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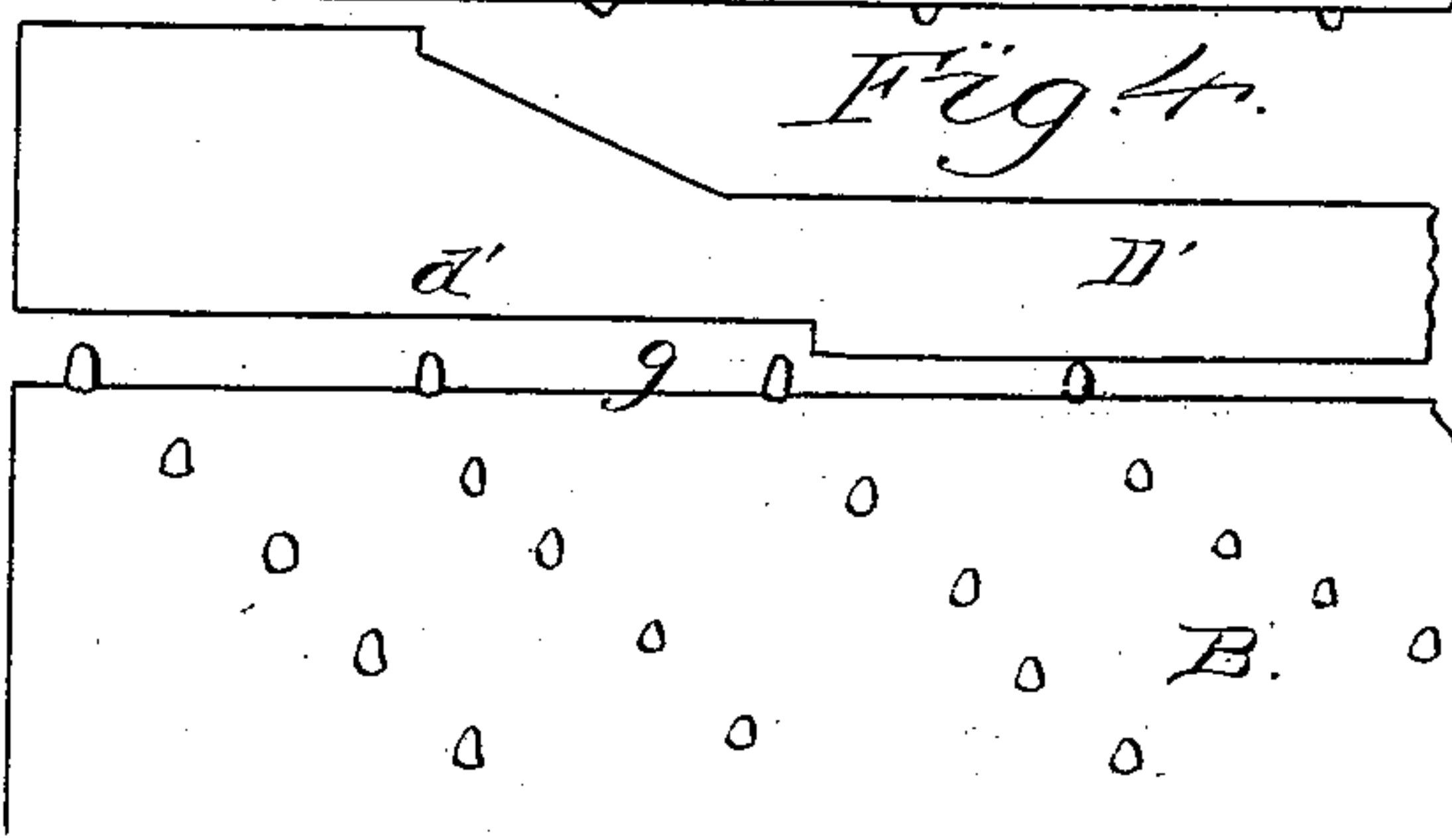
