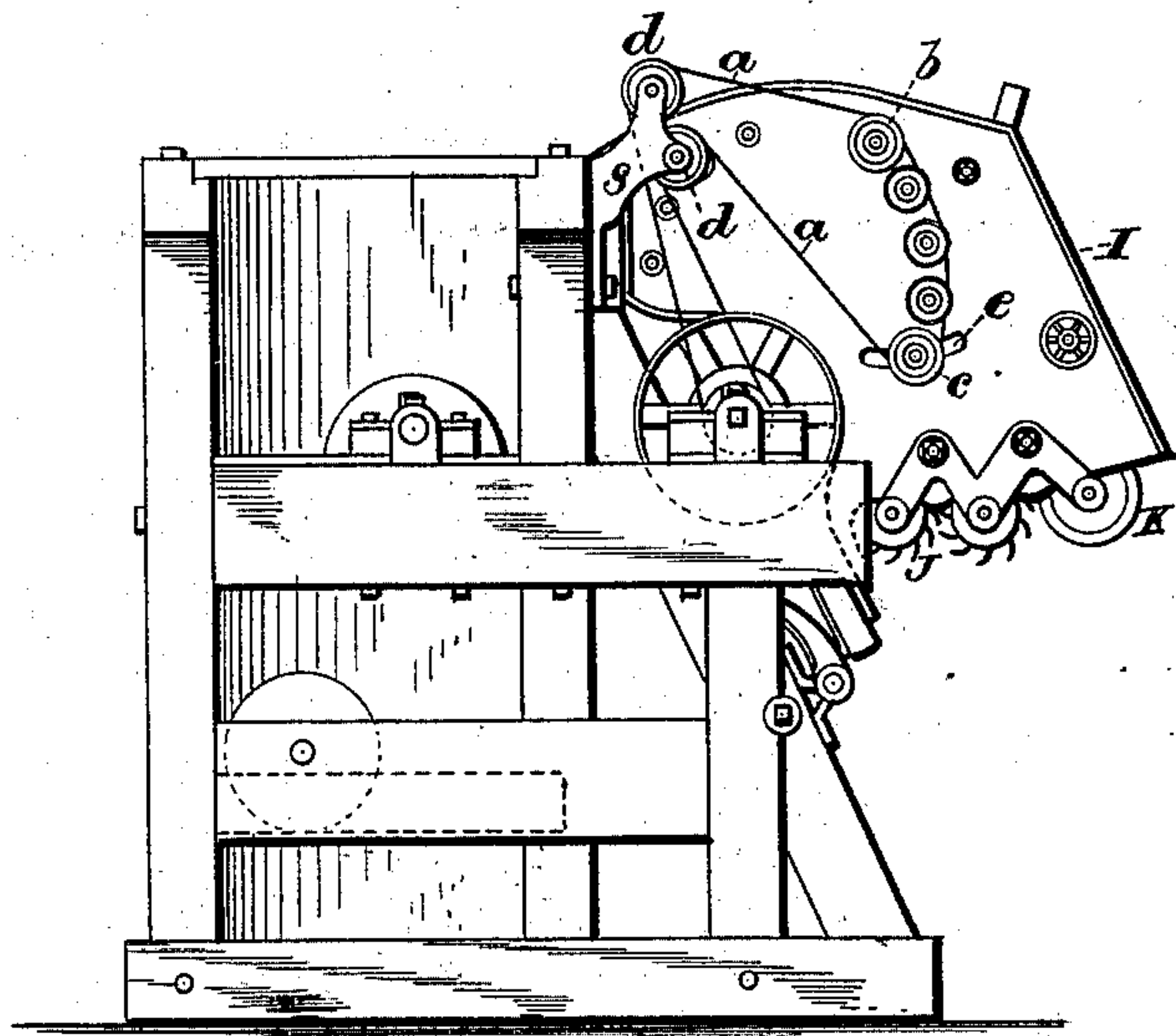
