(No Model.)

E. VAN WINKLE.

COTTON GIN.

No. 366,139. Patented July 5, 1887.

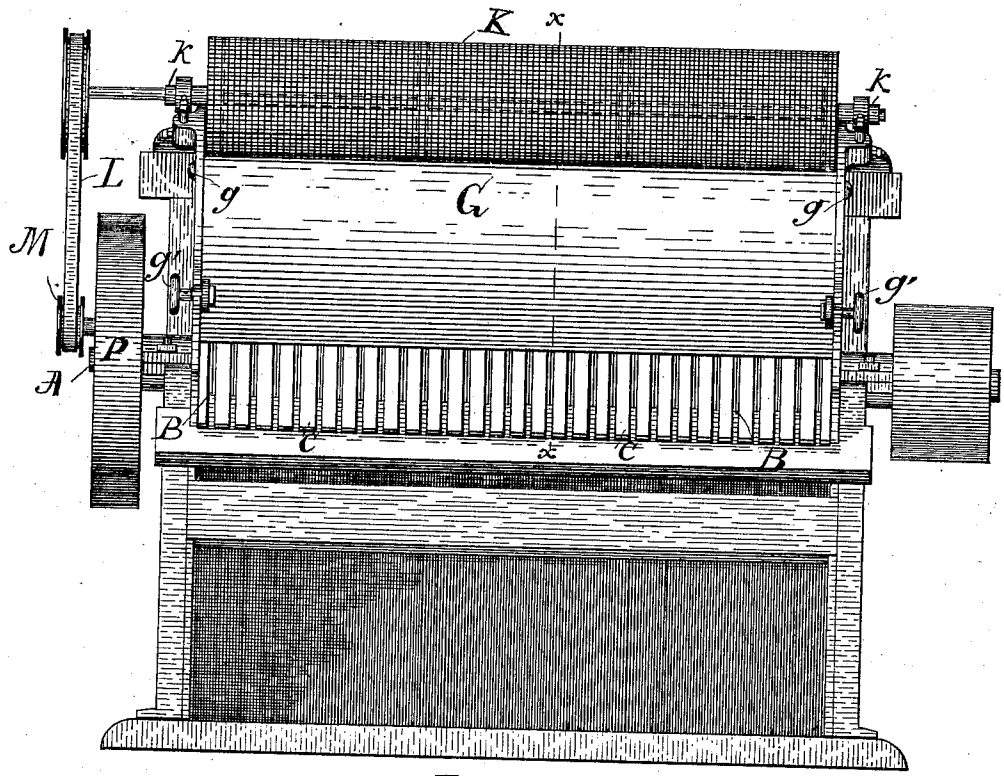

Fig. 1.

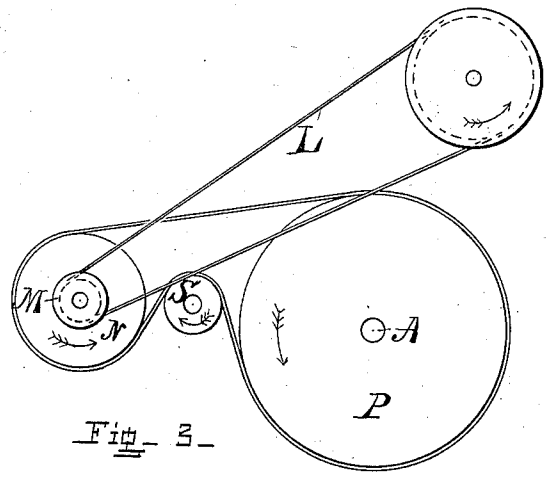

Fig. 3.

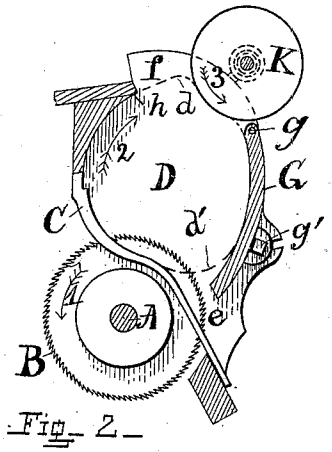

Fig. 2.

Witnesses

A. P. Wood.

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UNITED STATES PATENT OFFICE.

EDWARD VAN WINKLE, OF ATLANTA, GEORGIA.

COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 366,139, dated July 5, 1887.

Application filed January 26, 1887. Serial No. 225,587. (No model.)

