

(No Model.)

2 Sheets—Sheet 1.

A. C. BURNER.

CIDER MILL.

No. 265,382.

Patented Oct. 3, 1882.

Fig. 1.

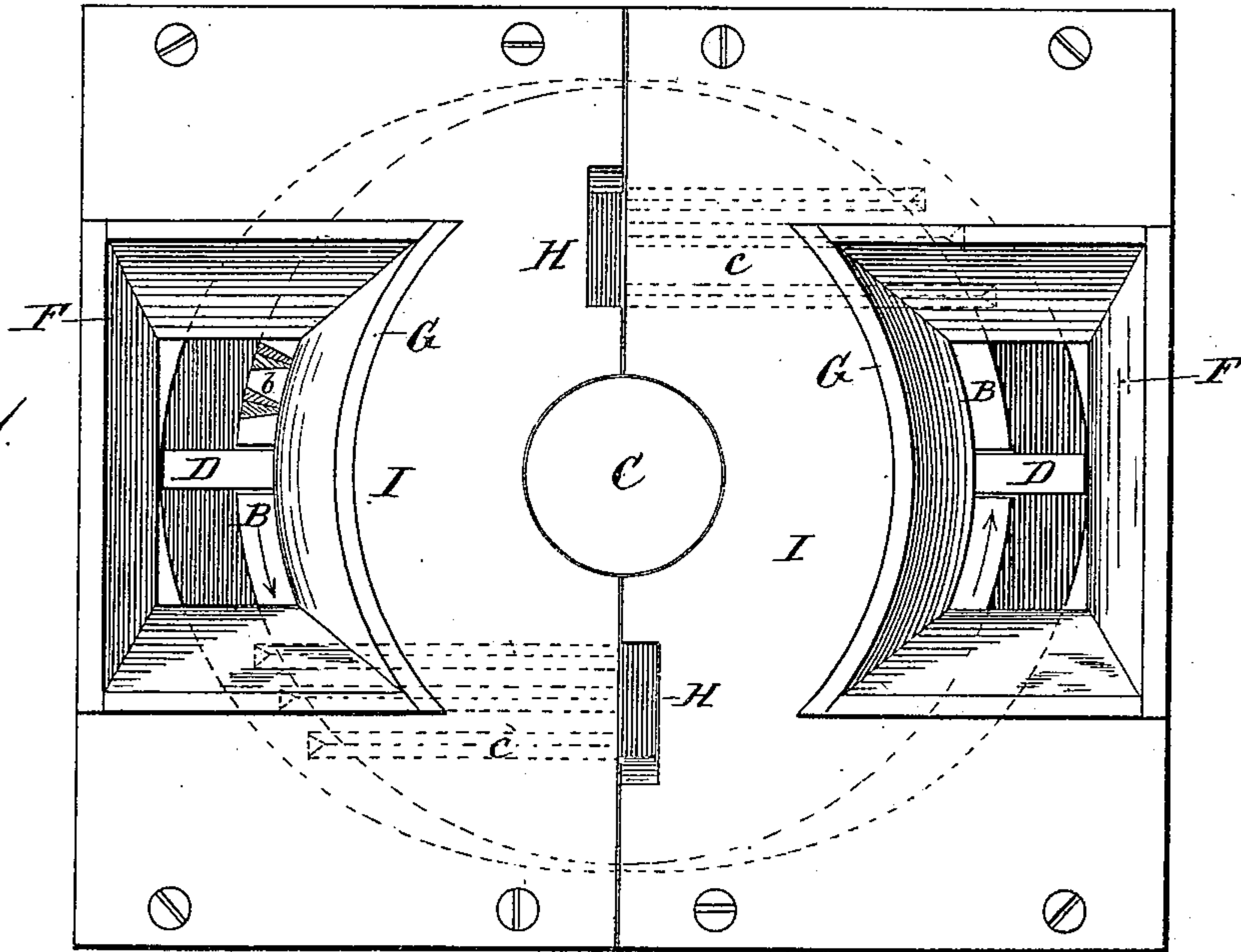