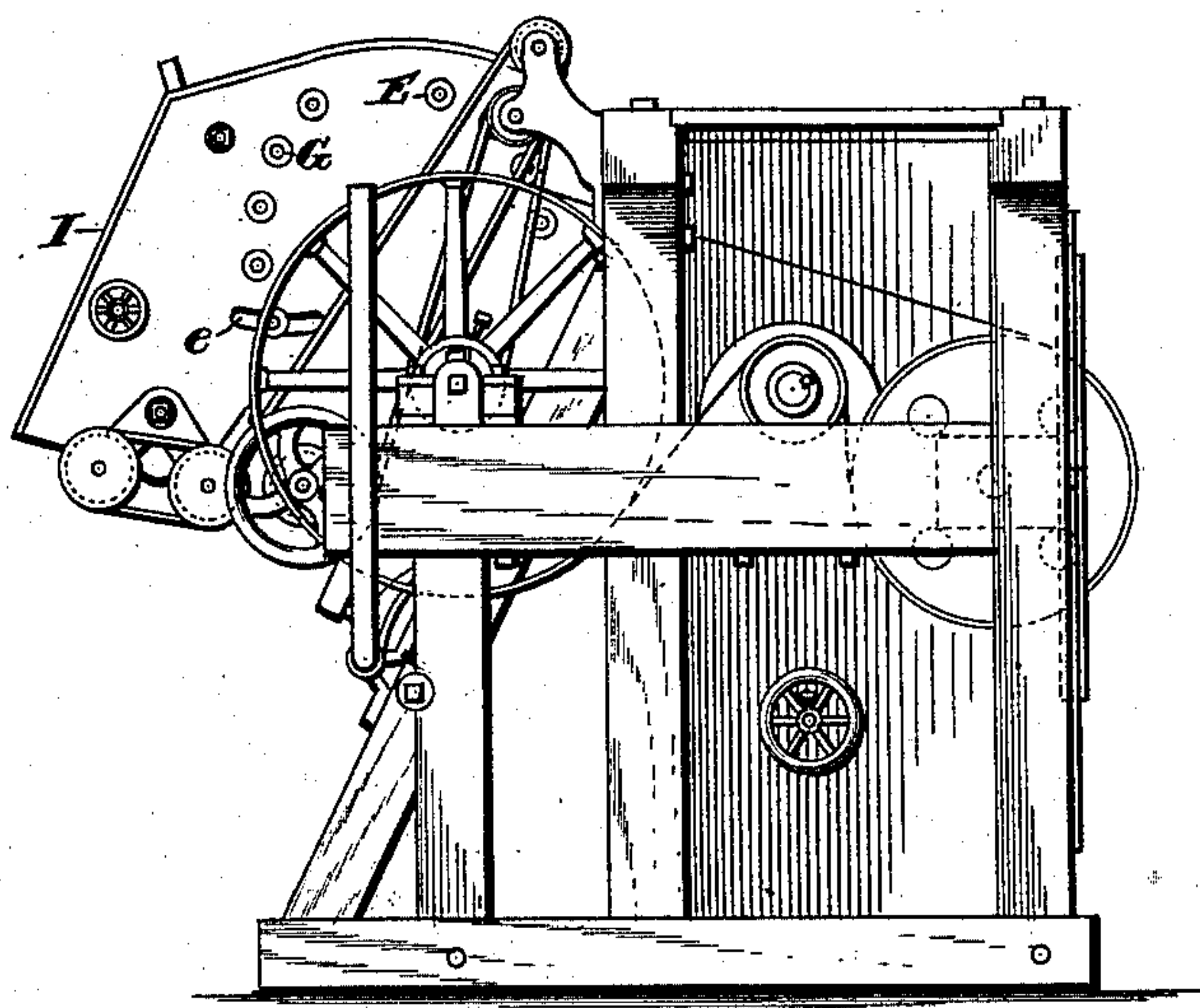


