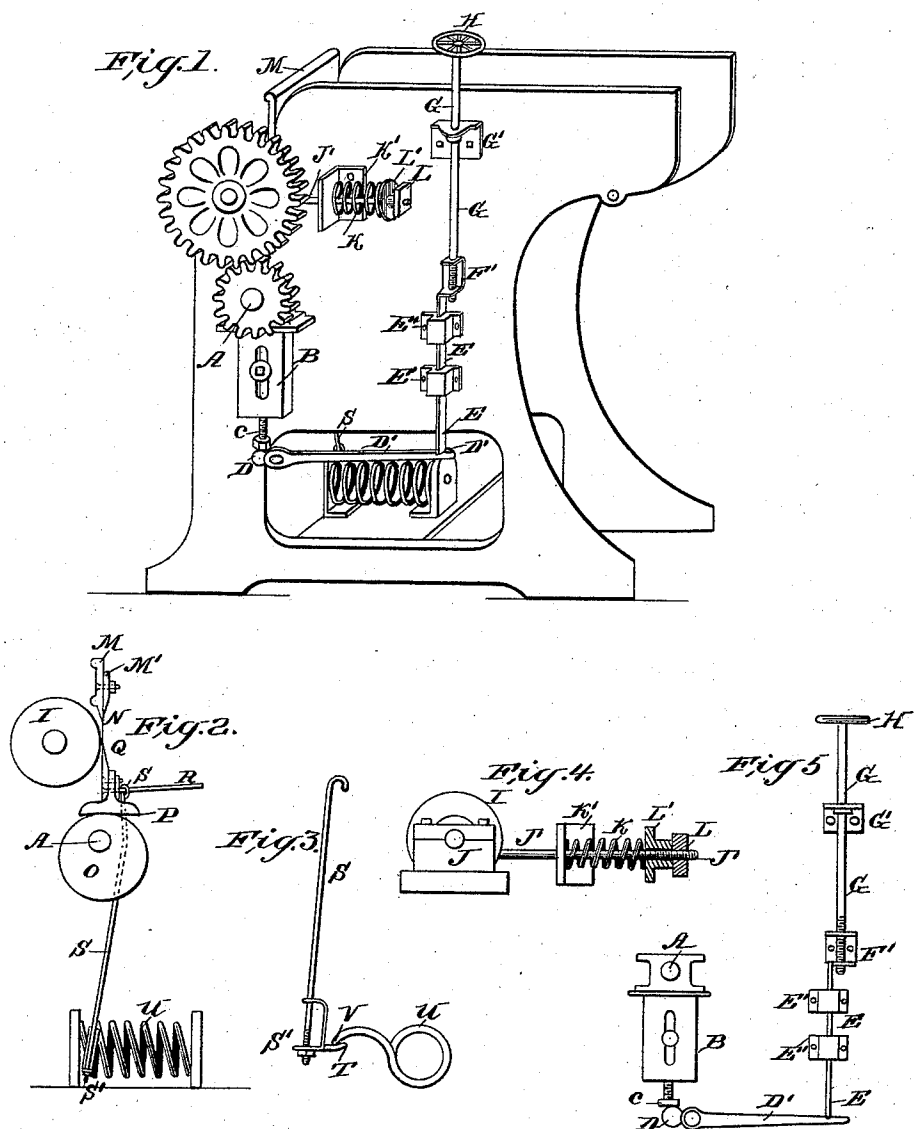


(No Model.)

J. DOIG.
ROLLER COTTON GIN.

No. 537,567.

Patented Apr. 16, 1895.



WITNESSES:
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EDMUND E. VOYLE, OF SAME PLACE.

ROLLER COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 537,567, dated April 16, 1895.

Application filed May 4, 1894. Serial No. 510,058. (No model.)

To all whom it may concern:

Be it known that I, JAMES DOIG, of Gainesville, in the county of Alachua and State of Florida, have invented a new and useful Improvement in Roller Cotton-Gins, of which the following is a specification.

My improvement relates to what is known as roller, sea island, or long staple gins, in which are used a leather covered roller, a breast blade, and a stripper; these parts with their necessary attachments being held in position in a suitable frame.

