C. L. Fleischman.

Cotton Gin.

No. 52,037. Patented Jan. 16, 1866.

Fig. 1.

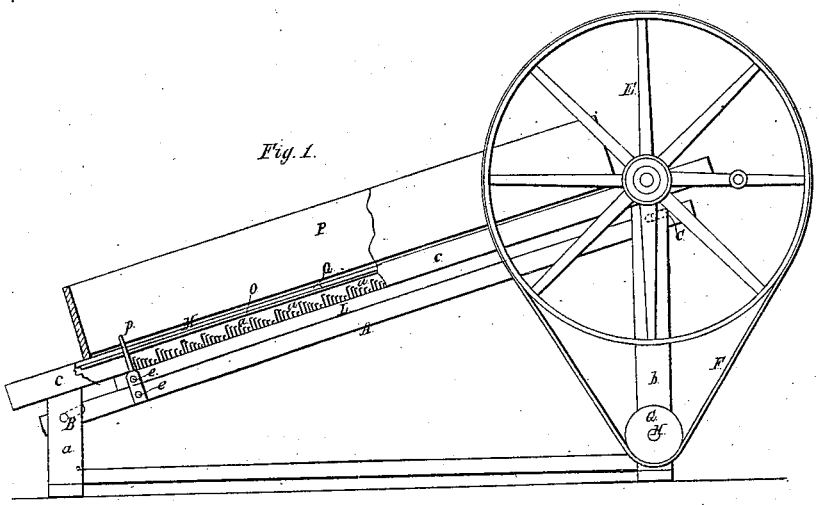


Fig. 2.

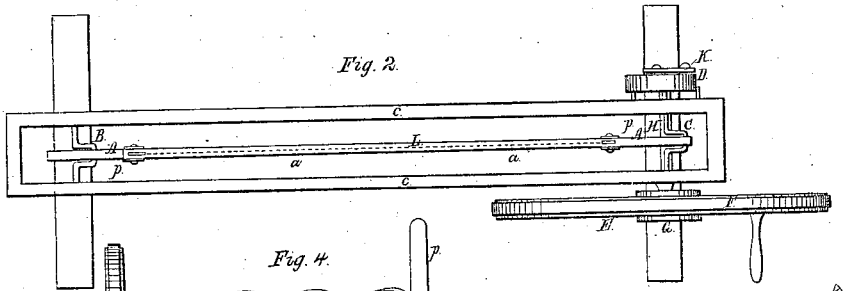


Fig. 3.

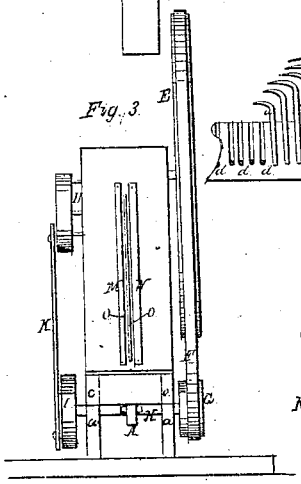


Fig. 4.

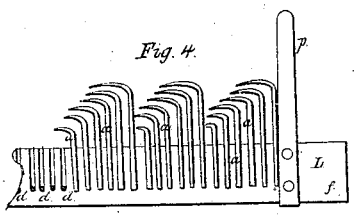


Fig. 5.

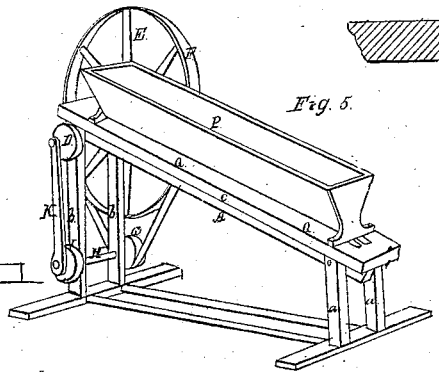
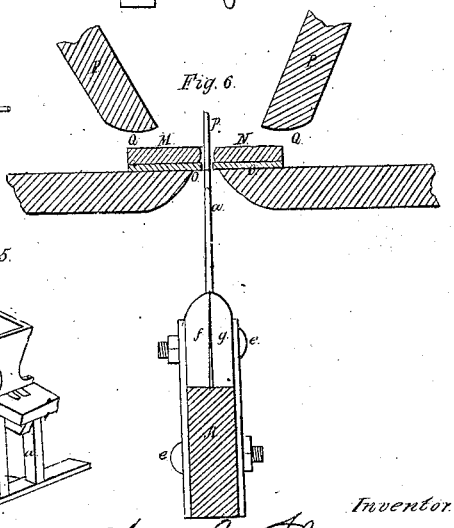


Fig. 6.



Witnesses

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Inventor.

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UNITED STATES PATENT OFFICE.

CHARLES LOUIS FLEISCHMANN, OF NEW YORK, N. Y.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. **52,037**, dated January 16, 1866.

