

(No Model.)

2 Sheets—Sheet 1.

T. CAMP.  
COTTON GIN.

No. 277,223.

Patented May 8, 1883.

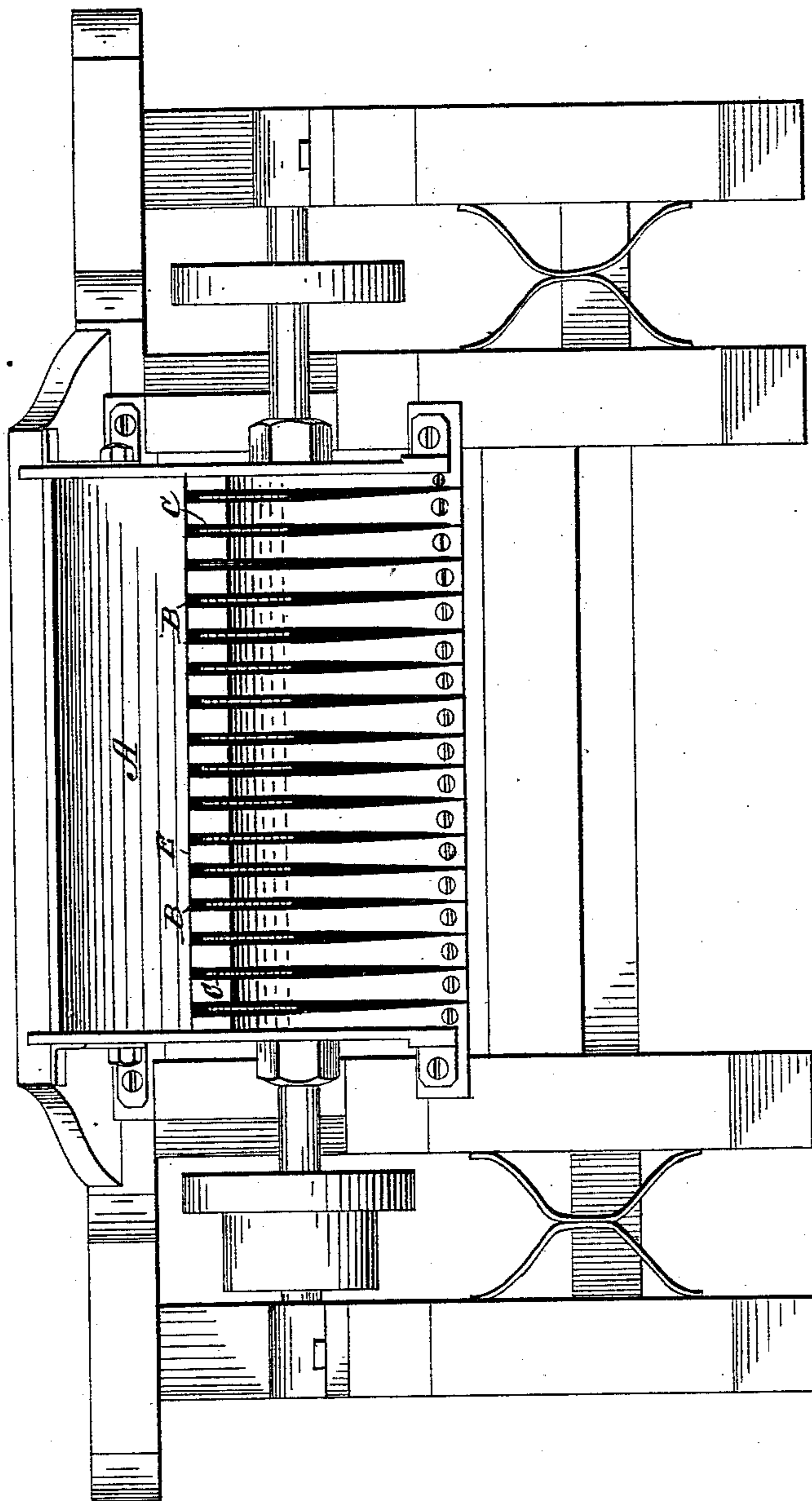


Fig. 1.