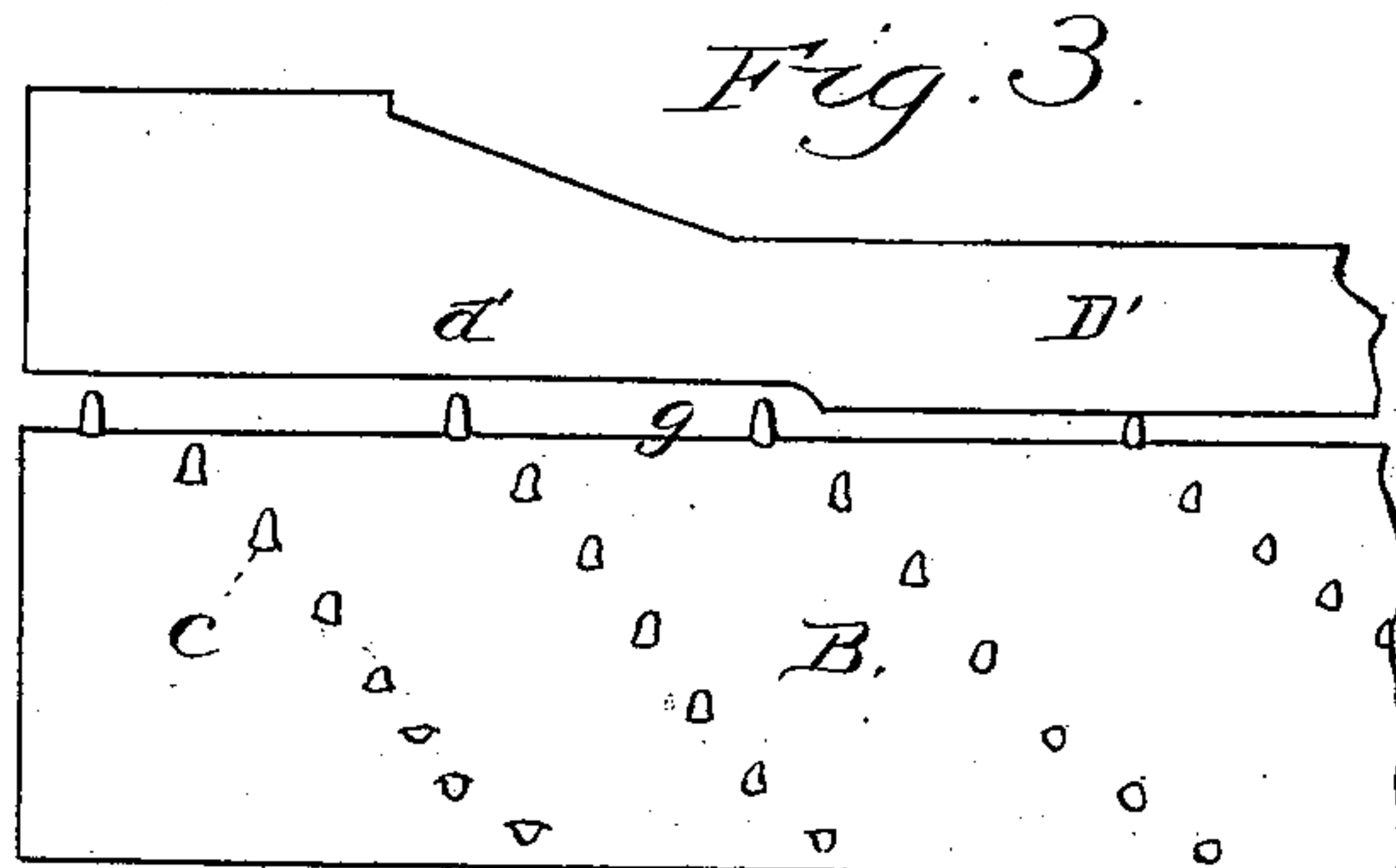
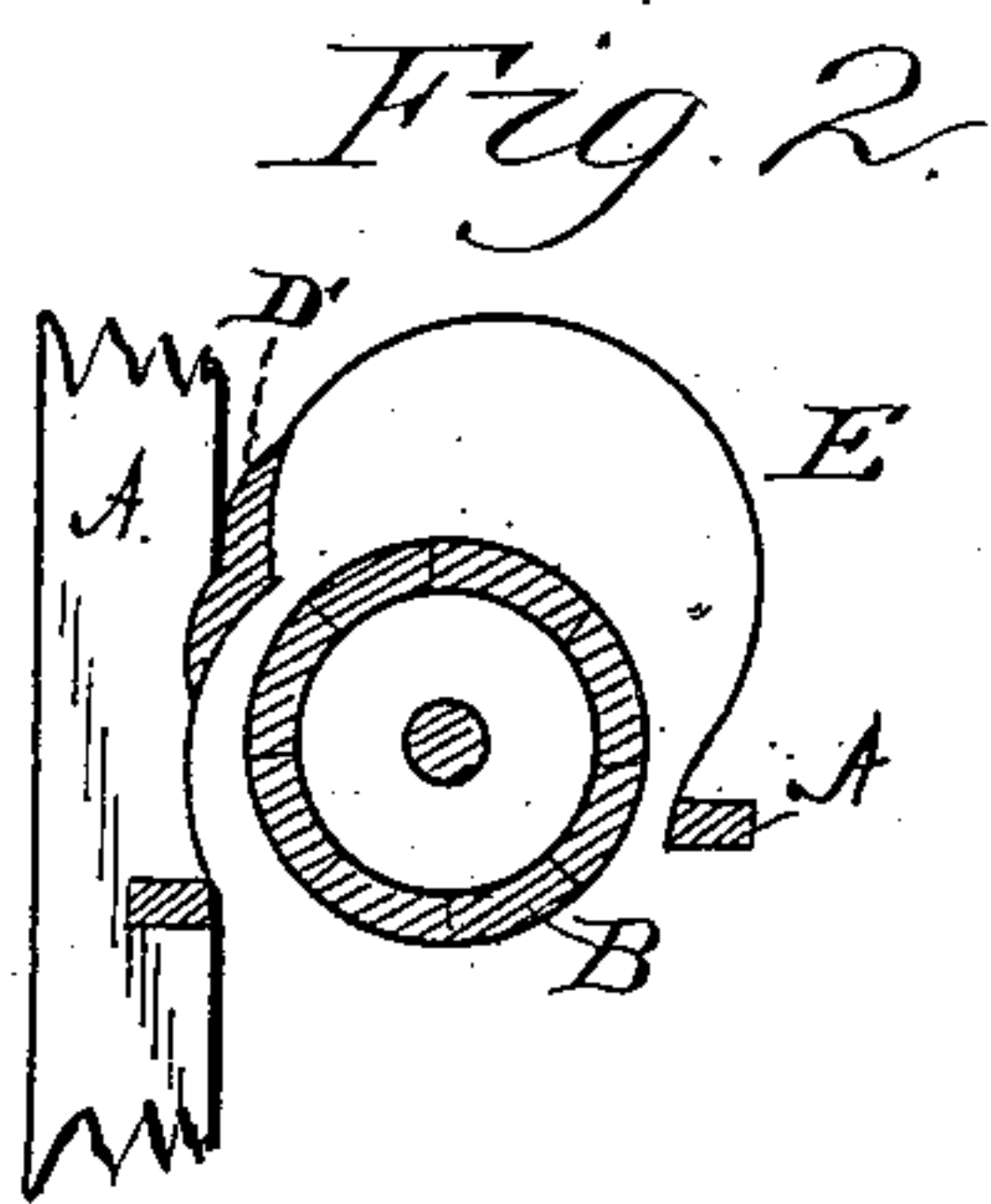
