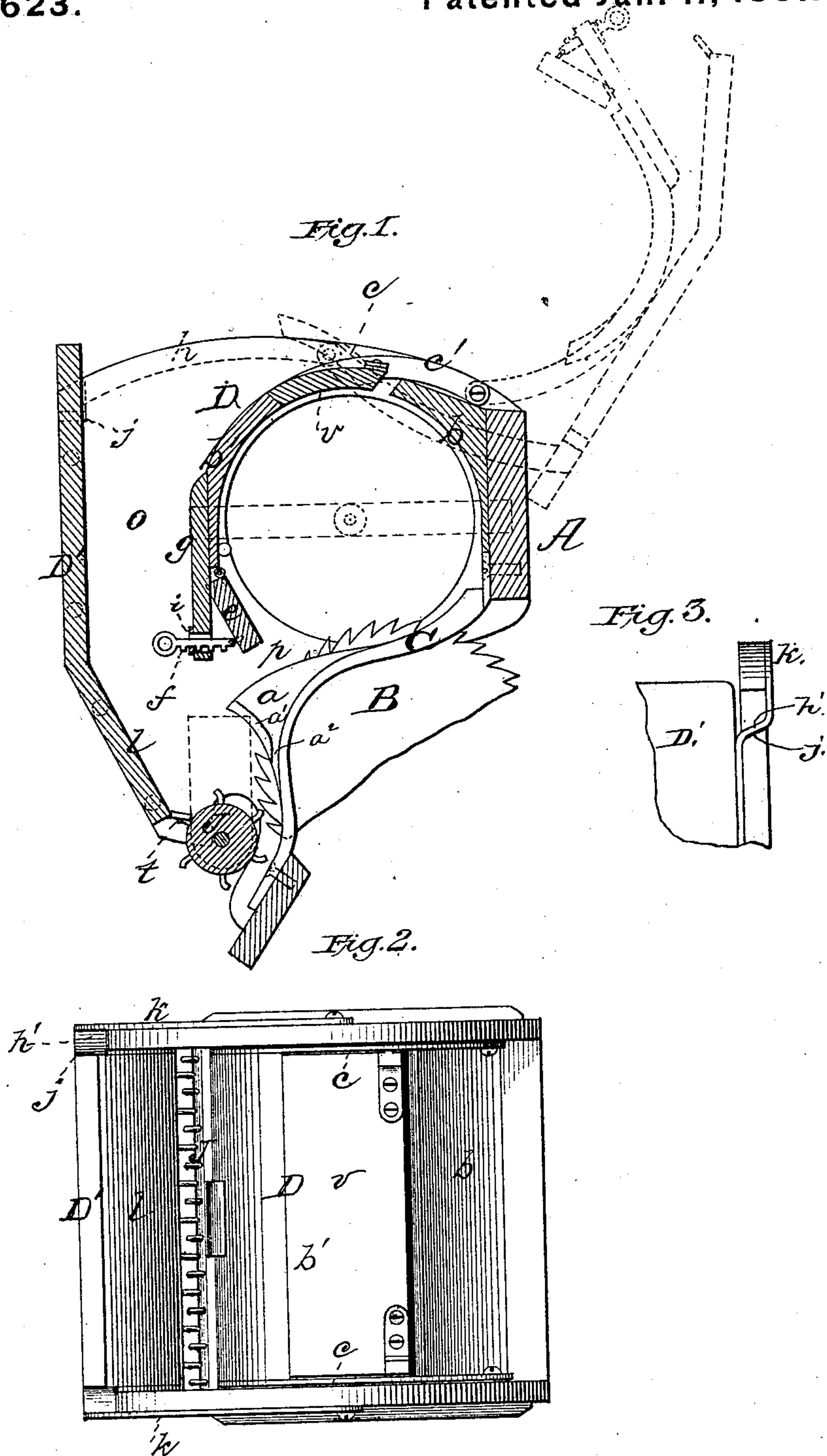


M. E. PRATT.
Cotton Gin.

No. 236,623.

Patented Jan. 11, 1881.



WITNESSES
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MERRILL E. PRATT, OF PRATTVILLE, ALABAMA.

COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 236,623, dated January 11, 1881.

Application filed June 7, 1879.

To all whom it may concern:

Be it known that I, MERRILL E. PRATT, of Prattville, in the county of Autauga and State of Alabama, have invented a new and valuable Improvement in Cotton-Gins; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my improved gin, and Fig. 2 is a plan view thereof.

This invention has relation to improvements in cotton-gins; and the nature of the invention consists in certain novel combinations of parts, whereby the operation of ginning cotton is perfected and accelerated, as will be hereinafter more fully set forth.

In the drawings accompanying this specification only so much of the gin is illustrated as is necessary to show my invention, all other parts being omitted.

A designates the breast of the gin, having solid ends, through which extends a shaft carrying the usual saws B.