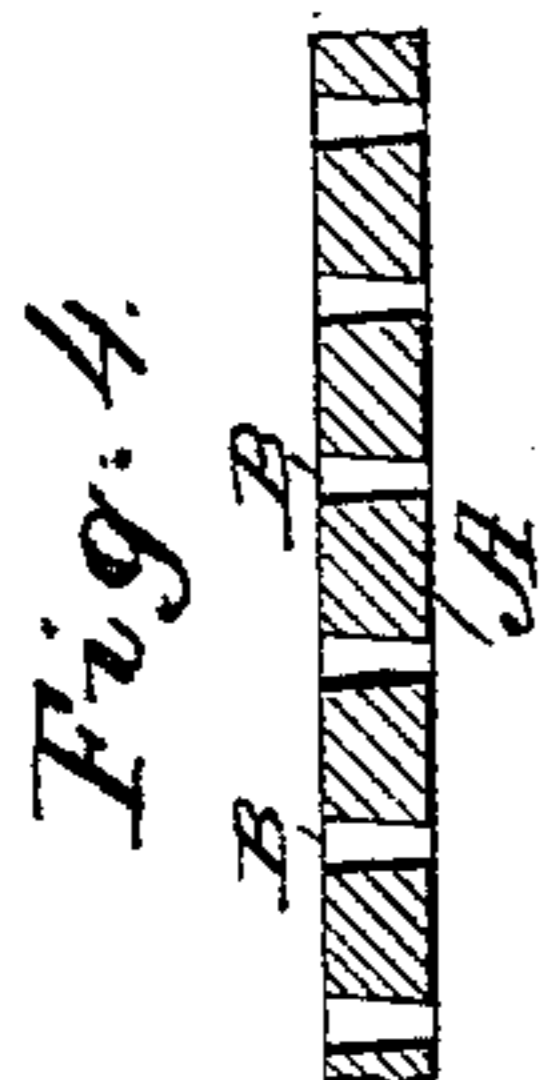


Fig. 4.

WITNESSES:  
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*A. G. Lyne.*

INVENTOR:  
*Thomas Camp*  
BY *Munn & Co.*  
ATTORNEYS.

(No Model.)