In all other gins hitherto in use the roller, the fixed breast blade and the stroke or play of the stripper, are rigidly confined to one position while running, and are unchangeable, without stopping to loosen, adjust, and tighten the parts. There is also no control over pressure, tension, or stroke while running. Furthermore the roller heads exposing the bare leather draw in the lint to the journals thus clogging them. The breast blade is also held in place by many independent springs, each separately adjustable, by which equal pressure cannot be assured, and when foreign bodies or too much cotton gets between the rollers and the blade, relief comes by the springing of the parts out of place, and then they often strike each other and damage to important parts results. Again if the cotton be long in staple and the stroke of the stripper be too short, it requires several strokes to clean the seed, and if it be set for long staple, and a short staple cotton is being ginned, useless work is done and a less output is obtained.

The object of my invention is to remedy all of these defects of the gins now in use. To do this I reduce the number of certain parts by assembling what have hitherto been separate parts into groups, each part in a group being permanently fixed in its true position, relative to the other parts of the group, and the required elasticity or pressure is given by applying springs to each group as a whole, the groups being made adjustable to each other, whereby is obtained a gin having a wider field of usefulness, an improved quality of work and an increase of useful output with less loss of time in adjusting and ex-

pense for repairs; and by which also the gin while working is brought under full control of the operator.

That others skilled in the art may fully understand what I claim as new I will describe it in full, having reference to the accompanying drawings, like letters designating like parts in all the figures.

Figure 1 is a perspective view of the entire gin. Figs. 2 and 3 are detail views taken at right angles to each other showing means for operating and adjusting the stripper Q. Fig. 4 is a detail in side view of the device for adjusting the roller horizontally. Fig. 5 is a detail view showing devices for adjusting the stripper vertically.

The main shaft A is supported in bearings on the sliding block B, Fig. 5, and carries the eccentric O, Fig. 2, which reciprocates vertically the stripper Q, Fig. 2, by operating against the bracket foot P which is connected to the stripper. The block B has set screws which rest on the short end of lever D', Fig. 5. By means of a shaft G and hand wheel H, the slide E, and the lever D', the stroke of the stripper Q may be adjusted to pass as little or as much as may be required beyond the edge of the blade N without stopping the gin, thus allowing the working stroke to vary with the staple of the cotton. The shaft G is arranged vertically in bearings F' G' on the outside of the gin, and its lower screw threaded end is tapped through the bent end of slide E which moves vertically in guides E' E' and bears downwardly upon the end of lever D'.

On the main shaft A, Fig. 2, within the casing of the gin is rigidly attached the eccentric O working against the foot of the bracket P giving a reciprocating motion to the stripper Q, as before stated, and on the stripper stay rod R is hooked the tension rod S having on its lower end the adjustable foot S' whose toe T, see Fig. 3, engages the finger V of the spring U, and thus holds the foot of the bracket P in continual contact with the eccentric O and produces an even positive motion of the stripper Q.

The journals of the roller I, Fig. 4, run in the horizontally sliding boxes J, which are

connected by the rod J' with the spring K and the nut L. The spring K rests on one side against the lug K' of the gin case, and on the other side bears against the cap L', which strain is transmitted to the rod J' through the screw nut L. By these devices the roller I is held against the breast blade N, see Fig. 2, by an adjustable even tension. The stationary blade N is held supported between the two parts *m* and *m'* as shown in Fig. 2.

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

1. In a roller cotton gin, the combination of the roller I the horizontally sliding box J carrying the same, rods J' attached thereto each rod being provided at its end with spiral spring K and adjusting nut L, the stationary blade arranged above the roller I, the bracket P with stripper Q working upwardly toward the stationary blade; the shaft A with eccentric O thereon resting beneath the bracket and imparting an up and down motion thereto, the spring U with tension rod S operating to pull the bracket down, the sliding block B carrying the shaft A, the lever D D' holding up the sliding block, and the slide E and screw shaft G the said slide being arranged

to bear upon and adjust downwardly the outer end of the lever substantially as and for the purpose described.

2. The combination of the stripper shaft A, and the vertically sliding block B carrying the same, the subjacent screw *c*, the horizontal lever D D' having its short end beneath the screw, and the vertical slide E, and the screw shaft G the said slide being arranged to bear upon and adjust downwardly the outer end of the lever substantially as and for the purpose described.

3. The combination with the roller I and stationary blade N; of the stripper Q arranged beneath it, the bracket P arranged beneath the stripper and attached to it, the horizontal rod R holding the stripper and bracket to place, the subjacent shaft A with eccentric O lying beneath and lifting the said shaft and stripper, and a tension rod S with adjustable foot S' and spring bearing upon the adjustable foot and arranged to hold the bracket and stripper down upon the eccentric substantially as and for the purpose described.

JAMES DOIG.

Witnesses:

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