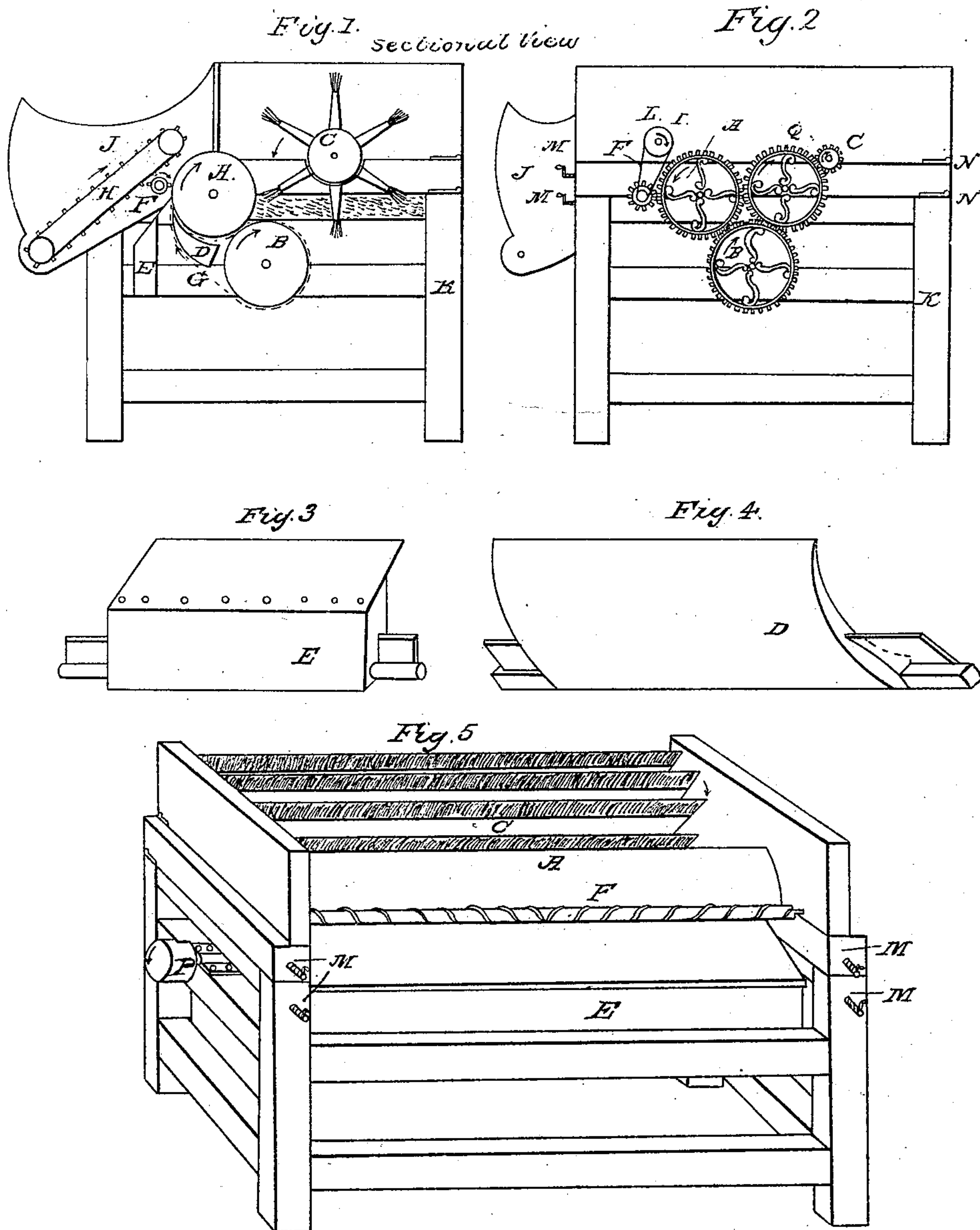


H. CLARK.  
Cotton Gin.

No. 5,740.

Patented Aug. 29, 1848.



Witnesses  
Alexander  
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Harry Clark.



# UNITED STATES PATENT OFFICE.

HENRY CLARK, OF EUFULA, ALABAMA.

## IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. 5,740, dated August 29, 1848.

*To all whom it may concern:*

Be it known that I, HENRY CLARK, of Eufaula, in Barbour county and State of Alabama, have invented a new and useful machine for the purpose of separating the cotton fiber from the seed without injury to the former. I denominate my machine the "Eureka Cotton-Gin;" 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 is an end sectional view showing all the interior operating parts of the machine in their proper places. The dart-point shows the direction in which each part moves. Fig. 2 is an end view showing the gearing feed-whirl and cotton-box; Fig. 3, the shield; Fig. 4, the guard; Fig. 5, a perspective view showing the brush, main roller, shield, relieving-screw, regulating screws, and driving-whirl. The top and cotton box are not represented, in order more clearly to show the internal-operating parts of the machine.