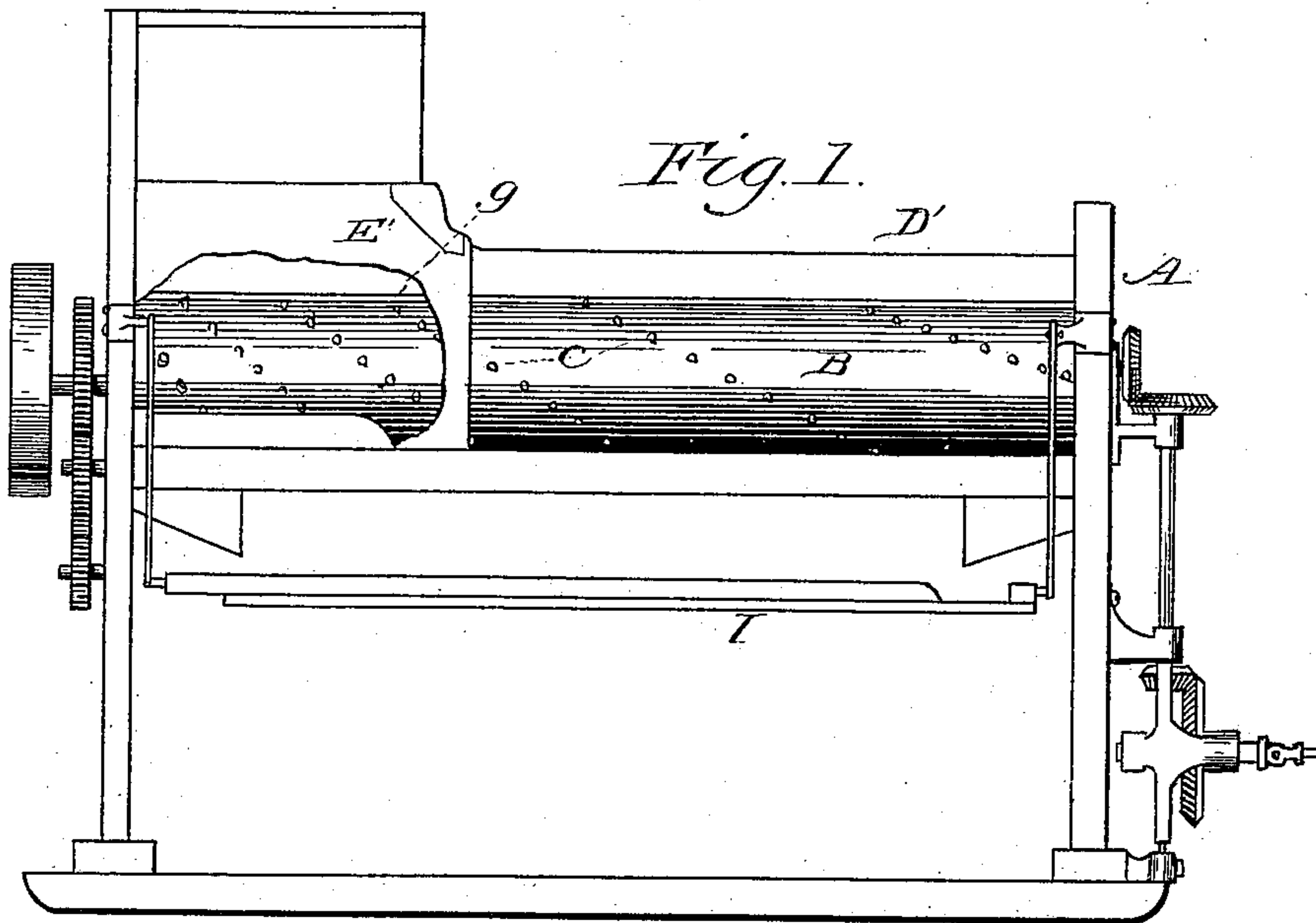
2 Sheets—Sheet 1.