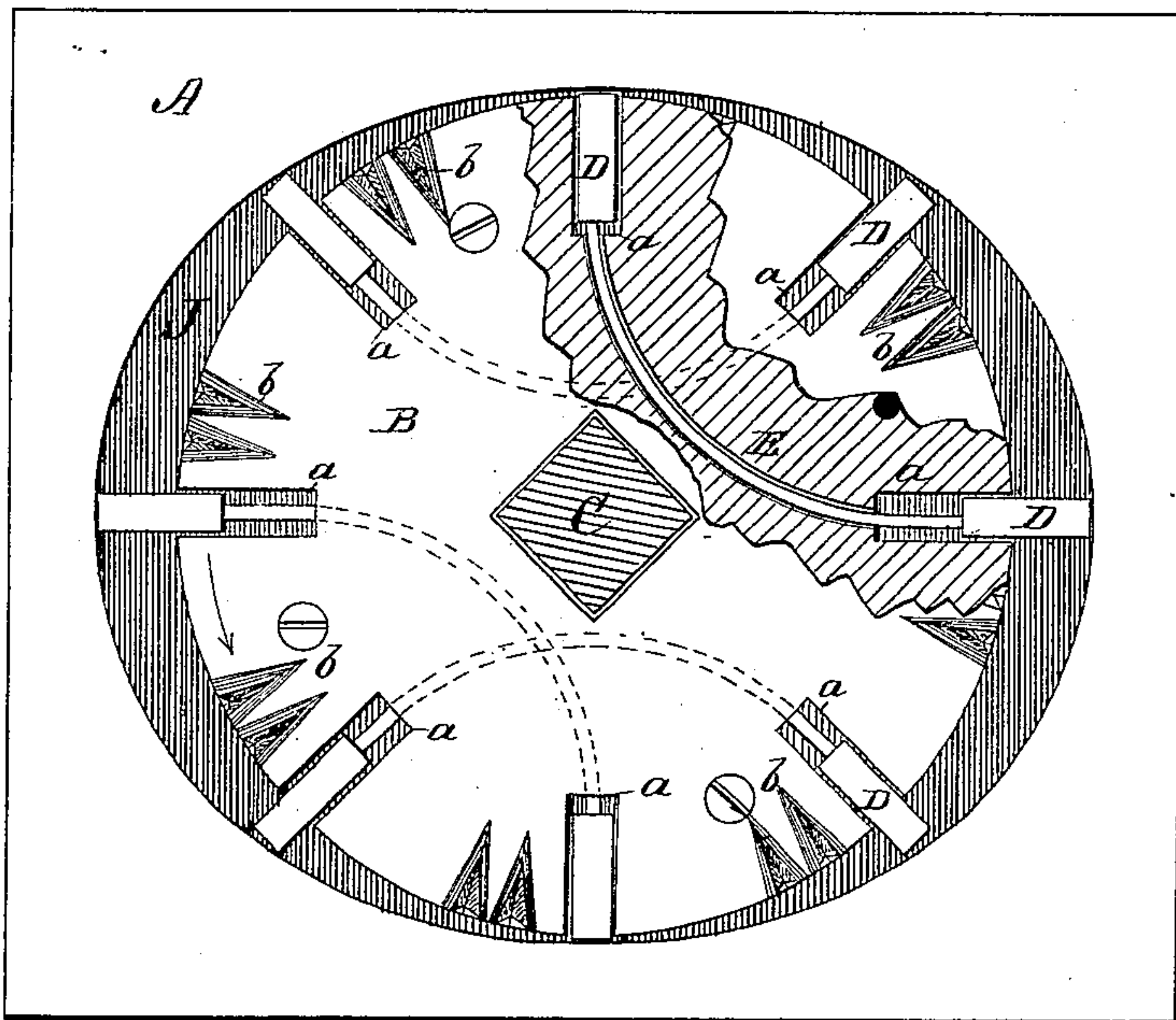


Fig. 2.



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(No Model.)

