

E. L. PETERSON.

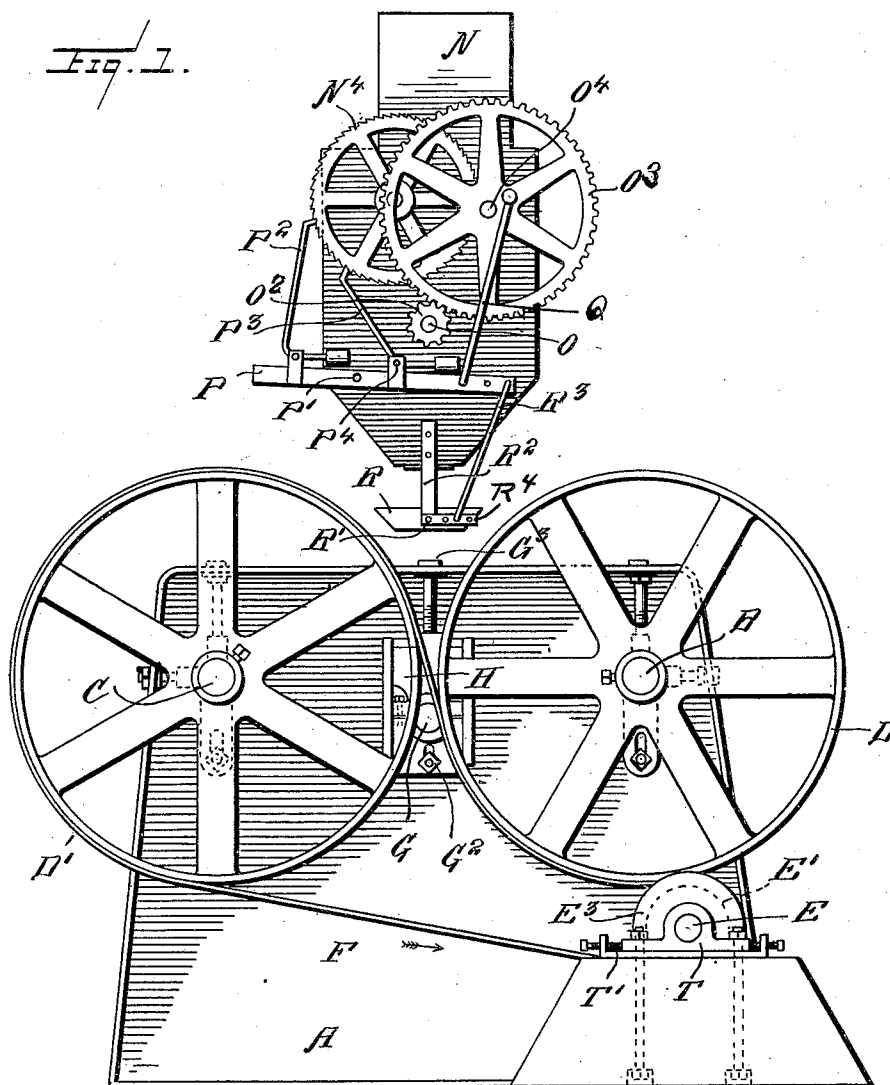
COTTON GIN.

APPLICATION FILED MAR. 25, 1909.

937,856.

Patented Oct. 26, 1909.

4 SHEETS—SHEET 1.



WITNESSES:

Wm. E. Boyce
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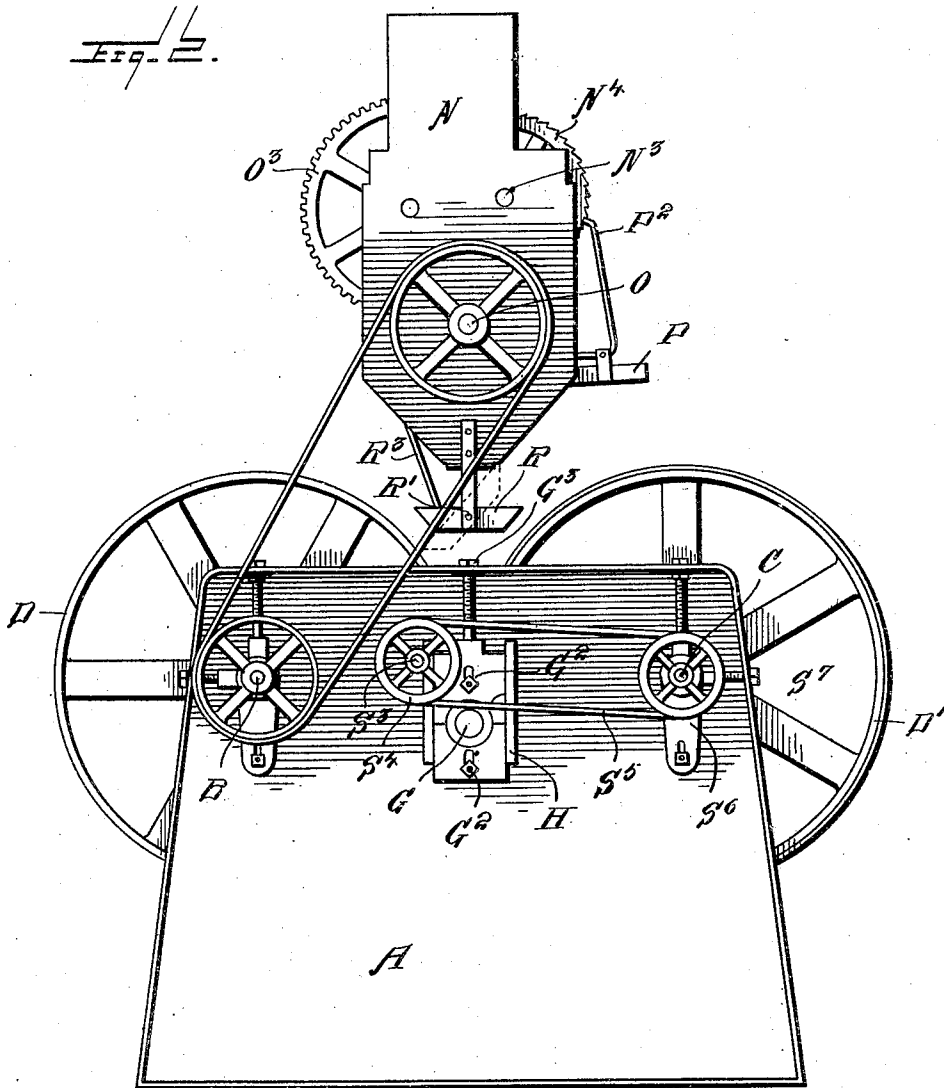
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4 SHEETS—SHEET 2.



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COTTON GIN.

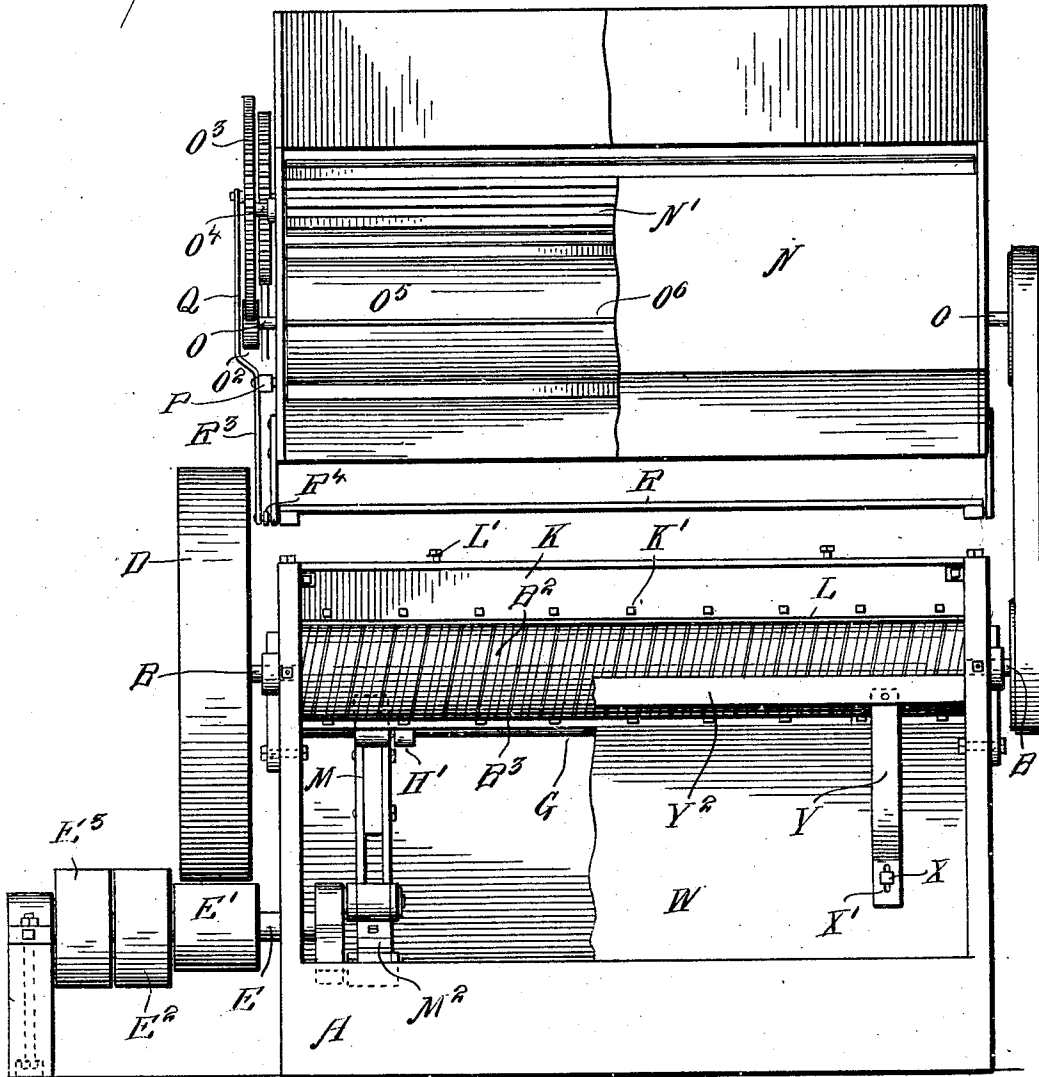
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4 SHEETS—SHEET 3.