Fig. 2.



Witnesses.

Robert Everett.

A. H. Norris.

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John D. Milburn.

By James L. Norris,
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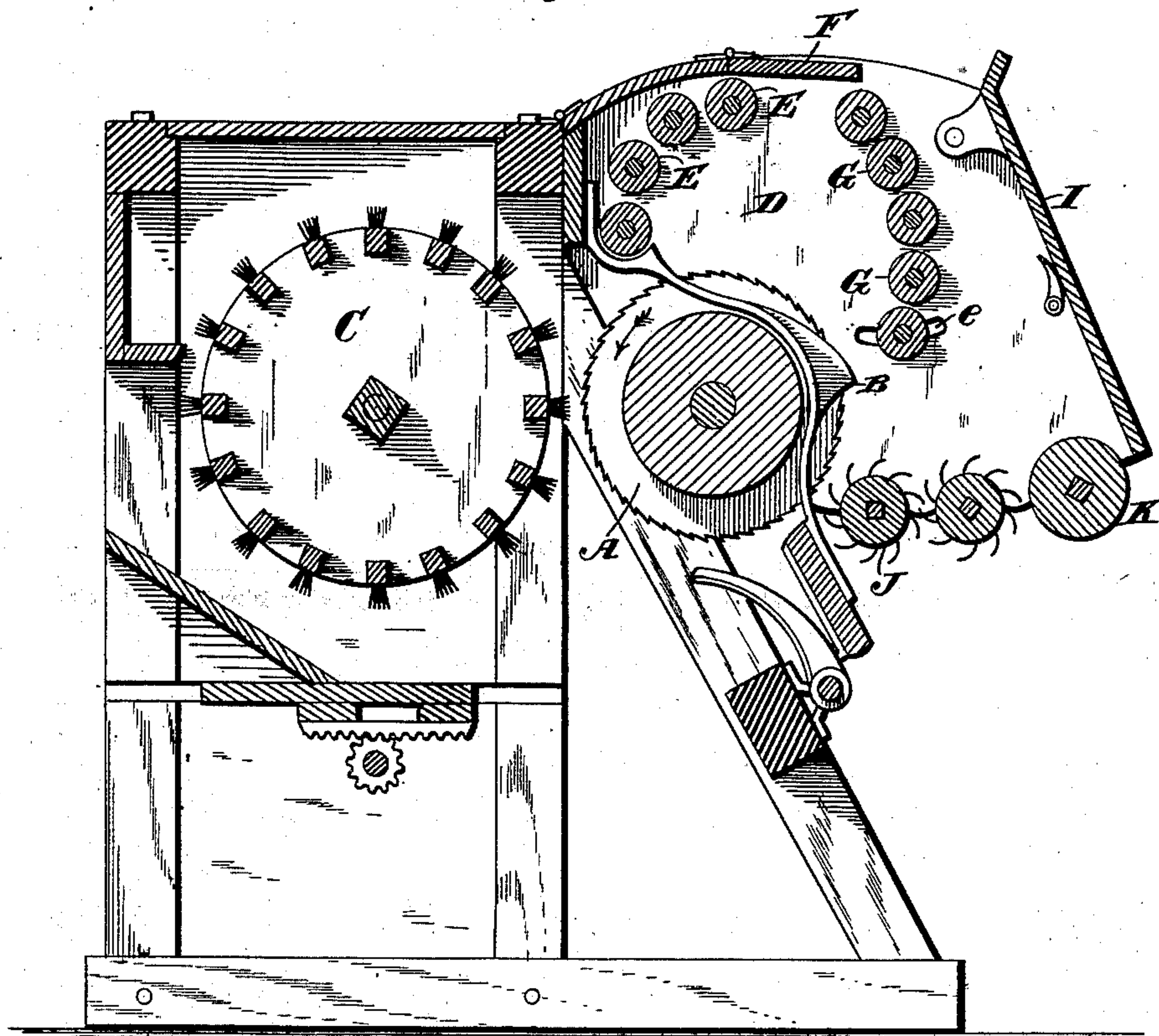
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Fig. 3.