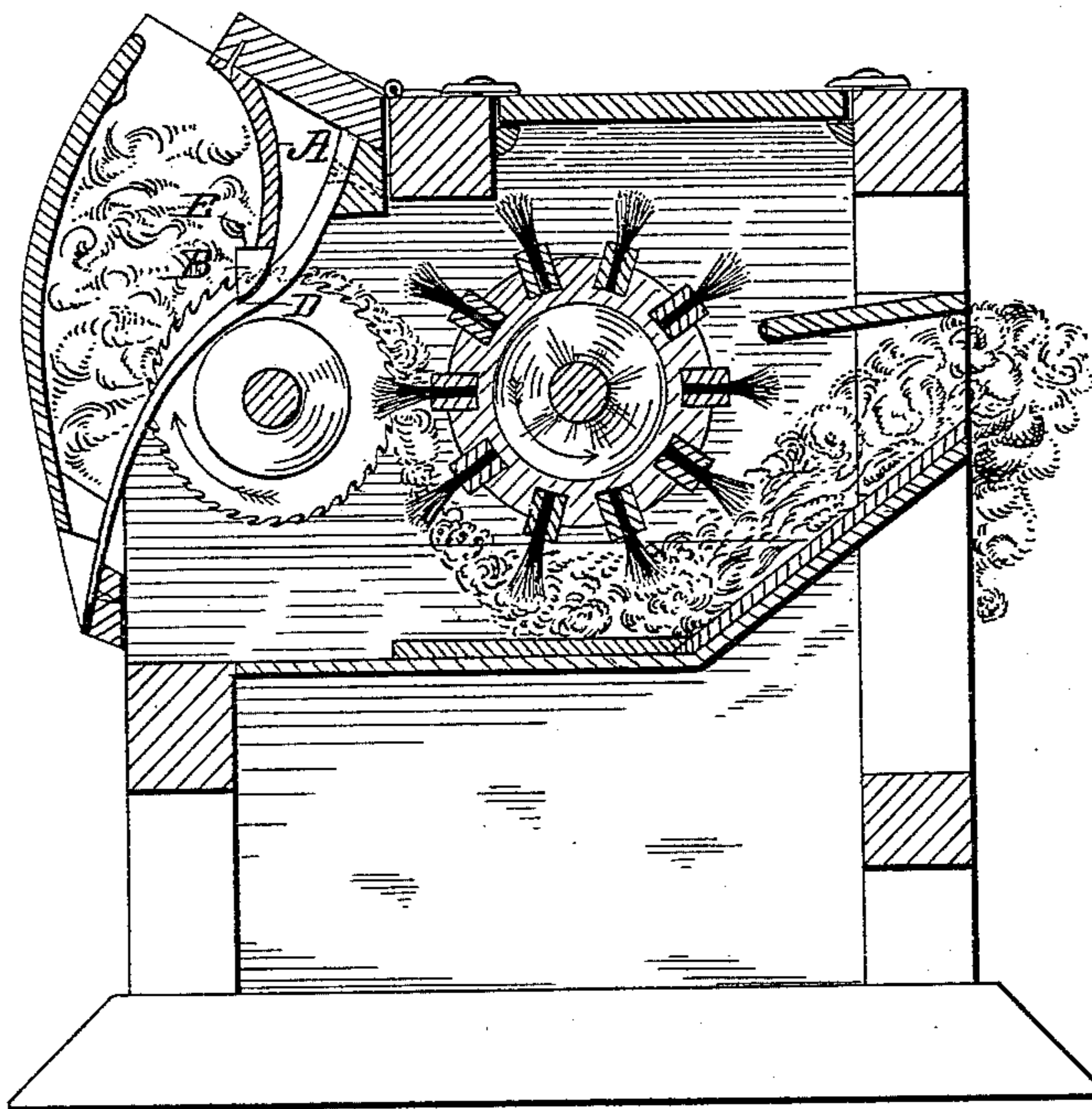
2 Sheets—Sheet 2.

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COTTON GIN.

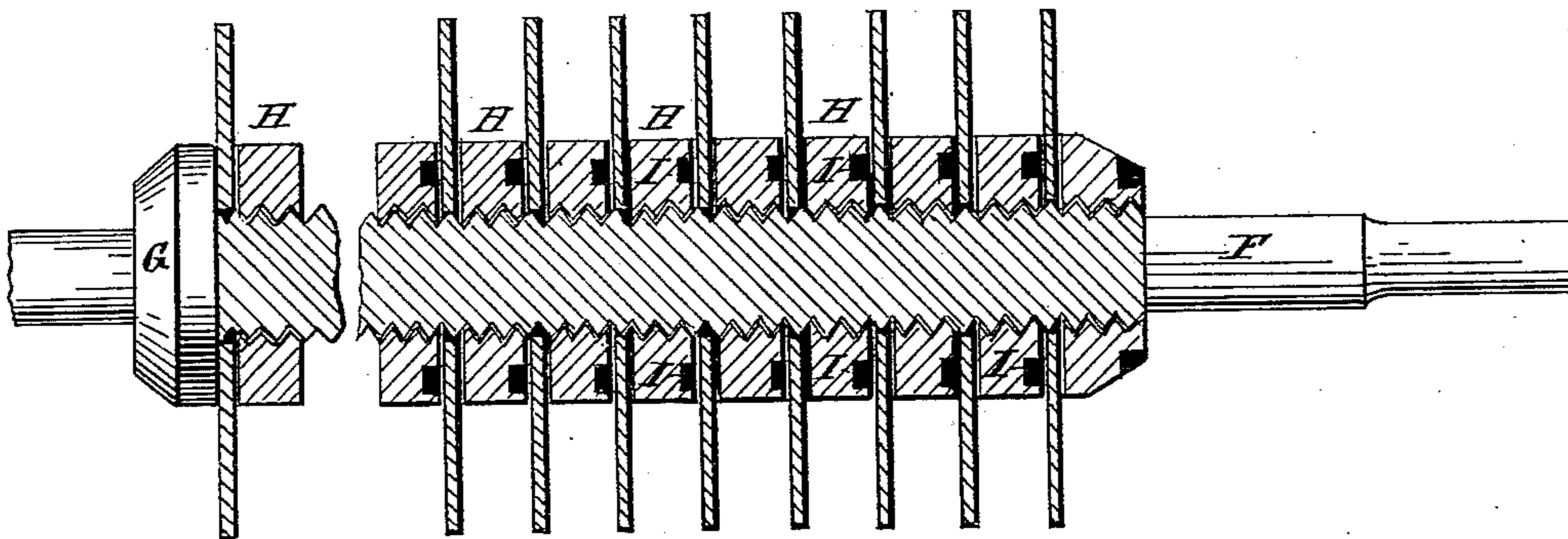
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*Fig. 2.*