To all whom it may concern:

Be it known that I, CHARLES LOUIS FLEISCHMANN, of the city of New York, in the county of New York, State of New York, have invented a new and useful Machine for Ginning Cotton; 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, in which—

Figure 1 represents a side view of the cotton-gin, showing in part the inner arrangement; Fig. 2, a top view of the same without the hopper; Fig. 3, a front view of the same, showing the bars; Fig. 4, a separate view, showing the mode of setting the hooks; Fig. 6, a full-size view of the bars, strippers, hook-carrier, and crank-bar.

The cotton-gin represented in the drawings has only one hook-carrier. Their number may be increased according to the power to be employed.

The nature of my invention consists in separating fibers of cotton from the seeds by means of a series of hooks set in a bar or hook-carrier worked by cranks in a manner that each hook describes a circle, part of a circle, or curves in passing through the cotton, carrying the fibers between bars, where they are separated from the seeds and taken below the bars, where brushes or their equivalents strip it from the hooks while they ascend again into the cotton.

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

The frame of this cotton-gin is at one end higher than at the other, in order to make the machine more steady and to allow the seed, when stripped from its fibers, to roll off into a receptacle in front of the machine. The uprights *a a* and *b b* support the top pieces, *c c*, and stand, according to the number of hook-carriers employed, more or less apart. Within that space is placed the bar A, which connects the cranks, and is about the same length as the top pieces, *c c*. The crank B is placed at the lower end of the machine and the crank C at the upper end of the machine. The crank C has at one end of its shaft a crank-disk, D. Near the upper crank, C, there is placed a large driving or band wheel, E, which drives, by means of a band, F, the pulley G. When the band-wheel E is turned it gives motion to the pulley G and its shaft H. That shaft H has on the other end a crank-disk, I, which is connected with a connecting-rod, K, to the crank-disk D, in such a manner that the cranks B and C are turned about one-quarter of the circle, so that every point in the crank-bar A describes a quarter of a circle.

Upon the crank-bar A is fastened the hook-carrier L. To this carrier are secured the hooks *a a a a a a*. To keep these hooks in their proper position, the carrier L is made in two parts, *f'* and *g*. (See Figs. 4 and 6.) The part *f'* is provided with small vertical grooves, which have at their ends small horizontal holes *d d d d d*, in which the lower or bent part of the hook-shanks are introduced in order to prevent the hooks from turning. When the hooks have been placed in said grooves and holes the other part, *g*, is secured to *f'* by means of screw-bolts *e e*, and thus the hooks are tightly fixed between said parts *f'* and *g*.

The hooks may be straight or curved. Their shanks may be all of one and the same length, or differing from each other in length, according to the nature of the cotton to be ginned. The hooks may be made separately or in plates. I found the most effective mode of arranging the hooks to be by placing them in sets from six to more, and each in succession longer in each series or set, as shown in Fig. 4, whereby every hook can act effectively upon the cotton.

At each end of the hook-carrier there is a guide-piece, *p*, which are longer than the hooks, in order to keep them in their proper position for entering between the two bars M and N. These two bars M and N are of iron or other metal, and beveled at their edges, as shown in Fig. 6, to facilitate the passage of the hooks between them. These bars are firmly secured to the frame, and are set just far enough apart to allow to the hooks an easy passage, and at the same sufficiently near to prevent the seed from passing between them.

To remove the cotton from the hooks I employ strippers O, made of bristles, leather, or other suitable material. The strippers are placed under the bars M and N, and as far apart as said bars, in order to strip the cotton from the hooks when they ascend.

The hopper P is placed over the bars M and N. In this hopper there is placed the cotton to be ginned. The hopper is set a little above

the bars M and N, to leave a space, Q Q, great enough for the clean cotton-seeds to pass out beyond the hopper and roll off from the machine into a receptacle placed in front of the machine.

The space within the frame below the crank-bar is used for collecting the clean cotton. By placing a fan-blower on the shaft H and by closing the sides of the machine the clean cotton can be blown into the lint-room, and at the same time it assists in clearing the hook-carrier from the cotton-fibers.

Operation: When the hopper has been supplied with cotton the driving-wheel E is set in motion, which turns the pulley G, giving the crank-bar A and hook-carrier L the required movement—viz., to carry the hooks upward through the space between the bars M and N into the hopper, when they pass rapidly through the cotton in arcs of small circles, giving each hook a chance, on its forward and descending motion, to take hold of the fiber and detach it from the seeds. The hooks, in their downward movement, carry the detached fibers with them, leaving the seeds on the bars M and N for another operation, until the cotton is entirely removed from them, when they are pushed out under the sides of the hopper, which has the openings Q Q for that purpose. When the hooks ascend again the leather strips or brushes O remove the cotton from them and the clean cotton falls in the space below the crank-bar A. The clean seeds roll down on the surface of the inclined boards outside of the hopper.

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

1. Separating fibers of cotton from the seeds by means of a series of hooks arranged on a bar both ends of which describe circles or parts of circles, or equivalent curved paths, in combination with bars, or the equivalent thereof, to form a space, between which the hooks are made to rise to get hold of the fibers, and then to descend to strip the fibers from the seeds, substantially as described.

2. In combination with the hooks having a mode of operation substantially as described, brushes or their equivalents, for stripping the fibers from the hooks as they rise to get a fresh supply of fibers, substantially as described.

CHARLES LOUIS FLEISCHMANN.

Witnesses:
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