

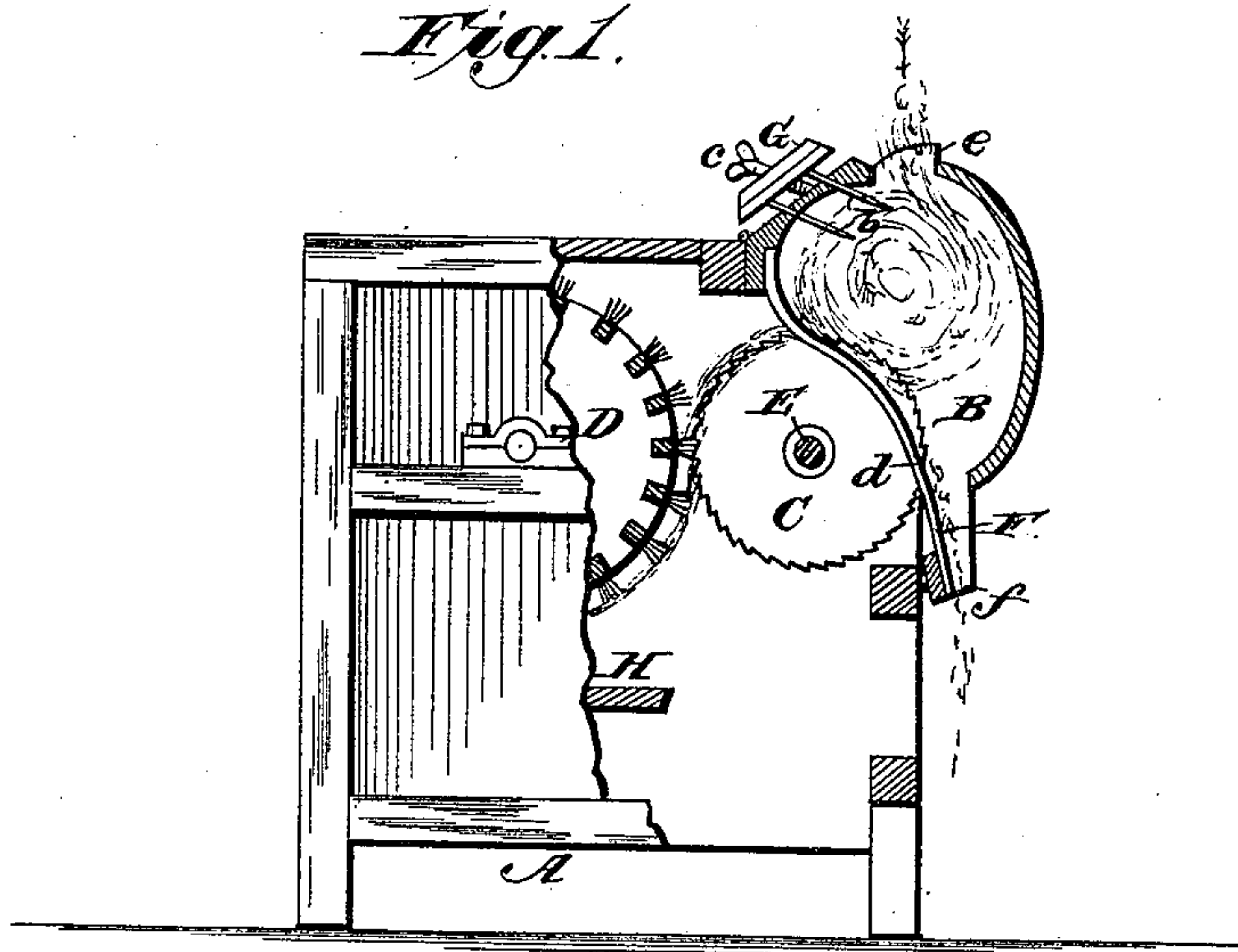
(No Model.)

