

(No Model.)

W. L. ELLIS.
SAW GIN.

No. 410,082.

Patented Aug. 27 1889.

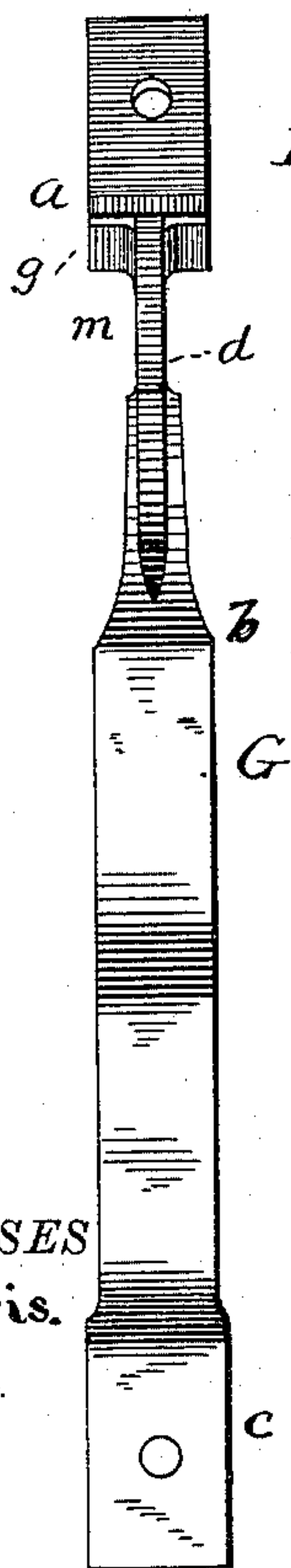
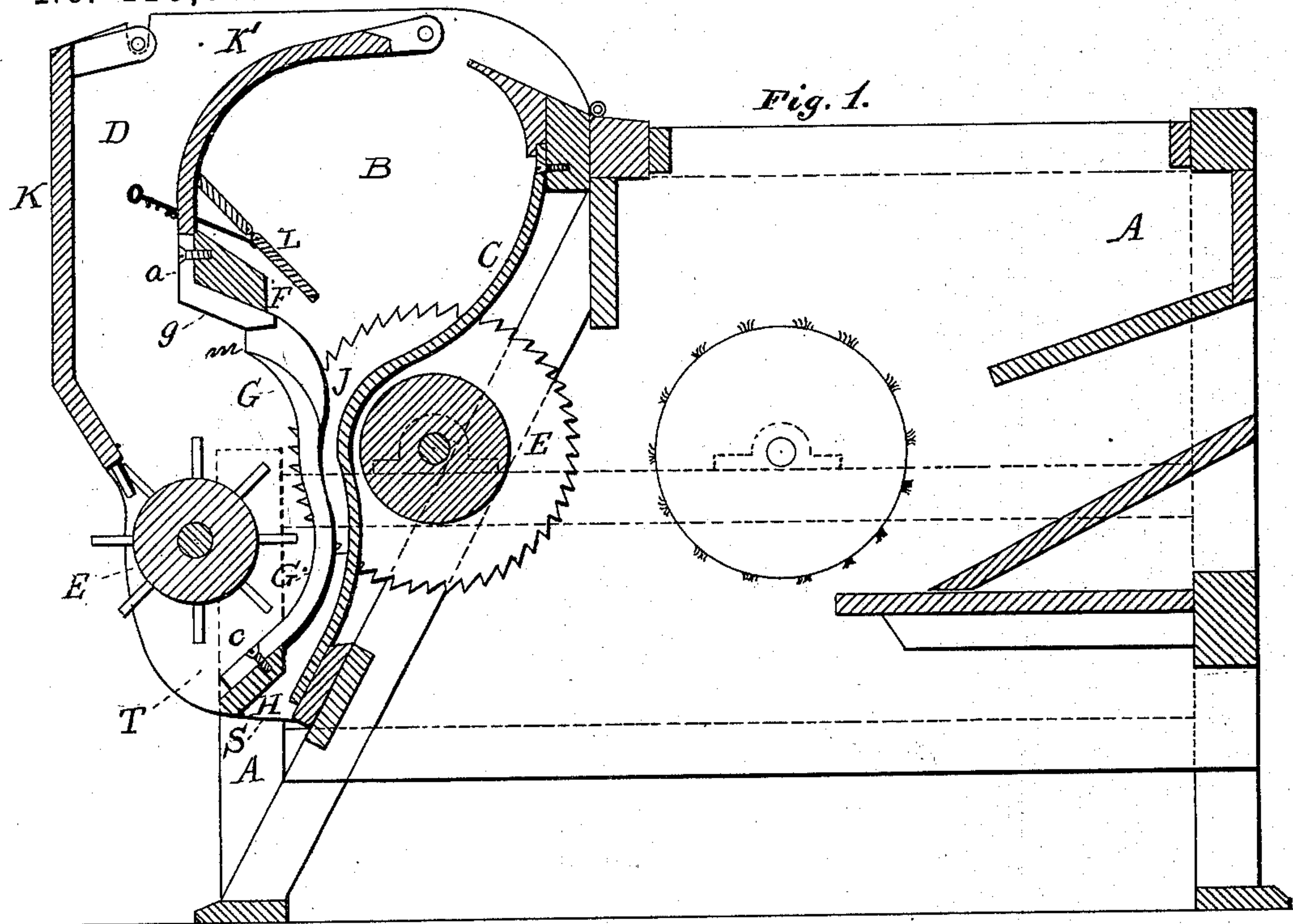