Fig. 3.



WITNESSES.

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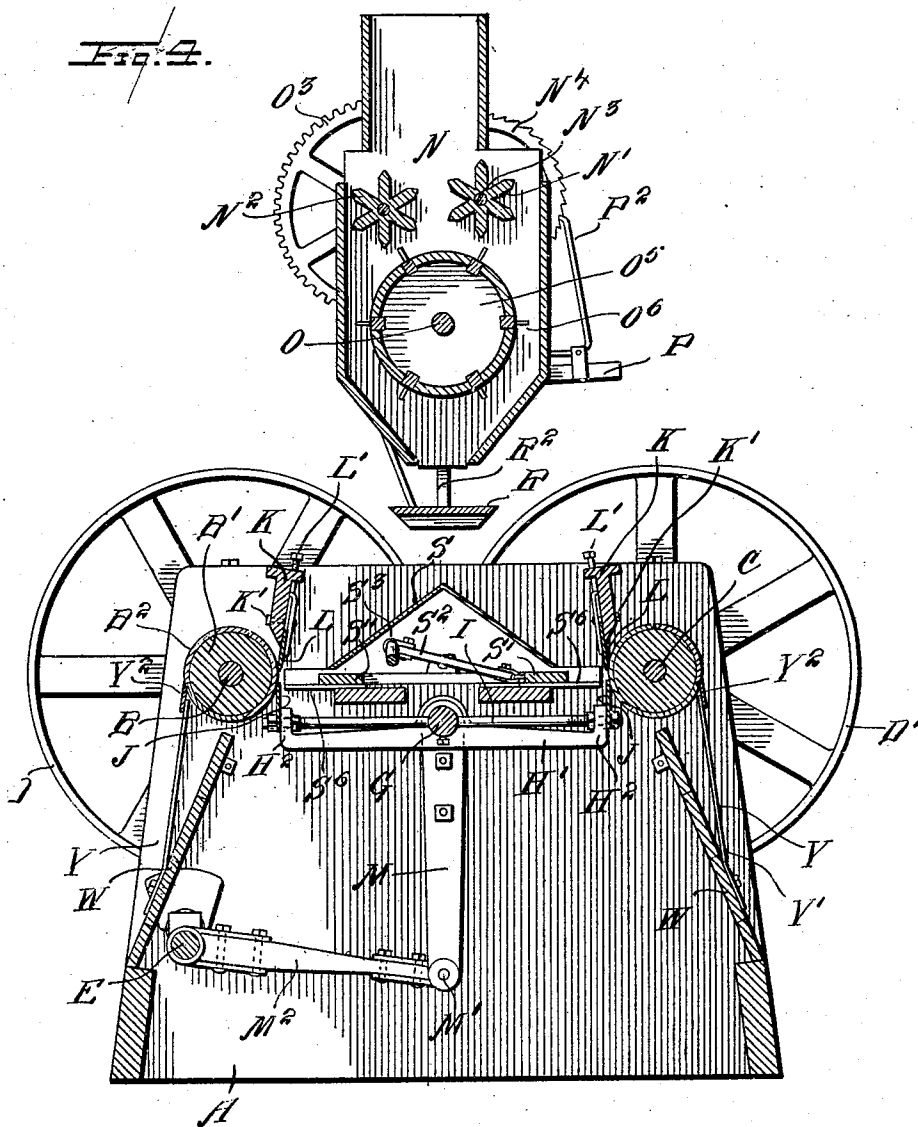
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UNITED STATES PATENT OFFICE.

