2 Sheets--Sheet 1.

O. C. DEWEY.

Cotton-Gin.

No. 163,465. Patented May 18, 1875.

Fig. 1.

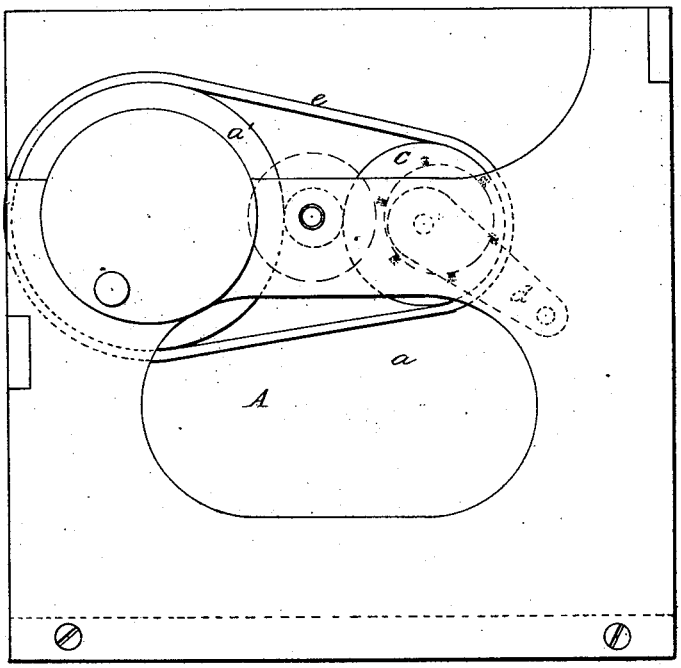
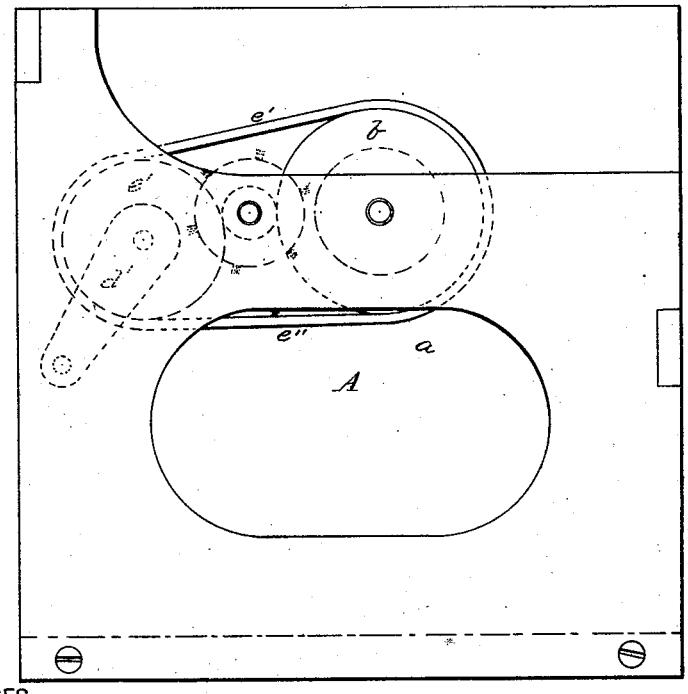


Fig. 2.



WITNESSES

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2 Sheets--Sheet 2.

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Fig. 3.

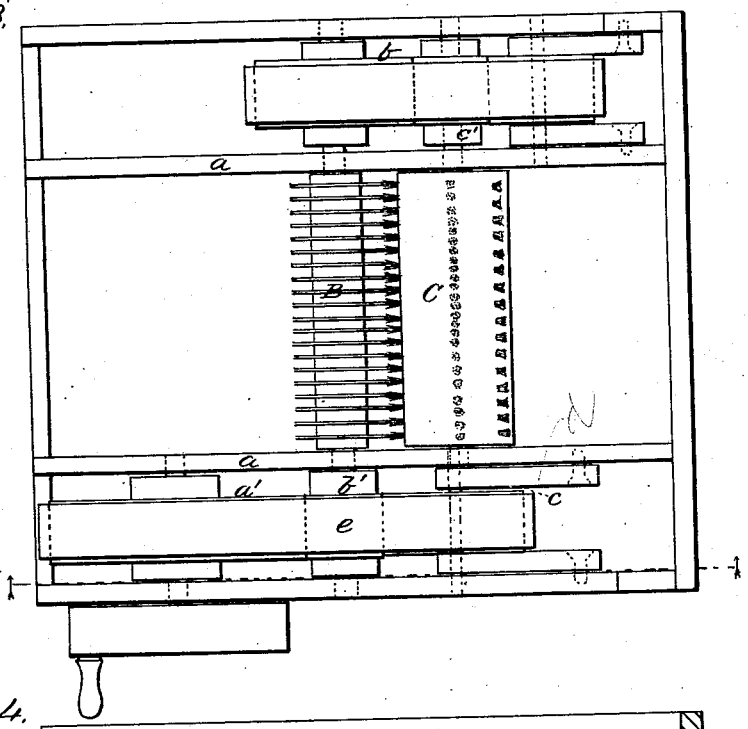
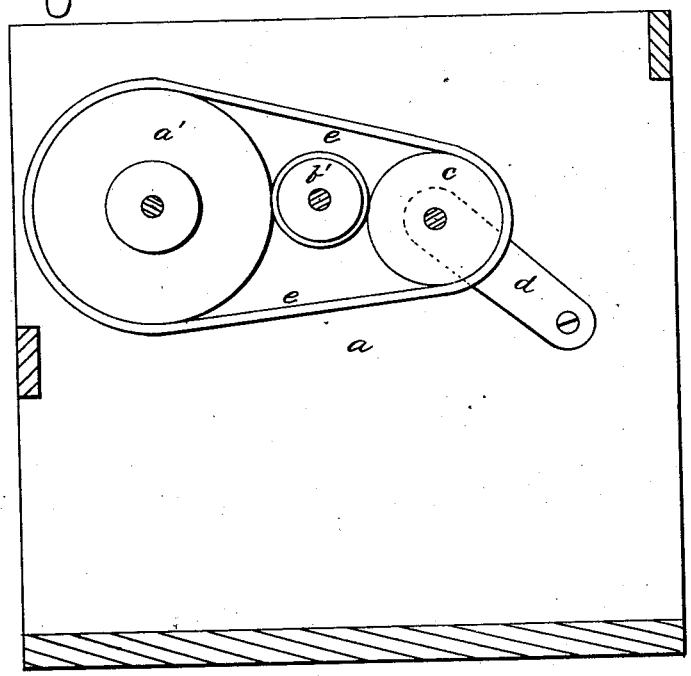