R. M. BLACKWELDER.  
ATTACHMENT FOR COTTON GINS.

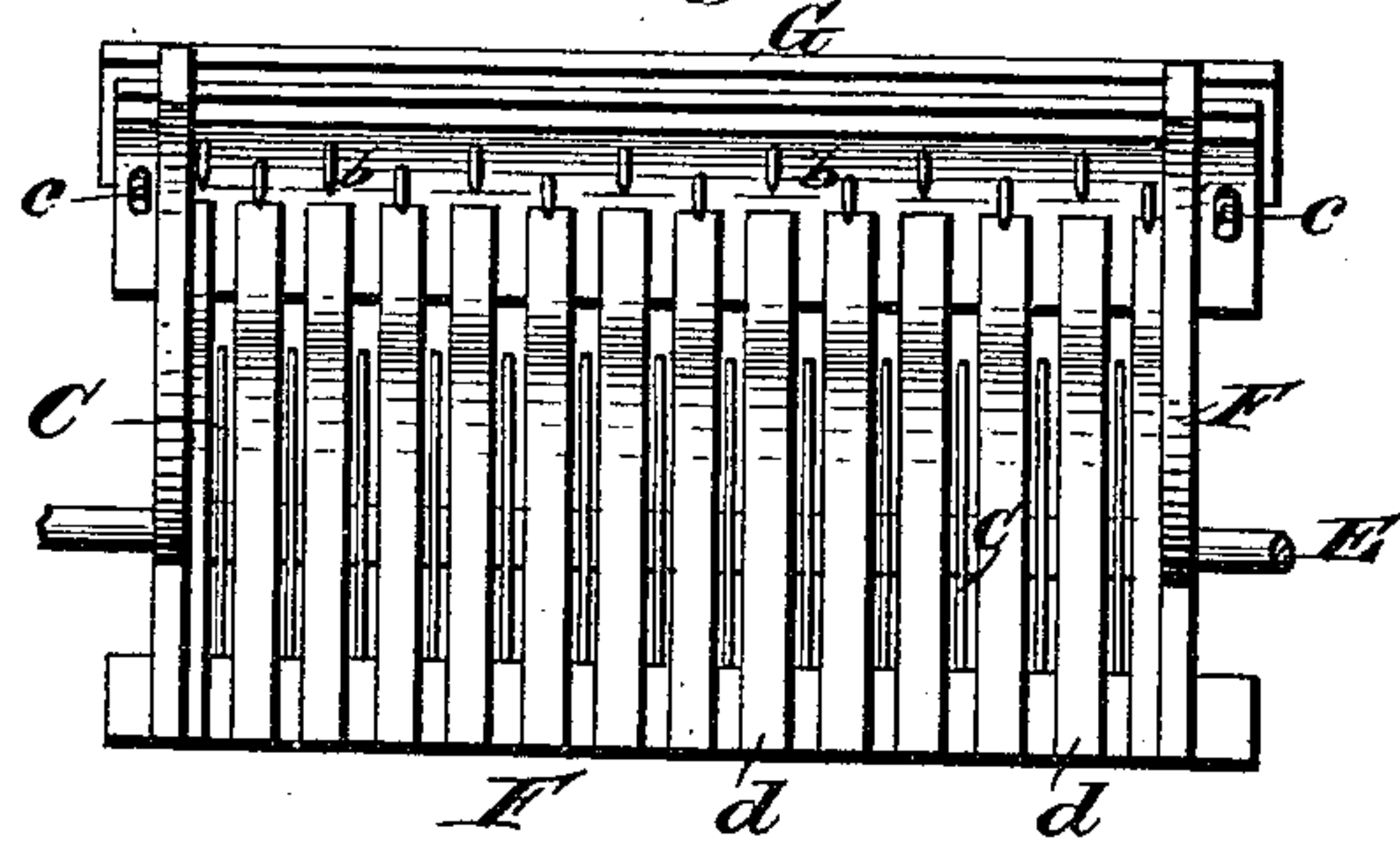
No. 369,978.

Patented Sept. 13, 1887.