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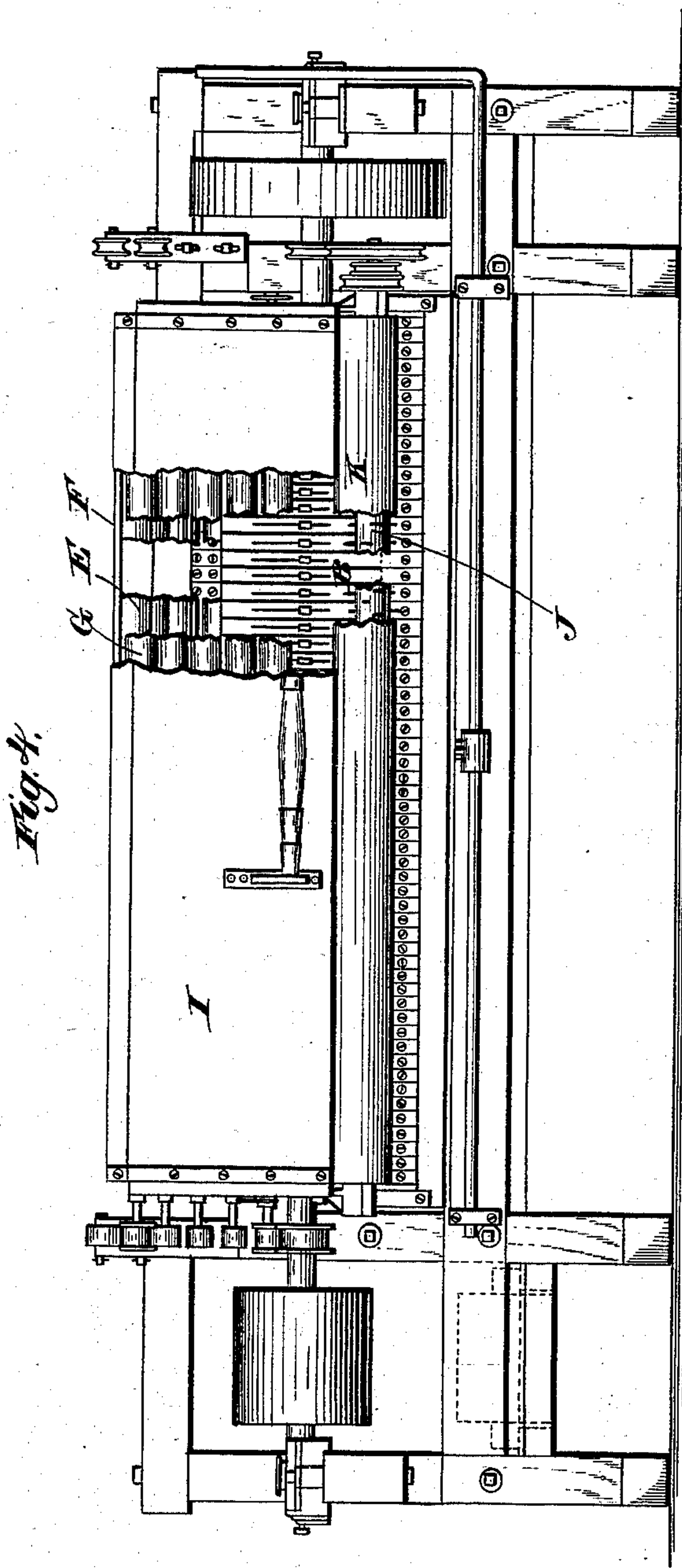
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UNITED STATES PATENT OFFICE.

JOHN D. MILBURN, OF MEMPHIS, TENNESSEE.

COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 274,806, dated March 27, 1883.

Application filed February 1, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN D. MILBURN, a citizen of the United States, residing at Memphis, in the county of Shelby and State of Tennessee, have invented new and useful Improvements in Cotton-Gins, of which the following is a specification.

The present invention relates to that class of cotton-gins known as "under-feed" gins, which are provided with an outer and an inner roll-box, the former for separating the hulls and the inner one for separating the seed from the cotton. Cotton-gins of this description are usually provided with an inner adjustable seed-board, which extends from a feed-opening or hinged lid, and terminates in proximity to the grate or ribs of the machine for forming the roll-boxes between said ribs and an outer breast-board.