*Fig. 3.*



WITNESSES:

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# UNITED STATES PATENT OFFICE.

THOMAS CAMP, OF COVINGTON, GEORGIA.

## COTTON-GIN.

SPECIFICATION forming part of Letters Patent No. 277,223, dated May 8, 1883.

Application filed January 30, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS CAMP, of Covington, in the county of Newton and State of Georgia, have invented a new and useful Improvement in Cotton-Gins, of which the following is a full, clear, and exact description, reference being had to the annexed drawings, forming part of this specification.

This invention relates to an improvement in the construction and arrangement of the breast and ribs of a cotton-gin, whereby such defects as imperfect separation of the fibers, or the cutting or napping of the same, or the breaking of the roll in the process of ginning shall be avoided.

In carrying out my invention I provide the lower edge of the gin-breast with a series of slots adapted to register with the spaces between the ribs, and so arrange the breast with respect to the ribs that the cotton shall be ginned through the slots in the breast instead of the spaces between the ribs; and I also provide an offset in the breast, at the upper ends of the slots, to prevent tufts of the cotton from being caught in the ends of the slots; and I secure the gin-saws on a threaded shaft between jam-nuts, all as hereinafter described and claimed.

In the drawings, Figure 1 is a front view of a cotton-gin with hopper removed, showing the improved construction of the gin-breast. Fig. 2 is a section of the gin, taken transversely through the hopper and breast. Fig. 3 is a longitudinal section of the saw-cylinder, and Fig. 4 is a horizontal section of the breast.

In cotton-gins of the usual type the cotton is drawn through the spaces between the upper ends of the ribs, and as these spaces cannot readily be made uniform by the adjustment of the ribs the fibers are apt to be broken in passing through the narrower spaces, while tufts or naps of cotton and half-grown seeds are drawn through the wider spaces, whereby the staple is greatly injured, and as the cotton comes in contact with the breast-board, which crosses the upper ends of the ribs and forms the roll-box above the same, the roll is apt to be broken, causing the seeds to fall before they are thoroughly cleaned. To prevent this injury to the staple and loss by imperfectly cleaning the seed, I provide the gin-breast A

with a series of uniform slots, B, through which the saws C are adapted to rotate in such manner that the cotton shall be drawn against the breast and through the said slots. The lower edge of the breast is adapted to fit in recesses D in the upper surfaces of the ribs, with the surface of the breast at its lower edge in or nearly in a vertical plane, to provide a sufficient degree of resistance to the cotton to secure the proper separation of the fibers. To prevent tufts of cotton from being caught in the ends of the slots I provide the breast A with an offset or series of offsets, E, in alignment with the upper ends of the slots B, to guide the roll of cotton over the said ends up against the concave surface of the breast as it continues to rise and rotate under the action of the saws. I have also constructed the slotted breast without the offset E, but consider the addition of the offset an important element in the invention, since by its use a better quality of fiber is obtained. The offset E is a single continuous offset, extending across the lower edge of the breast and divided transversely at regular intervals by the slots B. It may therefore also be called a "series of offsets."