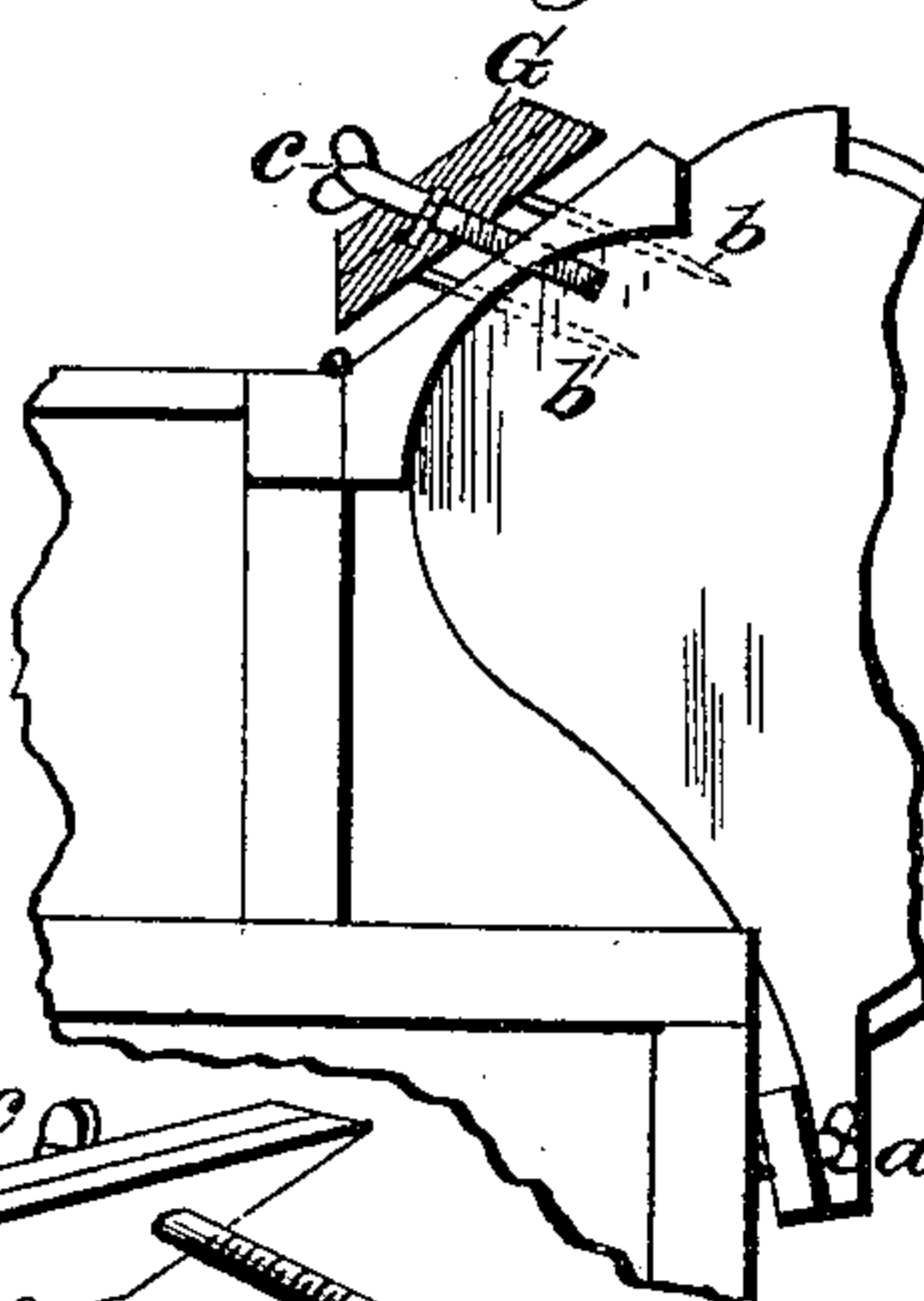
*Fig. 1.*



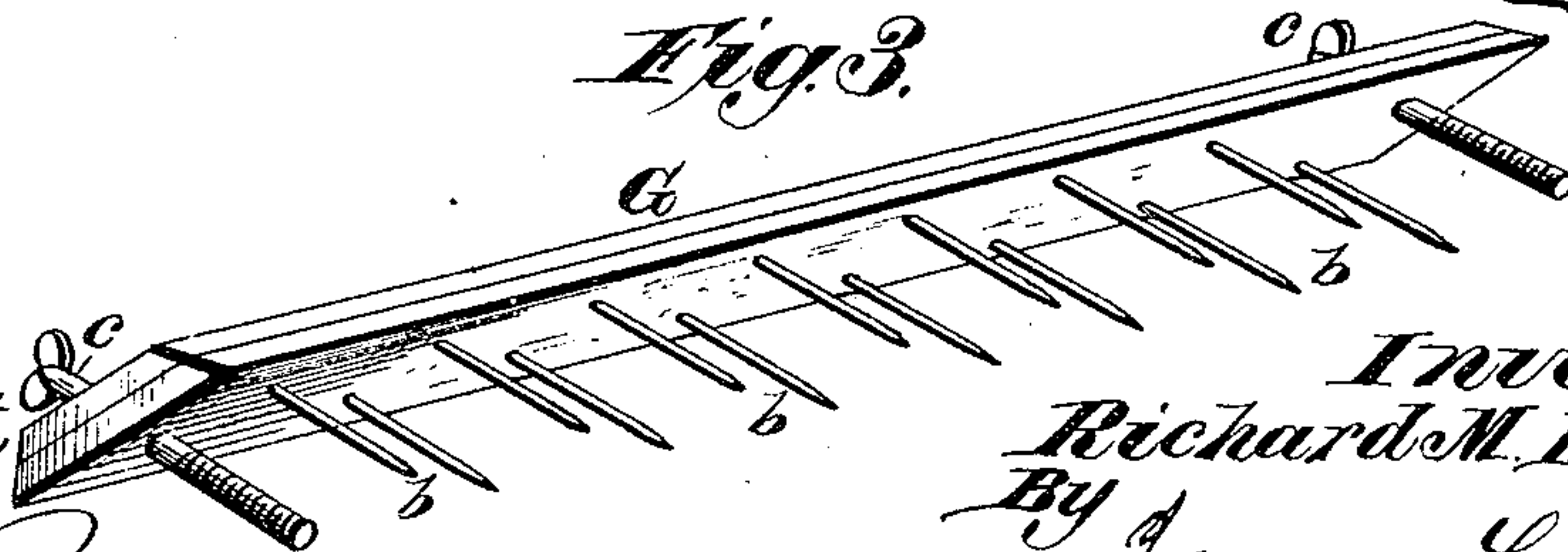
*Fig. 2.*



*Fig. 4.*



*Fig. 3.*



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# UNITED STATES PATENT OFFICE.

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## ATTACHMENT FOR COTTON-GINS.

SPECIFICATION forming part of Letters Patent No. 369,978, dated September 13, 1887.

Application filed May 16, 1887. Serial No. 238,383. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD M. BLACKWELDER, a citizen of the United States, residing at Concord, in the county of Cabarrus and State of North Carolina, have invented new and useful Improvements in Attachments for Cotton-Gins, of which the following is a specification.

The object of my invention is to provide a simple and inexpensive means for loosening, opening, and spreading the fibers composing the roll of cotton in the roll-box of a cotton-gin, whereby the cotton fibers will be placed in position to be readily engaged by the gin-saws and be subjected to a more perfect ginning action without knotting or tangling.

To this end my invention consists in the peculiarities of construction and combination of parts, hereinafter more fully set forth.

In the annexed drawings, illustrating the invention, Figure 1 is a sectional side elevation of a cotton-gin with my improved attachment applied, part of the frame being broken out. Fig. 2 is an elevation of the gin-saws, grid, and spreading attachment viewed from within the roll-box that receives the cotton to be ginned. Fig. 3 is a perspective view of the loosening, opening, and spreading attachment. Fig. 4 is a partial end view of the cotton-gin, with a portion of the spreading attachment in section.