2 Sheets—Sheet 2.

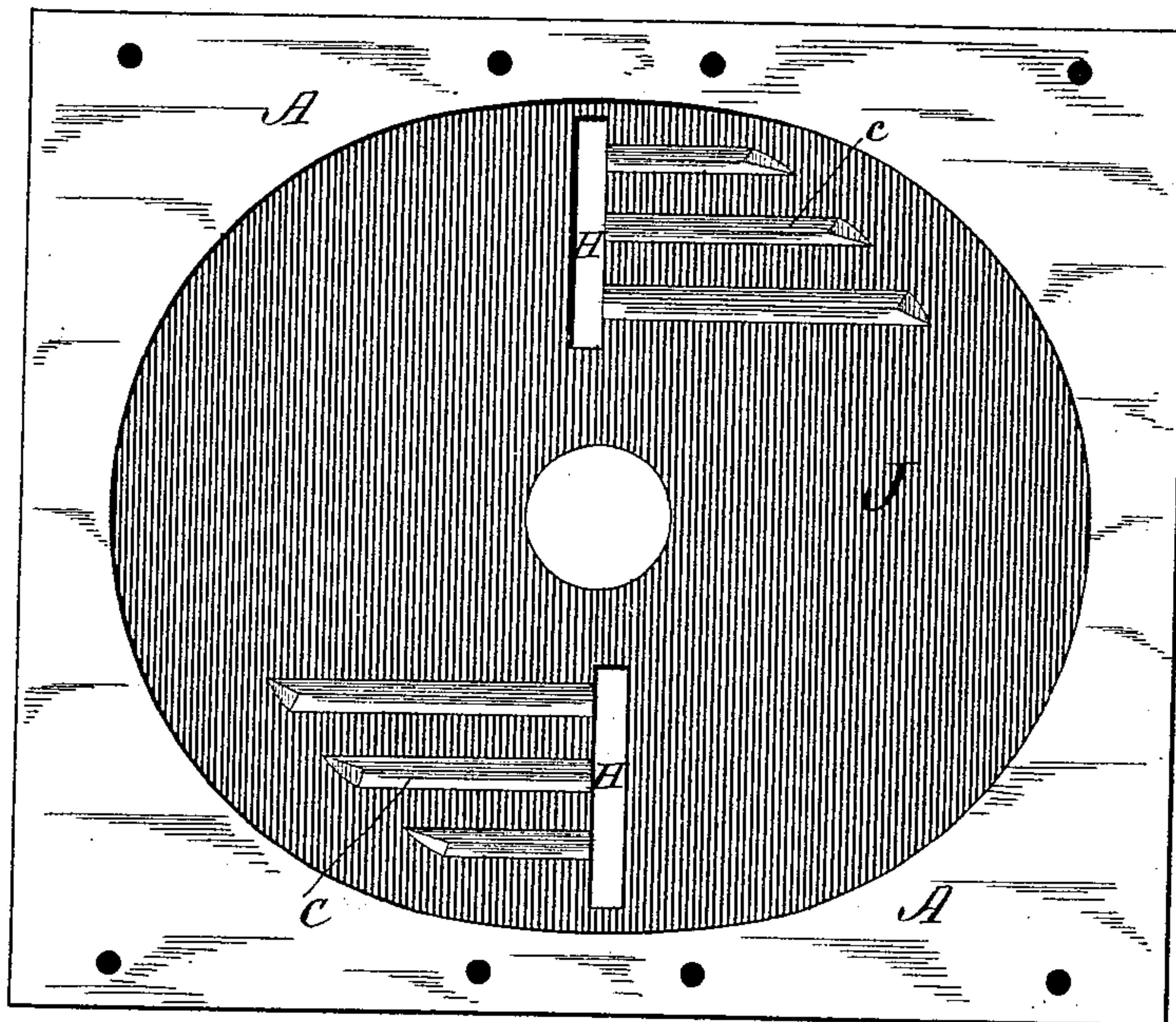
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