S. E. KING & J. H. GILMAN.

CORN SHELLER.

No. 330,495.

Patented Nov. 17, 1885.



WITNESSES:

*J. W. Reynolds*  
*E. J. Sallis*

INVENTORS

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BY *J. H. Gilman*  
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ATTORNEY

(No Model.)

2 Sheets—Sheet 2.

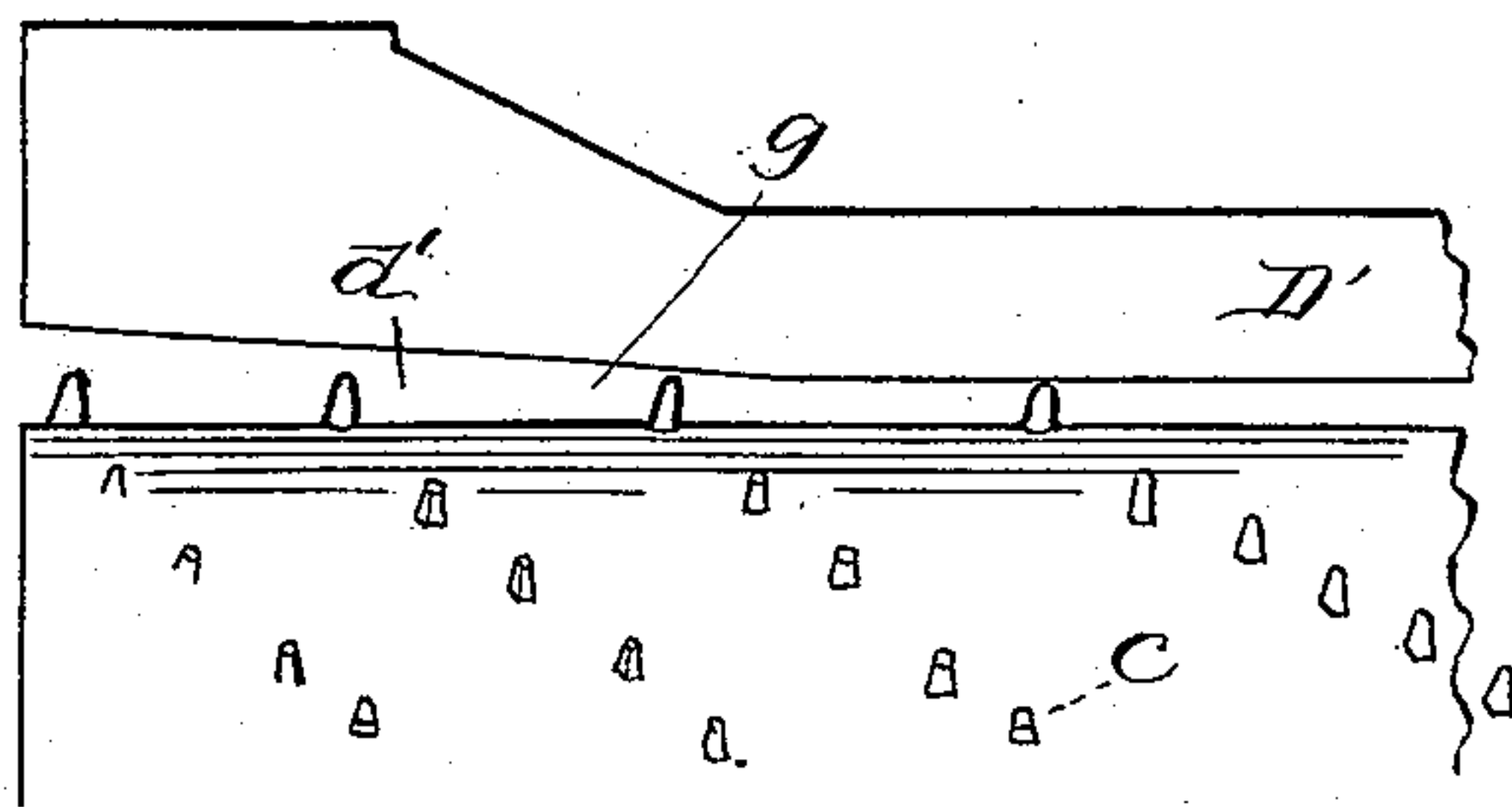