The bodies of the ribs C, between which the saws B work, do not differ essentially from the bodies of those now in use, but they are each provided upon their front edges with an angular knuckle, *a*, extending considerably to the front beyond the edges of the saws. These elongated or extended knuckles give a longer plane for the feed and assist the separation of seed and other particles which are not desired in the cotton after it is ginned, and, in connection with the adjustable seed-board, serve their purpose efficiently, the lower edge of each knuckle being broadened, as shown at *a'*, from its outer extremity to near its base, so as to form an effectual barrier to the passage of seed, sticks, and other like matters, and at the same time leave a free passage, *a²*, at the base of each knuckle for the cotton.

The cotton-box D is composed of a fixed part, *b*, the under side of which is concave, and of a hinged or movable part, *b'*. This is provided upon its edges with metallic straps *c*, bent to conform to the convexity of said part *b'*, and extending some distance beyond

its edge, thus forming arms *c'*, that, being pivoted to the frame in rear of the fixed part *b* of the cotton-box, allow the movable part thereof to be thrown up and back into the position shown in dotted lines, Fig. 1. These metallic straps or plates *c* are received within the sides of the gin breast or walls, as shown in Fig. 2. The upper half of this box is semi-cylindrical and its ends circular, the latter being journaled on the frame of the machine, so as to revolve freely and do away with the friction of the cotton-roll.

e indicates a wooden or metallic seed-board hinged to the front edge of the movable part *b'* aforesaid, directed toward the projecting portion of the knuckles, and adjusted inwardly or outwardly toward the saws above said knuckles by means of a rack-bar, *f*, extending through a slot, *i*, in a strong arm, *g*, depending from the movable part *b'* of the cotton-box and engaging a spur or tooth on the bottom of slot *i*. By raising this bar slightly and thrusting it in or drawing it out the board *e*, which may be called the "adjuster," lessens or increases the width of the passage-way *p* leading into the cotton-box, and is brought nearer to or retracted from the knuckles. This seed-board is in continuation of the casing or cotton-box, and it serves to complete the inclosure of the roll. It also serves as a means for holding the movable part of the cotton-box down to its work by gravitation.

The front of the breast of the gin is closed by an apron, *D'*, having upon its lateral edges metallic straps *h* rigidly secured thereto, which are bent to form inclined shoulders *h'*, that rest upon stop-notches *j* formed in the ends of the breast, and are extended a considerable distance to the rear of the said apron and hinged to the ends of said breast midway across, as shown in Fig. 2. These plates are of angular form in outline, and their rearward extensions *k* are nearly at right angles to the apron. Hence, when the said apron is thrown up and back, as indicated by dotted lines, Fig. 1, it leaves the whole front and top of the machine exposed and does not interfere with the part *b'* of the cotton-box when the latter is thrown back. The lower part, *l*, of the apron inclines inward, and at its lower edge is provided with teeth *t*, that alternate with those

of a roller, J, arranged in the throat formed by said apron and rotating toward the saws. As shown in Fig. 1, there is a passage-way, o, between the apron and cotton-box, into which
 5 cotton, as it is brought from the field, is fed. On reaching the bottom or lower part of this passage the cotton is seized by the saws and carried through the ribs into the cotton-box, all large matters, such as hulls, stalks, and
 10 the like, being carried by the saws against the under side of the knuckles a, and being, as it were, combed out from the fiber thereby, fall upon the spurred drum and are carried out of the machine thereby. The cotton and seed
 15 pass up into the cotton-box, and the former is separated from the latter by being drawn by the saws through the spaces between the ribs at the upper part thereof. The seed, being cleaned thoroughly on the seed-board, gravi-
 20 tate to the lower part of the feed-passage and drop out of the same through the action of the spurred drum. It sometimes happens that cotton and seed are carried up into the box faster than they can be separated by the saws,
 25 when the roll becomes very compact and presses hard against the sides of the box until finally it ceases to turn over. This is prevented by a gate or valve, v, formed in the movable part of the box, and that extends en-
 30 tirely across the same. When the cotton-box becomes gorged and the roll of cotton turns slowly this valve will rise and allow any excess of material to pass out through the open-

ing thus made back into the feed-box o and relieve the box. 35

I am aware that an adjustable inclined seed-board, in combination with a rib provided with a short knuckle that does not project beyond the saw, has been before known, and such, broadly, is not sought to be covered in this application. 40

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination, with the cotton-box and the saws B, of the ribs C, each having a long 45 knuckle, a, projecting beyond the saws, and the adjustable inclined seed-board e at the lower front edge of the cotton-box, directed toward the projecting portion of the knuckle a, and adjustable above said projecting por- 50 tion and for the extent thereof, substantially as specified.

2. The combination, with a gin-breast having the notches j in its sides, and the apron D', of the plates h, bent across said notches to 55 form shoulders h', extended to the rear and pivoted midway to the outside of the ends of the breast, substantially as specified.

In testimony that I claim the above I have hereunto subscribed my name in the presence 60 of two witnesses.

MERRILL E. PRATT.

Witnesses:

M. P. CALLAN,
 FRANK J. MASI.