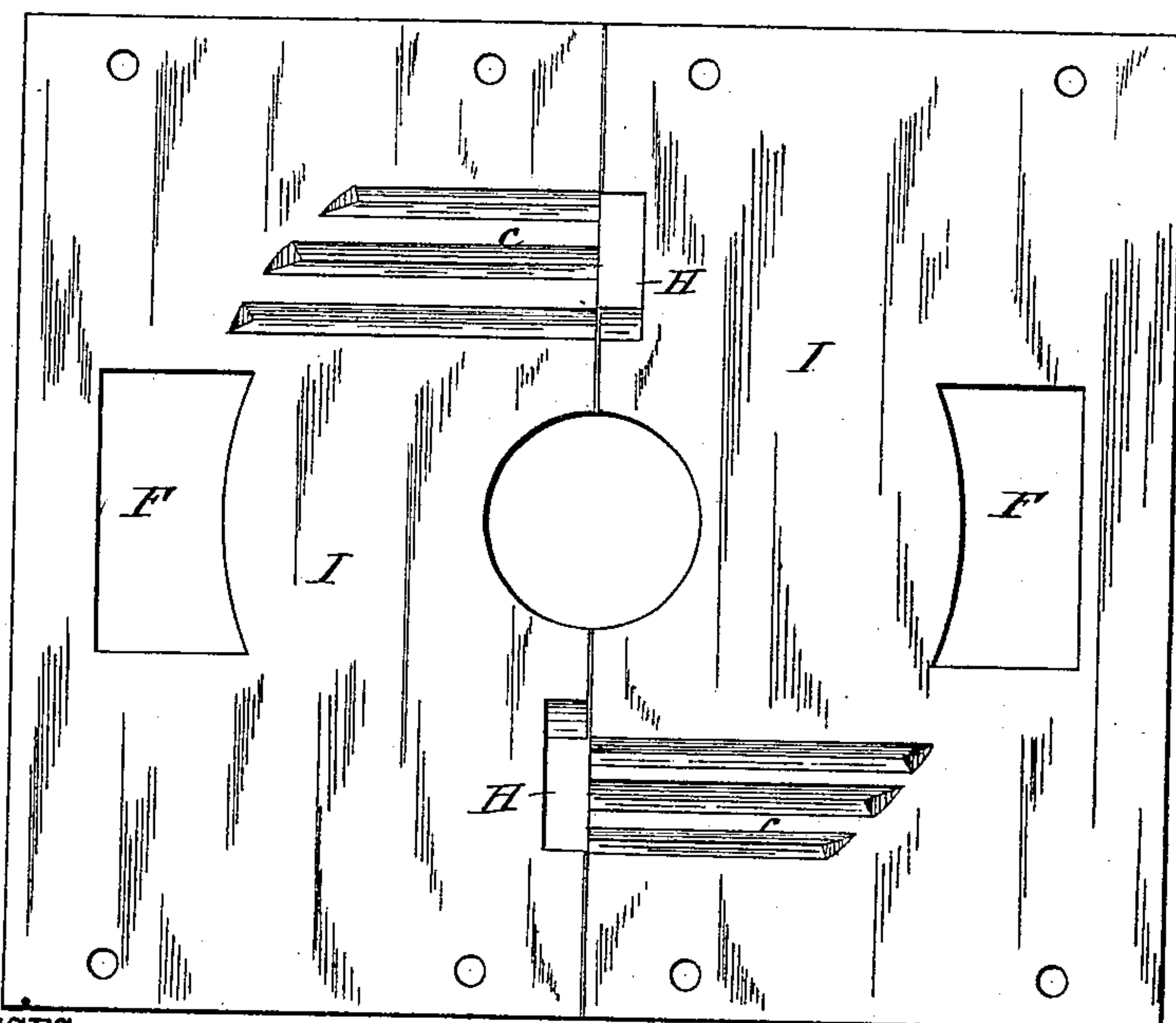
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*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

