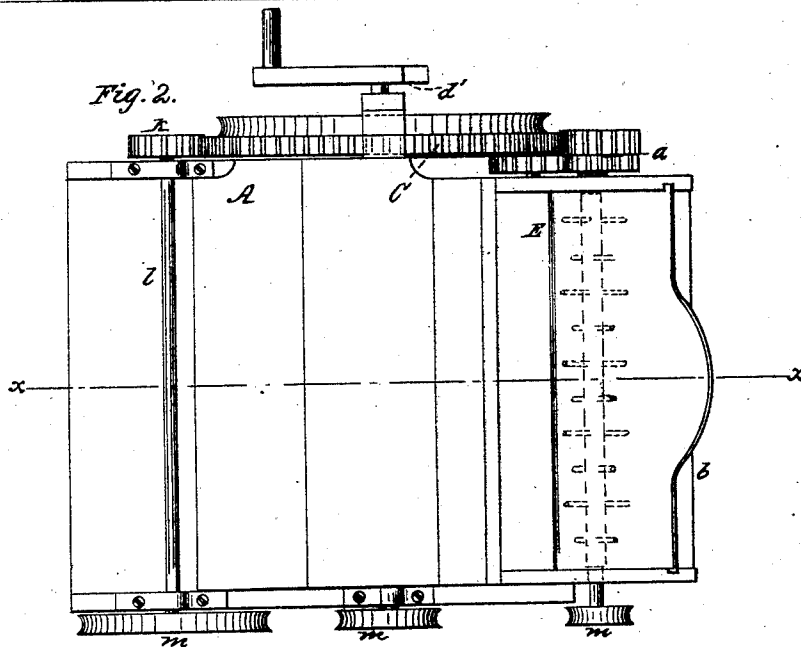
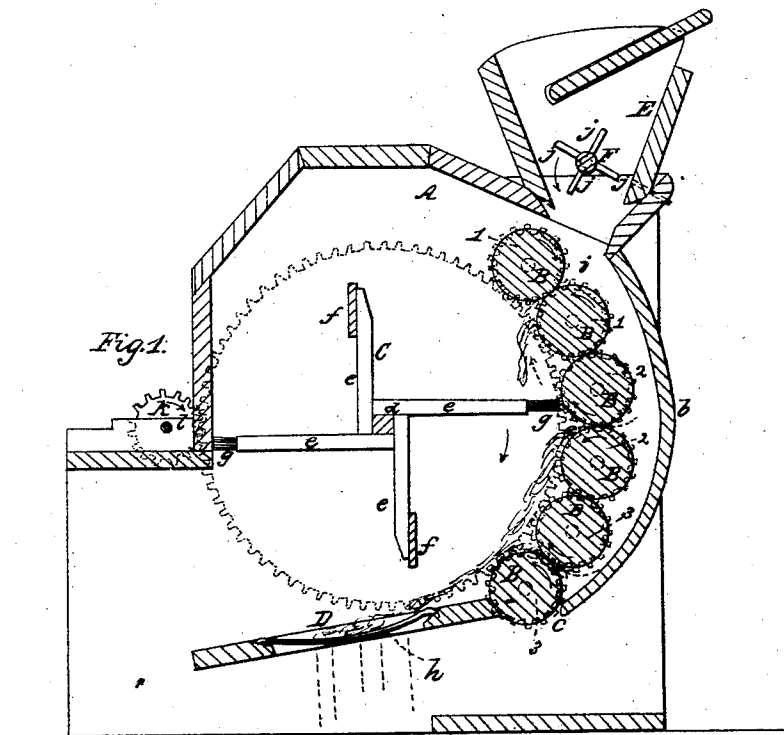


N. A. PATTERSON.

Cotton Gin.

No. 30,497.

Patented Oct. 23, 1860.



Witnesses:
J. W. Coombs
A. J. Spencer

Inventor:
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UNITED STATES PATENT OFFICE.

N. A. PATTERSON, OF KINGSTON, TENNESSEE.

IMPROVEMENT IN COTTON-GINS.

Specification forming part of Letters Patent No. 30,497, dated October 23, 1860.

To all whom it may concern:

Be it known that I, N. A. PATTERSON, of Kingston, in the county of Roane and State of Tennessee, have invented a new and useful Improvement in Roller Cotton-Gins; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, in which—

Figure 1 is a sidesectional view of my invention, taken in the line *x x*, Fig. 2; Fig. 2, a plan or top view of the same.

Similar letters of reference indicate corresponding parts in the two figures.

The object of this invention is to increase the working capacity of the roller cotton-gin.

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

A represents a case or box in which a series of rollers, B, are placed, one over the other, and in the form of a curve or section of a circle, as shown clearly in Fig. 1. These rollers B are connected at one end by gears *a*, so that they will work in pairs in the same direction as indicated by the arrows, the pairs of rollers being designated by the figures 1 1 2 2 3 3. The case or box A, adjoining the rollers B, (see *b*,) is of curved form, approximating to the curve in which the rollers are placed. The lower part, however, of the curved part *b* of the case is brought quite near to the lowermost roller B, a space, *c*, being left sufficient to just admit of the cotton-seed passing out. (See Fig. 1.)

The rollers B may be of wood or metal, and provided with fluted or smooth peripheries. If fluted peripheries are used, the flutes are quite small or fine, just large enough to give a proper degree of roughness or a "tooth" to the rollers, to enable them to catch the fiber.

Within the case or box A there is placed a combined fan and brush, C. This device is formed of a shaft, *d*, provided with radial arms *e*, each alternate arm having a wing, *f*, attached, and the intermediate ones being provided with brushes *g*. The brushes *g* rotate in slight contact with the peripheries of the rollers B, and perform the function of strippers, while the wings *f* serve as fans, as will be presently more particularly referred to.

In the lower part of the case or box A, be-

low the stripper and fan C, there is placed an inclined screen, D, composed of parallel wires or rods *h*, and on the upper part of the case or box there is placed a hopper, E, which extends the whole width of the case or box, and directly over the space *i*, between the rollers B and the curved portion *b* of the case.

Within the hopper E there is placed longitudinally a shaft, F, having radial teeth *j* attached to it, said teeth being somewhat shorter than the width of the lower part of the hopper.

The shaft *d* is the driving-shaft, from which motion is communicated to the gears *a* of the rollers B by a spur-wheel, G, and from the wheel G motion is also communicated to the shaft F and combined stripper and fan by means of the gear *k*, shaft *l*, and pulleys *m*, around which suitable belts pass. (See Fig. 2.)

The operation is as follows: The shaft *d* is rotated by any convenient power, and the shaft F, rollers B, and fan and stripper C rotate in the direction indicated by the arrows, and the seed-cotton passes down into the space between the rollers B and the curved part *b* of the case, and is drawn between the rollers B, the seed being stripped from the cotton and falling out from the case through the space *c*. The brushes *g* strip the cotton from the rollers, while the wings *f*, by their rotation, generate a blast which drives all the dirt, motes, &c., from the staple, said foreign substances passing through screen D, which separates the cotton from such impurities. The toothed shaft F insures an equal feeding of the seed-cotton to the rollers, and adds greatly to the efficiency of the machine. By this arrangement it will be seen that speed is obtained with the roller-gin and the work performed equally as well as by the old roller-gin.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

The combination, with the combined fan and brush cylinder C, of the rollers B, when the above parts are arranged to operate together in the manner and for the purpose herein shown and described.

N. A. PATTERSON.

Witnesses:

S. I. D'ARMOND,
M. L. PATTERSON.