EMMETT LEE PETERSON, OF WILLACOOCHIEE, GEORGIA.

COTTON-GIN.

937,856.

Specification of Letters Patent.

Patented Oct. 26, 1909.

Application filed March 25, 1909. Serial No. 485,715.

To all whom it may concern:

Be it known that I, EMMETT LEE PETERSON, a citizen of the United States, residing at Willacoochee, in the county of Coffee and State of Georgia, have invented certain new and useful Improvements in Cotton-Gins; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to new and useful improvements in apparatus especially adapted for ginning sea island cotton and comprises various details of construction, combinations and arrangements of parts which will be hereinafter fully described and then specifically defined in the appended claims.

My invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a side elevation of a gin made in accordance with my invention. Fig. 2 is a view in elevation from the opposite side of the machine. Fig. 3 is an end view, and Fig. 4 is a vertical cross sectional view.

Reference now being had to the details of the drawings by characters, A designates the frame of the apparatus which, in the present instance, is shown as inclosed with suitable surrounding wall, and journaled in suitable bearings within said frame are the two shafts B and C, the bearings of which have vertical adjustment, to the former of which is keyed a pulley D and to the latter a pulley D'. E designates a counter shaft mounted in boxes T which are horizontally adjustable by means of the set screws T', as shown clearly in Fig. 1 of the drawings. The counter shaft has a driving pulley E' fixed thereto and E² designates a pulley which is fixed to the shaft E, and E³ designates an idler upon the latter. A suitable belt, designated by letter F, passes about the circumference of the wheel D' and bears frictionally against the circumference of the wheel D and also about the pulley E', said wheel D serving to hold the belt taut and forming means for causing the two shafts B and C to rotate in opposite directions from each other. Fixed to the shaft B is a gin roller B' having a suitable covering B², shown in elevation in Fig. 3 of the drawings

as being made up of strips, preferably of leather and rubber, interposed between the rubber strips of which are grooves B³. C designates a rock shaft which is mounted in the adjustable boxings H carried in suitable guideways in said frame, said boxings being held by means of the bolts G² and the screws G³ in adjusted positions. Fixed to said rock shaft is a cross beam H' which has angled ends H² apertured to receive the bolt I.

J designate stripper blades extending preferably the length of the cylinders and adjacent thereto. By reason of the boxings H being adjustable, it will be observed that the shaft G may be raised and lowered which will also allow the stripper blades to be adjustable.

Mounted upon the cross-pieces K, forming a part of the frame of the apparatus, are the blades L which extend the length of the cylinders and held to said cross-pieces by means of bolts K'. Said blades L may also be raised and lowered and held in adjusted positions, suitable set screws L' being mounted in said cross-pieces and adapted to limit the adjustment of the blades.

Fixed to the shaft G is an arm M, the lower end of which is pivoted at M' to the arm M² which is fixed to the crank shaft E.

Positioned over the frame in which the apparatus described is mounted is a hopper N in which cotton is placed and which is adapted to be fed forward to the gin. Mounted in suitable bearings in the walls of said hopper are the winged feeding wheels N' and N², the former of which has a spindle N³ to which is fixed a ratchet wheel N⁴. The winged feeding wheel N² is loosely journaled within the hopper and is moved by friction. A shaft O is journaled in the opposite walls of the hopper and has a pinion wheel O² fixed thereto which is in mesh with a gear wheel O³ journaled upon the shaft O⁴. A pitman Q is pivotally connected to the wheel O³ at one end and its other end to a rocking bar P which is pivotally mounted upon a pin P' carried by the hopper. A feeding drum O⁵ is mounted upon and rotates with the shaft O and has a series of teeth O⁶ thereon adapted to draw the cotton downward to the tapering exit opening in the bottom of the hopper. Said bar P has an angled weighted pawl P² pivotally mounted thereon, the end of the pawl being adapted to engage the teeth of the ratchet wheel N⁴, and P³ is a second pawl pivoted at P⁴

upon the lever P and is also adapted to engage the teeth of the ratchet wheel N⁴. By this construction, it will be noted that, as the bar P is rocked, a continuous intermittent movement will be imparted to the ratchet wheel N⁴. Immediately below the hopper is a tilting table R pivotally mounted at R' upon the extensions R² secured to the hopper, and R³ designates a rod adjustably connected at its upper end to the lever P and its lower end adjustably connected to the bar R⁴ which is fastened to the extension R², thus causing said table to alternately tilt in one direction or the other as the bar P is tilted.