The objects of the present invention are to decrease the friction in the roll-box and increase the capacity of the gin, especially in ginning damp or wet-picked seed-cotton, thereby enabling the gin to be run with less power than heretofore when ginning hully and trashy cotton; also, to cause clean-picked seed-cotton to be ginned with greater celerity and ease, and to produce a superior quality of lint and cleanness of seed from hully and trashy cotton than has ever been effected by any single-breasted gin which feeds directly into the roll-box. I accomplish these results by having in place of the usual adjustable seed-board a series of horizontal rollers, which are arranged in a curved line, a second series of rollers being located at the back side of the seed-rolls. In connection with the rollers arranged in this manner, I locate at the bottom of the cotton-box, between the outer front board and the ribs, the customary rollers for hulling the cotton and discharging the hulls and trash from the cotton-box.

In the drawings, Figures 1 and 2 are end views of a cotton-gin embracing my improvements. Fig. 3 is a longitudinal sectional view. Fig. 4 is a front elevation, the breast-board being broken away to show the arrangement of parts in rear thereof.

The arrangement of the saws A, ribs B, and brush-cylinder C is the same as in gins heretofore known, and needs no further description. The head or front wall of the inner roll-box,

D, instead of being a stationary board or surface, is formed of a series of horizontal rollers, E, which turn in bearings in the sides of the cotton-box, and are arranged in a curved line, as shown. The front wall of the inner roll-box is in ordinary gins formed of the so called "seed-board," whereas in the present invention I make use of a series of horizontal rollers, G, which are arranged close together in a curved line, commencing at a point opposite the ordinary knuckles or projections on the ribs and terminating at the front of the feed-opening or the hinged lid F, which serves to close the same. The various rollers constitute an inner roll-box having front and rear movable walls, the curvature whereof will easily adapt itself to the cotton-roll contained therein. A roll-box of the character described is admirably adapted for adjusting the seed-cotton in the roll to the saws, and it will also serve to regulate the density and pressure of the roll against the saws, so that the latter may perform their proper functions with regularity and precision, even with a slack or deficient roll. In this manner I prevent the roll from breaking or choking and obviate the attending dangers of fire and of cutting the cotton or breaking the gin. The rollers constituting the seed-cotton roll-box are driven or rotated by means of a belt, *a*, running from a pulley on the saw-shaft over pulleys *b c* on the ends of the rollers of the front wall, pulleys *b* and *c* being flanged to guide the belt, and over pulleys *d* in bracket S, bolted to the frame of the gin through slots therein, making the bracket adjustable for the purpose of tightening belt *a*; or the brackets may be slotted for a like purpose. The rollers over which the belt passes receive a positive motion, and the others are driven by frictional contact. Other means than those described may, however, be resorted to for operating the rollers. The bottom roller of the front wall of the inner roll-box is fitted in slots *e*, made in the heads of the hood or cotton-box of the gin, so as to permit said roller to be adjusted for varying the space between it and the knuckle portions of the ribs. The customary breast-board, I, is arranged at the front of the hood or cotton-box, and at the bottom of said breast-board, or between it and the lower portion of the gin-ribs, I locate several rollers, J K, which are

driven from the saw-shaft, all these rollers turning in the same direction. The object of these rollers is to hull the seed-cotton and throw the hulls, trash, and other foreign matters from the cotton-box, the greater portion of the discharge taking place over the top of the roller adjoining the breast-board. The latter is made adjustable relatively to the roller for permitting the discharge-passage to be adjusted. An eccentric and a shaft with hand-wheel are generally used for adjusting the breast-board. The hulling and trash-discharging rollers have heretofore been employed for the purpose specified, but have never been arranged in relation with a roll-box, the walls whereof are constructed of rollers as now proposed.

Having thus described my invention, what I claim is—

In an under-feed double-breasted cotton-gin, the combination of an inner seed-cotton roll-box, constructed of front and rear rollers, with the outer cotton-box having top feed-opening, the breast-board, ribs, saws, and hulling and trash-discharging rollers, arranged at the bottom of the outer roll-box, all substantially as shown and described, and for the purpose set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

Witnesses: JOHN D. MILBURN,
JAMES L. NORRIS,
J. A. RUTHERFORD.