Fig. 2.

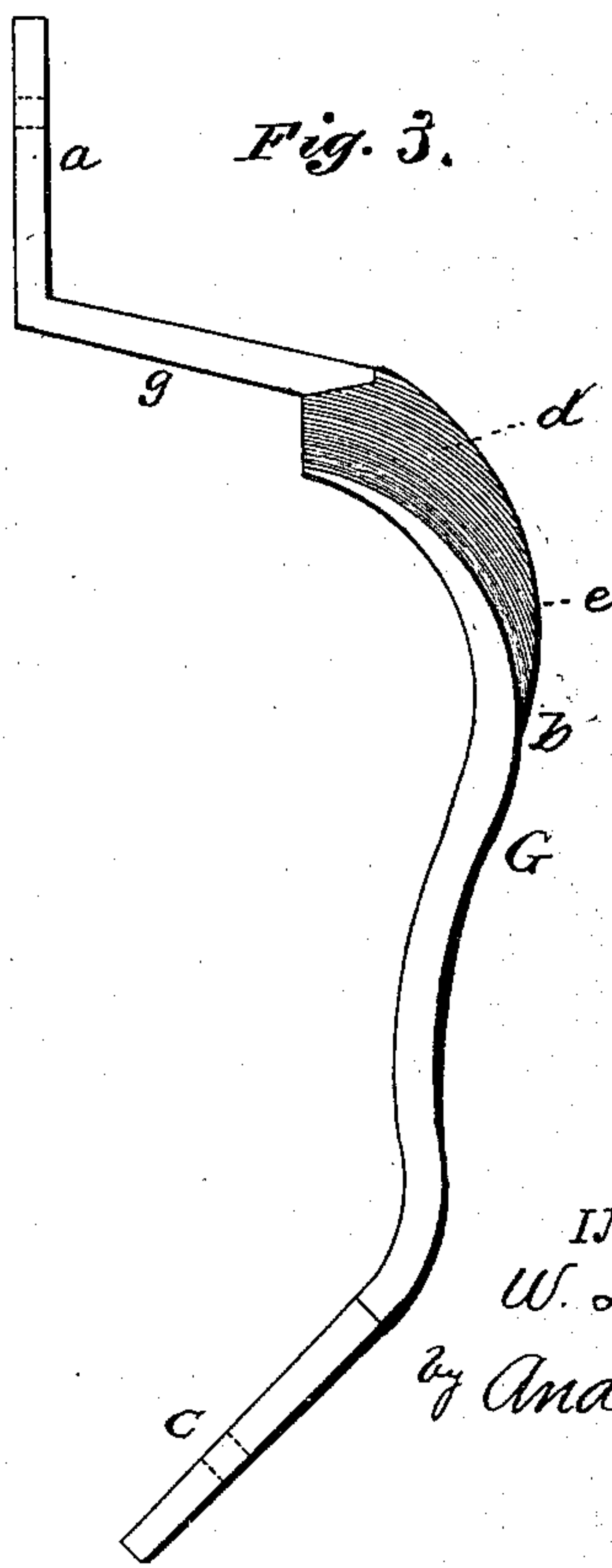


Fig. 3.

WITNESSES
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UNITED STATES PATENT OFFICE.

WASHINGTON L. ELLIS, OF PRATTVILLE, ALABAMA, ASSIGNOR OF ONE-HALF
TO MERRILL E. PRATT AND DANIEL PRATT, BOTH OF SAME PLACE.

SAW-GIN.

SPECIFICATION forming part of Letters Patent No. 410,082, dated August 27, 1889.

Application filed August 10, 1888. Serial No. 282,438. (No model.)