Mounted intermediate the two gin rollers are the inclined boards S adapted to direct cotton to one roller or the other as it is guided to one roller or the other by the table R tilting. Mounted to have a horizontal movement below said inclined boards and resting upon the fingers S⁶ is a plunger S' which is adapted to force the cotton against one roller or the other alternately as said plunger reciprocates. A rod S² is connected at one end to said plunger and its other end to a crank shaft S³ journaled in the opposite walls of the casing, and a pulley S⁴ is pivoted to the end of said crank shaft S³ and has belted connection S⁵ with a pulley S⁷ fixed to the shaft C, whereby motion may be imparted to said crank shaft. At the ends of the casing are the inclined walls W terminating each a slight distance below the gin rollers and Y designate doffers which have arms Y' fastened at their lower ends to said inclined walls while the transverse strip Y² of the doffers is positioned adjacent to each of the rollers, as shown clearly in Fig. 3 of the drawings, and extends substantially the length of the roller. Said strippers Y, it will be noted, are arranged so as to have a vertical adjustment by means of the bolts X which pass through the slots X'.

In operation, power is applied to the shaft E driving the pulley E' about which the belt F passes, said belt also passing about the wheel D' and bearing with sufficient frictional force against the circumference of the pulley D to cause the latter to revolve in a direction opposite to the rotary movement of the wheel D'. This motion will cause each of the gin rollers to rotate in opposite directions away from each other. The rock shaft G is operated by the connections between the same and the crank shaft as shown and thereby causing the stripper blades to move upward against the gin rollers. The cotton which is placed in the hopper is fed downward by the winged wheels, thence drawn by the pins upon the drum O⁵ down to the lower end of the hopper where it falls upon the tilting table R and the reciprocating

plunger S' will cause the cotton to be pushed alternately against the two gin rollers. The cotton with the seed therein coming in contact with the gin rollers, the fiber of the cotton will adhere to the covering of the rollers and, as the strippers are alternately moved upward against the cylinders and cooperating with the blades L, the seed from the cotton will be separated from the fiber, said seeds falling down through the fingers S⁶, the fiber being removed from the cylinders by means of the doffers which are positioned adjustably adjacent to the rollers and against which the latter turn. The seeds as they separate from the fiber fall through the fingers, while the fiber free from the seeds falls down upon the inclined end walls of the casing, as will be readily understood.

Owing to the adjusting features of my gin, it will be noted that the various parts of the apparatus may be easily and quickly adapted for operating on cotton of various kinds.

What I claim to be new is:—

1. A cotton gin comprising a frame, vertically and laterally adjustable gin rollers and adjustable rock and crank shafts mounted therein, an arm fixed to said rock shaft, a pitman pivotally connected at one end to said arm and its other end to said crank shaft, a cross beam secured at right angles to the rock shaft and having upwardly turned apertured ends, rods fastened to the rock shaft and projecting through said apertured ends, stripper blades mounted on the ends of said rods and co-acting with the rollers, nuts holding said blades against the outer edges of the upturned ends of the cross beam, stationary, adjustable stripper blades mounted adjacent to the gin rollers, and means for feeding cotton to the rollers.

2. A cotton gin comprising a frame, vertically and laterally adjustable gin rollers and a rock shaft mounted therein, a cross beam secured to said shaft and provided with upturned angled ends which have registering apertures therein, rods passing through the rock shaft and said apertures in the beam, stripper blades mounted upon the projecting ends of said rods, nuts upon the threaded ends of the rods and adapted to hold the stripper blades against the outer edges of the angled ends of the beam, stationary adjustable stripper blades co-acting with the blades upon the beam and positioned adjacent to the gin rollers, and means for feeding the cotton to the latter.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

EMMETT LEE PETERSON.

Witnesses:

EDWD. GRAY,
J. F. SHEARER.