To all whom it may concern:

Be it known that I, EDWARD VAN WINKLE, a citizen of the United States, residing at Atlanta, in the county of Fulton and State of Georgia, have invented a new and useful Cotton-Gin; 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 letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in that class of cotton-gins known as "saw-gins;" and it consists of a roller driven by a belt and pulley, which roller is located in the opening at the top of the roll-box, into which the seed-cotton is fed, and presses on and drives the roll, as and for the purpose hereinafter fully described.

In the accompanying drawings, Figure 1 is a front view of a cotton-gin, showing my device in position. Fig. 2 is a vertical section through the roll-box, on the line *x* of Fig. 1. Fig. 3 is a diagram showing the system of belting.

In the figures, like reference-marks referring to like parts in the several views, A is the saw-shaft; B, the saws; C, the ribs, and D the roll-box, in which is placed the roll of seed-cotton, the cleaned seeds being discharged through the opening *e* at the bottom, which roll-box is kept full of seed-cotton by feeding it through the opening *f*. The roll in passing these openings will assume about the form shown by the dotted lines *d* and *d'*, Fig. 2.

G is the front or seed-board of the roll-box, and is hinged or pivoted at *g*, and adjustably held by the bolts *g'*.

H is the curved back side of the roll-box.

K is a roller journaled in the boxes *k* on the heads of the roll-box, and runs in the opening *f*, and is driven by the belt L from the pulley M on the idler N. The pulley N is driven by the pulley P on the saw-shaft.

S, Fig. 3, is the brush-shaft.

The arrows 1, 2, and 3, Fig. 2, show in which direction the saws, the roll, and the roller K respectively run.

In the roll-box of gins as heretofore constructed difficulty has been experienced in preventing the seed-cotton, especially when the cotton is in a dry or fluffy condition, which is the most desirable condition in which to have it, from discharging over the front of the roll-box at the point at which I place the roller K, which trouble is caused by the elastic property of the dry or fluffy cotton. To obviate this difficulty it has been the practice heretofore to contract inwardly the curved inner surface of the roll-box marked *h*, which results in an undue friction on the roll at that point, which causes bad results by hindering its free revolution. The roll of seed-cotton should run at about the same peripheral speed as the saws; otherwise—that is to say, if the periphery of the saws runs much faster than that of the roll—the lint will be cut, and in being drawn from the roll by the saw-teeth will be so firmly bent around the teeth that it will not straighten out in going through the flue of the gin, but will remain in that position and be so pressed into the bale, thus making what is known as "nappy" cotton, and which is the most objectionable condition in which cotton can be. The pressure at the part marked *h* will also sometimes cause the roll to break—that is to say, cease to revolve and collapse at the top—causing the saws to cut and nap the cotton until the roll can be gotten in motion again. It is also a fact that a slow-running roll will not bring the lint in reach of the saw-teeth as fast as the teeth can take it. To obviate these difficulties, I place the roller K in the opening into which the seed-cotton is fed, as shown, for the purpose of carrying downwardly and pressing the seed-cotton into the roll-box, thereby preventing it from going out at that opening. This roller I make of a sufficient size to act as a feeder to the roll-box, by reason of which the gin is as easily fed through the restricted aperture as otherwise—that is to say, the seed-cotton will, by this roller, be forcibly carried into the roll-box. On account of the seed-cotton being forced downwardly I am enabled to make the inside curvature of the roll-box at the point marked *h* such as will allow the roll to turn easily and with the least possible friction on the roller. This pressing inwardly of the roll at this point also has the effect of keeping the roll so small in diameter as to prevent friction on any part of its periphery. This roller, be-

ing driven by a belt, catches the cotton as it is forced into the roll-box, and prevents the accumulation of seed-cotton at the point marked *d* in the roll by forcing it downwardly into the roll and causing the roll to revolve at a regular and desirable speed.

I believe that the roller K may be made of any material and that the size may be considerably varied without detriment; but at present I prefer to cover it with wire-cloth and make it of about the proportion shown in the drawings.

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

In a cotton-gin, the combination, with the saws B, of a roll-box composed of the grid, a seed-board, G, and the curved upper part, *h*, said box having an opening, *f*, the driven roller K, placed therein, and means for driving said roller, all arranged and operating substantially as shown and described.

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

EDWARD VAN WINKLE.

Witnesses:
JAMES A. SHIELDS,
W. W. BOYD.