To all whom it may concern:

Be it known that I, WASHINGTON L. ELLIS, a citizen of the United States, and a resident of Prattville, in the county of Autauga and State of Alabama, have invented certain new and useful Improvements in Saw-Gins; and I 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.

Figure 1 is a vertical longitudinal sectional view of a portion of the cotton-gin, illustrating my invention. Fig. 2 is a rear view of one of the ribs. Fig. 3 is a side view of the same.

The invention relates to an improvement in cotton-ginning machines; and it consists in the construction and novel combination of devices, as hereinafter set forth.

The main object of the invention is the improvement of that portion of the gin whereby the bolls and sticks or other extraneous matters are eliminated from the cotton prior to its presentation to the seed-separating ribs of the gin, and with this object in view the parts which have received especial attention in devising the improvement are the first or supplementary ribs and their connections.

Prior forms of supplementary ribs are shown in Letters Patent No. 223,721, granted to me on the 20th day of January, 1880, and in Letters Patent No. 249,913, dated November 22, 1881. In the first of these patents are shown short depending supplementary ribs attached to the hinged breast-board and terminating in free ends a little below the middle of the main gin-ribs. In the second patent referred to I provide, in addition to short depending supplementary ribs, a lower set of complementary ribs extending upward from their point of fastening nearly to the extremities of the depending ribs, in which the ribs claimed therein are objectionable, inasmuch as the cotton becomes packed between the ends of said lower ribs, which have a small amount of flexibility, and the supplemental ribs, thus preventing the work of the machine.

My improvement will appear in the man-

ner of forming the supplementary ribs, so that they have a full vertical extension for the depth of the gin-front below the roll-box, and in their solid and permanent connection by both their upper and lower ends to permanent transverse bars provided in the gin-frame for that purpose.

In the accompanying drawings, the letter A designates the gin-frame, affording proper bearings for the journals of the saw-shaft and the shaft of the spiked drum.

B represents the roll-box, which is located over and in front of the upper portion of the line of gin-ribs C, which are designed to separate the seed as the cotton is delivered through the intervals between said gin-ribs to the action of the brush-cylinder.

D is the feed chute or hopper, which extends downward in front of the cotton-box B. The spiked roller or drum E is located at the bottom of this hopper in front of the concave lower portions of the supplemental ribs G.

E indicates the saws, which are secured at proper intervals on the saw-shaft in rear of the convex portion of the line of gin-ribs, the saws being designed to revolve upward and backward in front and being so arranged that the path of their teeth intersects the rib-breast at its upper portion. In front of the upper portions of the saws and at a somewhat higher level is fixed the transverse beam F, which is firmly secured to the framing. To this beam the upper ends *a* of the supplementary ribs G are secured, their lower ends *c* being fastened to a transverse bar H, secured to the framing in rear of the spiked roller. It will be observed that these supplemental ribs are thus firmly secured in place by their upper and lower ends.

K' is the cover or front of the roll-box, which is usually hinged at its upper portion, so that it can be easily lifted to inspect the interior. At the lower end of this cover on its inner side is the inclined seed-guide L, which projects downward and inward toward the saws and over the beam F, to which the supplemental ribs are attached. This cover, being relieved of the weight of the supplemental ribs, is easily handled. K is the hinged front of the hopper D. The supplemental

ribs G are of wave-like form, their middle portions being convex in front, as indicated. The lower end of each rib is provided with a flange *c*, for attachment to the framing-beam H, and the upper end of each rib has a flange *a*, for attachment to the transverse beam F. These ribs G are formed with parallel edges extending upward from the flange *c* to the shoulder *b*, at which point the rib is narrowed into web form, as at *d*, the web or fin being broad from before backward, and having a convex rear margin *e*, and curving at its upper end toward the front. From the upper extremity of the fin or web extends forward the guard-flange *g*. It will therefore be observed that the passage between two ribs is wider at *m*, or just above the shoulder, and that in this part the extent of the rib from front to rear is greater. The loose cotton riding upward between the ribs and dropping back in the hopper is again acted upon by the spiked drum and saws and brought up. The cotton, being separated from its hulls and trash, enters the cotton-box, where it is acted upon by the saws

and ginned, the seed passing down between the supplemental ribs and the main ribs through the passage J. By employing suitable guides the trash discharged at T and the seed discharged at S can be deposited separately.

Having described this invention, what I claim, and desire to secure by Letters Patent, is—

In a cotton-gin, the combination, with the main ribs and the saws and spiked roller, of the convex supplemental ribs extending entirely in front of the main ribs below the roll-box and forming therewith the seed-passage, the transverse beams F and H, the cotton-box, and the hinged roll-box cover having the inclined seed-guide L, substantially as specified.

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

W. L. ELLIS.

Witnesses:

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