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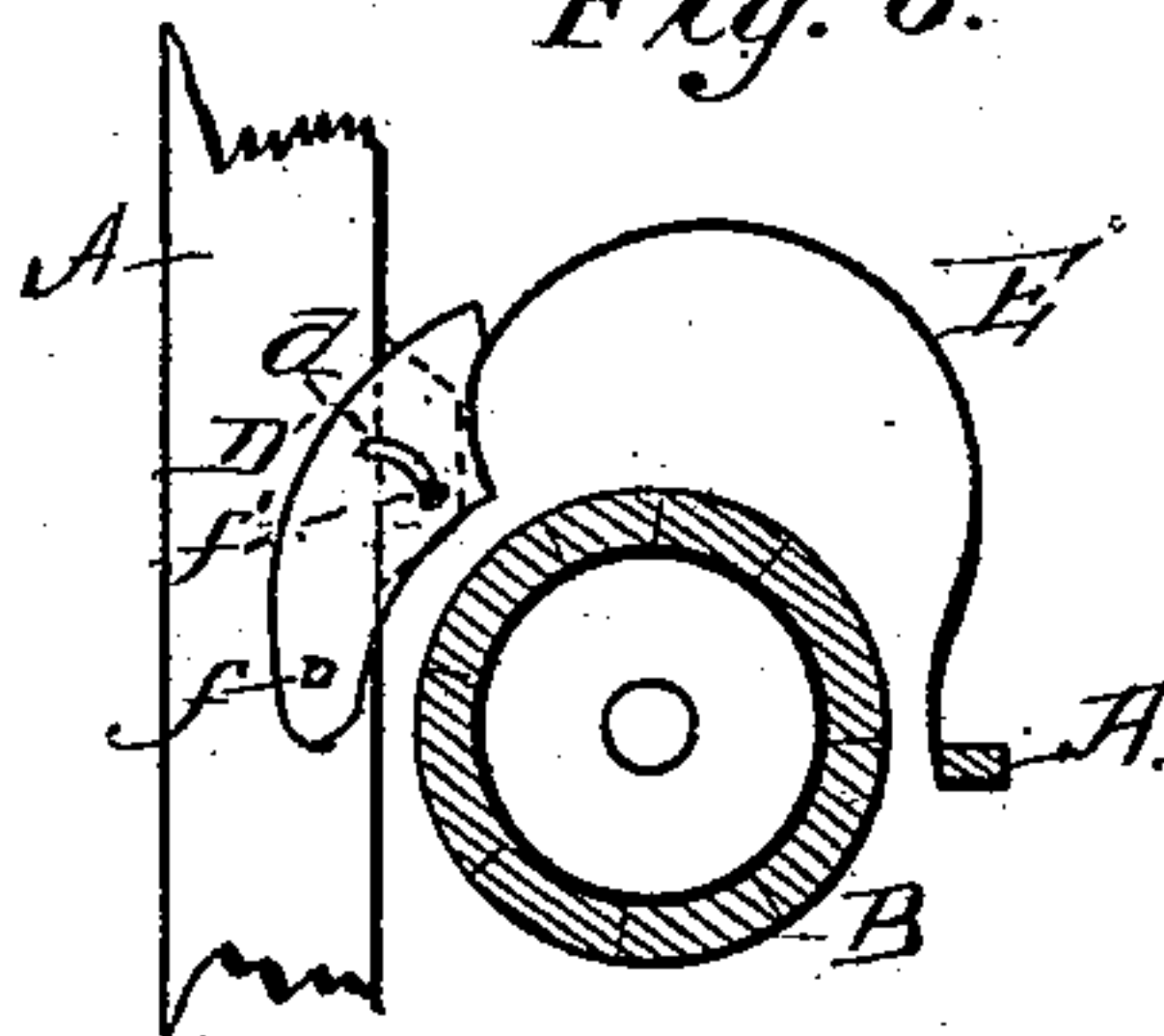
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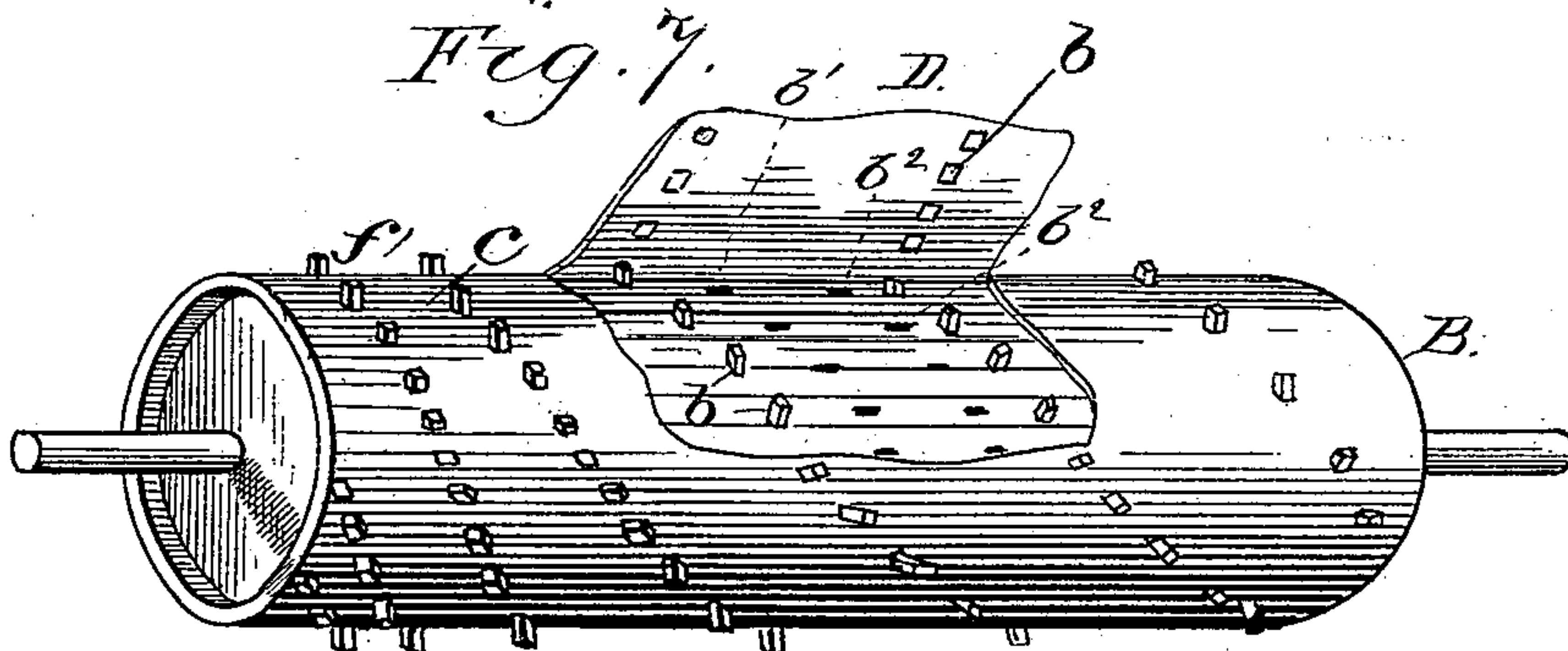
*Fig. 5.*