It will be seen that by the above construction the wear is taken off the ribs and thrown upon the slotted breast. The advantage of this is that the same set of ribs may be used for an indefinite length of time, it being necessary in case of repairs, only to substitute a new breast for that which has become too much worn for further use. In this way much of the time required for substituting a new set of ribs is saved.

A still more important advantage is that the slots in the breast-board can be formed with greater exactness of width and distance from each other than can the spaces between the ribs, and thus a more perfect adjustment of the saws in the slots can be secured, which gives an improved ginning effect.

To assist in the perfect adjustment of the saws and slots I form the saw-cylinder with a threaded shaft, F, having a stationary collar, G, near one end, and screw a jam-nut, H, on the shaft after each saw. The jam-nuts are preferably formed with two small sockets or recesses, I, in one face, in order that they may

be screwed up with a simple two-pronged wrench. I do not confine myself, however, to this expedient in particular, since various other means of applying a wrench to the nuts might  
 5 be used as well. By making the nuts of metal the saw-cylinder will be adapted to expand or contract under varying temperatures in harmony with the contraction and expansion of the metallic breast, so that the adjustment of  
 10 the said parts to each other shall always be uniform.

As shown in Fig. 4, the slots B are made wider at the rear than at the front side of the breast. The object of this construction is to  
 15 prevent naps of the cotton from being caught in the slots and to enable the movement of the roll to take up any fibers that have not been carried entirely through the slots by the saw-teeth. The edges of the slots are made parallel from top to bottom at the front side of  
 20 the breast in order to secure a perfect adjustment of the saws therein, and to prevent tufts of cotton from being drawn through in an imperfectly-ginned condition.

25 What I claim is—

1. The combination, with the gin-saws and the ribs, of the breast having a series of slots formed through its lower edge, the edges of which slots are made parallel from top to bottom at the front side of the breast, substantially as shown and described, whereby a perfect adjustment of the saws in the slots may be made and the cotton may be ginned directly through the slotted breast into the lint-chamber, to the end that the cotton fiber may  
 30 be separated from the seed without danger of matting and napping the same.

2. The combination, with the gin-saws and the ribs, of the breast having an offset formed  
 40 in its front surface, near its lower edge, and a series of slots formed through said lower edge,

which intersect the offset transversely, substantially as shown and described, whereby the cotton may be ginned directly through the slotted breast into the lint-chamber, and the roll of  
 45 cotton may be guided over the ends of the slots to prevent breaking the roll and causing the seed to drop out before being entirely cleaned.

3. The combination, with the gin-saws and the ribs, of the breast having an offset at its lower edge and a series of slots formed through said offset and lower edge, which slots are made wider at the rear than at the front side of the breast, substantially as shown and described, whereby the cotton may be prevented  
 55 from catching in the slots while being ginned through the same, and the roll may be guided over the ends of the slots to prevent it from being broken, as set forth. 60

4. The combination, with the ribs of a cotton-gin, of the saw-cylinder consisting of a threaded shaft and the jam-nuts, between which the saws are secured, substantially as shown and described, whereby the saws may  
 65 be arranged and held at exact distances apart to secure a perfect adjustment of the same in the spaces.

5. The combination of the gin-ribs, the metallic slotted breast having the slots formed at  
 70 exact intervals apart and of the same width, and the saw-cylinder having the saws secured on a threaded shaft between metallic jam-nuts, substantially as shown and described, whereby the adjustment of the saws in the spaces  
 75 shall not be affected by the contraction and expansion of the parts.

THOS. CAMP.

Witnesses:

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 A. G. LYNE.