Fig. 4.



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UNITED STATES PATENT OFFICE.

ORVILLE C. DEWEY, OF WHEELING, WEST VIRGINIA.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. **163,465**, dated May 18, 1875; application filed March 27, 1875.

To all whom it may concern:

Be it known that I, ORVILLE C. DEWEY, of Wheeling, in the county of Ohio and State of West Virginia, 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.

Figures 1 and 2 of the drawings are representations of side views of my gin, and Fig. 3 is a plan view of the same. Fig. 4 is a vertical sectional view.

This invention has relation to the mode of operating the saws and brushes of cotton-gins; and it consists in the construction and novel arrangement, in connection with the shafts of said saws and brushes, of two belt-wheels, automatically adjustable toward or from each other, and connected by a belt on each side of the gin-frame, said belt-wheels operating by frictional contact to give motion to the intermediate friction-gear, of comparatively small size, on opposite sides of the said gin-frame, and on the relatively opposite ends of the saw-shaft and brush-shaft, as hereinafter more fully shown and described.

In the accompanying drawings, the letter A designates the frame of a gin, or, more particularly, of that portion of a gin which contains the breast. B represents the saw-cylinder, having its journals seated in suitably-arranged bearings in the frame, and provided with a belt-wheel, *b*, at one end, and at the other with a friction-wheel, *b'*, of comparatively small size, both gears being arranged outside the vertical side walls *a* of the frame. C designates the brush-cylinder, having its journals in slightly-elongated bearings, and provided with a friction-wheel, *c'*, on the opposite side of the frame from that on which the friction-wheel *b'* of the saw-cylinder shaft is located. The friction-wheel *b'* of the saw-shaft is located between the power-wheel *a'* and its fellow belt-wheel *c*, which is journaled in the pivoted arms *d*, which extend upward and toward the journals of the belt-wheel in an oblique direction, parallel with each other, to permit said journals to be moved automatically in the direction of the strain of the belt *e*, which connects the belt-wheels. The friction-wheel *c'* of the brush-shaft is arranged in a similar manner between the belt-wheel *b* on the end of the saw-shaft and its fellow belt-wheel *e'*, which is journaled in pivoted arms *d'*, similar to the arms *d* above described, and also arranged obliquely to the direction of strain of the belt *e''*, connecting the two. These friction-wheels *b'* and *c'* are in contact with the belt-wheels of each belt on each side, so that the strain of the belt will tend to assure the frictional contact. Therefore I obtain rapidity of action from the comparatively small size of the friction-wheels relatively to that of the driving-wheels, and at the same time certainty of action—qualities of great importance in ginning. Through the medium of the oblique arms *d d'* of the belt-wheels *c e'* on each side, these belt-wheels accommodate themselves automatically to the strain of the belt; and when the belt is comparatively loose upon the belt-wheels the contact of those wheels which are carried on the arms *d d'* with the friction-wheels of the saw-shaft and brush-shaft will be kept up by the movements of these belt-wheels and the belts. The rapid action of the saws and brushes will, in a great measure, prevent clogging; but should the saws be obstructed they are not so liable to be broken as when toothed gearing is employed.

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

The combination, with the saw-shaft and brush-shaft, of the automatically-adjustable belt-wheels *c e'*, the belt-wheels *a' b*, the belts *e e''*, and the friction-wheels *b' c'*, respectively arranged each between a pair of said belt-wheels on the relatively opposite ends of the saw-shaft and brush-shaft, substantially as shown and described.

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

ORVILLE C. DEWEY.

Witnesses:

JOS. B. LOOMIS,

GEORGE E. UPHAM.