Letter A represents the main roller; B, stretching-roller; C, brush; D, guard; E, shield; F, relieving-screw; G, endless band; H, feed-apron; I I, apron-rollers; J, cotton-box; K, frame; M M, regulating-screws; N N, hinges; P, driving-whirl; Q, connecting-gear, the same letters representing the same parts in each view.

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

I make a frame of suitable size—say about two feet high, two and a half feet wide, and four feet long. On or near the top of this frame, and about ten inches back from the front, is secured boxes for the journals of the main roller, (marked A in the annexed drawings,) which is six inches, more or less, in diameter and extends from end to end inside of the frame. Underneath and a little back of the main roller, and coming within one-fourth of an inch of the same, is the stretching-roller B, of the same dimensions as the main roller, both lying horizontal and parallel with each other. The circular revolving brush C, which is of the same length of the main roller, lying parallel and coming in contact with it on the back side, also comes in contact with the end-

less band G brushing the cotton from both at the same time.

D is a horn-shaped piece of metal, called the "guard," which is the same length as the main roller and parallel with it. Over the guard and stretching-roller, entirely covering both, passes the endless band G. The guard is then, by means of regulating-screws, made to bring the endless band in contact with the main roller in front and near its perpendicular center.

The shield E is made of sheet metal, the same length of the main roller and lying parallel with it, and by means of regulating screws or levers is brought in contact with it above and as near the point of the guard as possible and allow the endless band to pass freely. The relieving-screw F is about two inches in diameter, (including the worm, which is about one-half an inch deep,) the same length of the main roller, and coming within one-sixteenth of an inch of it at the point where the shield touches the same. The driving-whirl P is on the stretching-roller shaft. From the same shaft, by gear wheels or belts, the other parts of the machine are driven.

The cotton is taken from the box by the feed-apron (which has teeth or points on it) and conveyed to the main roller, which (being in motion) by its pressure on the endless band seizes the cotton fiber, drawing the seed up to the shield, which, with the guard, arrests the seed till the relieving-screw removes it downward, where it falls through the wire grate in the bottom of the box. The cotton passing back between the endless band and the main roller, is removed from them by the circular revolving brush. The brush should be about twelve inches in diameter and have four revolutions to one of the main roller. The stretching-roller and relieving-screw should have the same speed as the main roller, and in this order the brush and main roller revolve the same way, (forward,) while the stretching-roller and endless band, with the relieving-screw and feed-apron, revolve backward in a contrary direction. The upper bar of the frame is hung on the back of the frame with a hinge, for the purpose of getting at the machinery more easily. A top secured on the back side by hinges and on the front by catches, covers all the interior parts of the gin.



The endless band is made of some flexible material, such as cloth, soft leather, gum-elastic combined with cloth, or fine wire combined with cloth or gutta-percha. The main roller is made of wood or metal, separate or combined, and though it may be used successfully without covering for some kinds of cotton, yet generally it must be covered, either with a rough cloth made of wool, hair, bristles, or fine wire, separate or combined, or raw-hide with a roughed surface, or with the hair on. For some kinds of cotton a fine short-toothed card is required, different varieties of cotton requiring different kinds of covering.

The following modification in my machine is contemplated. Instead of the revolving brush for taking the cotton from the roller and band, two stripping-rollers may be substituted.

I do not claim any particular shape for the guard except this, that it has a point, which being brought in contact with the main roller, the lines of the outer circle of each forms an angle so obtuse that a seed can neither lodge nor enter. I do not claim either of the following parts of my machine taken by itself:

the circular brush, the simple rollers, the feed-apron, the endless band, nor the relieving-screw.

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

1. The guard of such a shape as that when it passes the endless band against the main roller, the two latter being in motion, and the cotton fiber thereby being drawn in between them, the point of entrance is so small and the angle formed by the outer lines of the main roller and guard so obtuse that a seed can neither lodge nor enter, and is consequently arrested till the screw removes it.

2. The shield, as herein described and arranged, in connection with the endless band and roller, as described and arranged, for the purpose set forth, together with the combination and arrangement of the machine generally, substantially as herein described, for the purpose of separating the cotton fiber from the seed without injury to the former.

HENRY CLARK.

Witnesses:

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I. C. GARDNER.