*Fig. 6.*



*Fig. 7.*



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# UNITED STATES PATENT OFFICE.

SOLOMON E. KING AND JOHN H. GILMAN, OF OTTAWA, ILLINOIS, ASSIGNOR  
TO KING & HAMILTON CO., OF SAME PLACE.

## CORN-SHELLER.

SPECIFICATION forming part of Letters Patent No. 330,495, dated November 17, 1885.

Application filed August 20, 1884. Serial No. 141,062. (No model.)

*To all whom it may concern:*

Be it known that we, SOLOMON E. KING and JOHN H. GILMAN, citizens of the United States, residing at Ottawa, in the county of La Salle and State of Illinois, have invented certain new and useful Improvements in Corn-Shellers, of which the following is a specification, reference being had to the accompanying drawings.

10 This invention relates to that class of corn-shellers wherein a horizontal bar is employed in connection with a cylinder, the latter being provided throughout its entire length with separate spiral rows of shelling-teeth. In  
15 some devices of this class, when it has for any reason been desired to adjust the cylinder in relation to the shelling-bar, the cylinder has been moved, and this action greatly interferes with the proper operation of the actuating-  
20 gears. We have provided a bar of novel form and furnished it with means for adjusting it up or down, as occasion may require, without disturbing the bearings of the cylinder. Another difficulty met with is that the  
25 cylinders are frequently rendered useless and new cylinders become necessary because of the loss of the teeth either by wear or by breaking. Our invention contemplates providing for the ready insertion of new teeth whenever  
30 it becomes necessary, thereby dispensing with the necessity for a new cylinder, making the same cylinder-body serve with a greater number of teeth. To this end we provide the body with any proper number of spiral rows of  
35 holes, which holes are adapted to receive the shanks of the teeth. These holes are arranged at regular and predetermined points, and the cylinder is then covered with the ordinary sheet-metal shell, through which is punched  
40 or drilled the holes for a full set of teeth (say one or more rows) leaving two or more rows undrilled—that is to say, leaving the shell unperforated over two or more of the rows of  
45 holes in the body. The case may be marked by indentations to indicate the position of the holes not used, if so desired. When one set of teeth has worn out or is broken so as to be completely useless, we drill places for another set, the holes being drilled in the shell to cor-  
50 respond with one or more of the unused rows of holes in the cylinder-body.