Referring to the above-mentioned figures, the letter A designates the frame of the gin. B is the roll-box that receives the cotton from the feeder. C are the gin-saws, and D is the rotating brush-cylinder.

The gin-saws are mounted on an arbor, E, and rotate in the vertical slots formed by the grid-frame, as usual. The grid F forms the rear or inner side of the roll-box B, which is hinged to the main frame and provided with adjusting-screws *a*, in the ordinary manner.

To the upper rear portion of the roll-box B is attached a transverse bar, G, having pins *b* secured thereto and projecting through perforations in the rear wall of the roll-box. At each end of the bar G is a thumb-screw, *c*, by which it can be adjusted toward or from the roll-box B, so as to cause the pins *b b* to project to a greater or less distance within said box. The pins *b b* alternate with each other in two rows, and are so arranged that each pin will pro-

ject in line with and above one of the ribs *d d* comprised in the grid-frame F, as shown in Fig. 2. This bar G, with its pins and thumb-screws arranged as shown, serves as an adjustable loosening, opening, and spreading attachment, operating to prevent a too rapid rotation of the cotton-roll and to bring the cotton into more perfect contact with the gin-saws, so as to effect a more thorough and speedy separation of the lint or fiber from the seeds.

By means of the pins *b* alternating with the gin-saws C, as shown in Fig. 2, the cotton-roll is loosened and spread or pressed apart in such a way as to throw the cotton laterally toward and in front of the saws, so as to enable the saws readily to engage the fibers without liability of knotting and compacting the cotton in a manner to obstruct the action of the saws.

The cotton is fed into the roll-box through an opening, *e*, in its top and falls onto the rotating gin-saws. The saws not only gin the cotton as it falls in contact with them, but at the same time impart to it a forward movement, which causes the portion remaining in the roll-box to assume the form of a roll. This roll of cotton is engaged by the pins *b b*, which prevent it from moving too rapidly, and by loosening, opening, or throwing the cotton apart enable the gin-saws to perform their work with greater ease and efficiency. The seeds that are separated from the cotton pass through the discharge-opening *f*, as usual. The fiber or lint adhering to the saws is carried through the slotted opening of the grid F, and brushed off by the rotating brush-cylinder D, the motes falling on the mote-board H, while the lint is carried through to the condenser. By turning the thumb-screws *cc* the bar G can be adjusted so as to force the pins *b b* more or less into the roll of cotton in the box B and enable the saws to gin the cotton with greater or less rapidity, as required. It is obvious that the pins *b*, by loosening the cotton and spreading it apart, thereby directing it into closer contact with the saws, will exert a favorable action in facilitating the separation of the seeds, and thus enable a given quantity of cotton to be ginned more perfectly and in less time than ordinary.

Having thus described my invention, what I claim is—

1. The combination, with the roll-box, saws,



and ribs of a cotton-gin, of a bar provided with pins projecting into the interior of the roll-box and alternating with the saws and adapted, as described, to enter the roll of cotton in the said box and loosen and spread the fibers of the said roll, substantially as described.

2. The combination, with the saws, ribs, and roll-box of a cotton-gin, of a bar arranged on the exterior of the roll-box and provided with pins extending through the wall of the said roll-box into the latter for penetrating and loosening the cotton-roll and spreading it onto the saws, said pins alternating with the saws, substantially as described.

3. The combination, with the saws, ribs, and roll-box of a cotton-gin having a perforated rear wall, of a bar arranged at the exterior of said roll-box and provided with pins projecting into the box through its perforated rear

wall, said pins alternating in arrangement with the saws, and means for adjusting the bar to and from the roll-box and causing the pins to project more or less into the cotton-roll, substantially as described.

4. The combination, with the saws, ribs, and roll-box of a cotton-gin, of a transverse bar having rows of alternating pins projecting into the roll-box to engage and enter the roll of cotton therein, and set-screws engaging the bar and roll-box for adjusting the bar and causing the pins to project more or less into the box, substantially as described.

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

RICHARD M. BLACKWELDER.

Witnesses:

JOHN C. LESLIE,

JNO. A. CLINE.