Referring more particularly to the accompanying drawings, forming part of this specification, and to the designating-letters marked thereon, Figure 1 is a side elevation of our improved corn-sheller, with the sheet-metal cover removed, and with a portion of the hopper-chamber broken away to show the construction of the cylinder. Fig. 2 is a transverse section showing the relation of the shelling-bar and sheet-metal cover to the cylinder. Fig. 3 is an elevation showing the contour of the shelling-bar and its relation to the cylinder. Figs. 4 and 5 are modifications thereof. Fig. 6 is a transverse view showing means for adjusting the shelling-bar and its relation to the cylinder and frame. Fig. 7 is a perspective view of the cylinder with a portion of the shell broken and turned up to show the additional holes.

A designates the main frame, in which are fixed journal-bearings for a toothed cylinder, B. The body of the cylinder is composed of two heads, joined by staves of wood or other suitable material.

b designates rows of holes arranged in spiral form, the holes being, say, three times the number necessary to receive the number of teeth C which would make an operative cylinder. One-third of these holes are provided with teeth, while the rest remain unused, but are adapted to receive teeth in like manner.

D represents the shell, through which holes are driven to register with the holes in the body.

As shown in Fig. 1, the cylinder is ready for use with a full complement of teeth. When these teeth are worn or broken so as to render the cylinder useless for effective service, they are broken off by a smart sidewise blow, and holes are formed in the shell to register with the second set of holes, (marked  $b'$ ), and a subsequent similar operation utilizes the remaining holes  $b^2$ . The holes for each set begin and end at corresponding parts of the cylinder, so that the cylinder is complete with either set of holes,  $b$ ,  $b'$ , or  $b^2$ , in use. The cylinder revolves within a housing formed of a sheet-metal cover, E, secured at one side to the frame A and at the other to the shelling-bar D', and a portion of said cylinder revolves within the hopper-chamber E'. The shelling-



board is supported upon the main frame, being pivoted by bolts *f*. Bolts or set-screws *f'*, held in the main frame, operate in slots *d* in said bar *D'* to hold the bar in any desired adjustment in relation to the cylinder.

The cylinder has its teeth arranged in spiral rows of uniformly varying pitch—that is to say the twist of each row is greater at the end which operates within the hopper-chamber and gradually less toward the tail or cob end of the machine. The corn in this hopper-chamber requires greater and stronger manipulation than where it is partly shelled farther along, and hence the greater number of teeth is located at the point where the new corn enters the machine. The teeth are longer at this point or part of the cylinder, and the shelling-bar is cut away, as shown at *d'*, to accommodate such teeth.

It will be obvious that the teeth which are longest operate upon the corn in the hopper-chamber first, and subsequently and gradually the shorter teeth operate as the ears pass toward the tail of the machine. Between the shelling-bar *D'* and the cylinder is a space, *g*, and through this throat or space the shelled corn falls upon a screen or separator, *I*, which may be made to vibrate by any proper connection with its power. The screen is operated by the same power which revolves the cylinder.

When in the working of the machine it becomes necessary to adjust the shelling-bar in its relation to the cylinder, it is only requisite to loosen the bolts *f*. The contour of the face of the bar corresponds with the variable length of teeth in the cylinder, so that the single ad-

justment is sufficient for the length of the cylinder.

Having thus described our invention, what we claim as new is—

1. In combination with a revolving cylinder having spiral rows of teeth of varying lengths, a shelling-bar having a face cut away to correspond with the length of such teeth, and means for adjusting the bar without disturbing the cylinder, as set forth.

2. The combination, with the cylinder and the frame *A*, as described, of the shelling-bar *D'*, having recessed face *d'* and slots *d*, the bolts *f*, and set-screws *f'*, as and for the purpose set forth.

3. A cylinder for corn-shellers, consisting of the body *B*, having a set of holes, *b*, arranged spirally, and containing a full complement of teeth, *C*, and having other sets of holes, *b'* *b*<sup>2</sup>, adapted to receive similar teeth, combined with a shell, *D*, having holes formed therein to register with the holes *b*, and imperforate over the additional holes, as set forth.

4. A cylinder, as described, consisting of a body, a covering-shell, and teeth, the body having additional teeth-holes arranged, as shown, at predetermined and known intervals, as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

SOLOMON E. KING.  
JOHN H. GILMAN.

Witnesses:

EDWARD F. DAVIS,  
THOMAS E. MACKINLAY.