ALLEN C. BURNER, OF GREEN BANK, WEST VIRGINIA.

## CIDER-MILL.

SPECIFICATION forming part of Letters Patent No. 265,382, dated October 3, 1882.

Application filed August 26, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, ALLEN C. BURNER, of Green Bank, in the county of Pocahontas and State of West Virginia, have invented a new and Improved Cider-Mill; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top view of the mill. Fig. 2 is a top view with the upper plate removed, showing the shaft and disk partly in section. Fig. 3 is an inside view of the case, and Fig. 4 is an underneath view of the top plate of the case.

My invention relates to an improvement in cider-mills; and it consists mainly in the combination, with a case having an elliptical or oval-shaped chamber, of a horizontal revolving disk having radial sliding pistons, with the pairs of pistons which are at right angles to each other coupled or connected together for the same movement, so that when one of these pistons is resting against the wall of the chamber at the minor axis of the ellipse the other piston of the pair will be projected beyond the periphery of the disk to the major axis of the ellipse, acting to squeeze and crush the apples in the crescent-shaped spaces between the periphery of the disk and the inner wall of the case, as will be hereinafter more fully described.

In the drawings, A represents the inclosing case, which has an elliptical or oval chamber, (see Fig. 3,) in which is arranged, in central position, the disk B, (see Fig. 2,) revolving from the action of a central shaft, C, passing entirely through the case. Around the edge of this disk are cut radial slots *a*, in which are arranged sliding pistons D, which in size are about the same depth, width, and length as the notches. These sliding pistons are coupled or connected in alternating pairs, one piston being paired with the second to the next, or to the one whose plane is at right angles, so that they will mark a quadrant of a circle. By this arrangement, when one of the pistons is bearing against the inner wall of the case at the minor axis of the ellipse the other piston of that pair will be bearing against the inner wall of the case at the major axis of the ellipse, and will constitute a moving partition for the

crescent-shaped space between the circular disk and elliptical chamber. The two pistons of each pair are connected by a curved rod, E, which may be fastened to the pistons or simply abut against them, and these rods or segments may pass through the body of the disk, as shown, or they may be located in open curved grooves in the face of the disk. The action of these curved rods or segments is always to cause one piston to be projected outwardly in proportion as the other is forced in, so that said pistons always bear against the wall of the elliptical chamber in their travel.

Just above the widest part of the crescent-shaped spaces in the case are formed in the top plate, I, on each side, openings F F, around which are constructed hoppers G G, which openings constitute the feed-openings, and into which hoppers the apples are poured.

H H are the discharge-openings for the pomace and juice, two of which are arranged diametrically to each other in the top plate, I, of the case and two in the bottom plate, J, in corresponding relation. These discharge-openings, it will be seen, are arranged within the circle of the main disk, and in explaining how the apples get from the crescent-shaped openings to said discharge-openings I would state that on both sides of the disk, and to the rear of each sliding piston, I form leading-throats *b b*, cut in the edge of the disk. Then in the top and bottom plates, I and J, I construct grooves *c c*, which run from the discharge-openings H to the tapering ends of the crescent-shaped spaces, as shown by dotted lines of Fig. 1.

Now, the apples being fed in the hoppers G, they pass through the openings F into the widest part of the crescent-shaped spaces, and the disk being in motion from the revolution of the shaft, the sliding pistons force the apples into the smaller tapering space, completely crushing them and squeezing the juice out of the same, and the pomace, in nearing the minor axis of the ellipse, is crowded above and below the disk into throats *b*, cut in the edges of the same, and thence pass in straight lines through the grooves *c* to the discharge-openings H.

Having thus described my invention, what I claim as new is—

1. A cider-mill consisting of a case having

an elliptical chamber therein with inlet-openings for the apples and outlets for the juice and pomace, in combination with the revolving circular disk having radially-sliding pistons, 5 with the pistons which are at right angles to each other coupled in pairs for the same movement, as described.

2. The cider-mill herein described, consisting of a case having an elliptical chamber with feed- 10 openings *F*, discharge-openings *H*, and grooves *c* in the top and bottom plates, in combination

with a circular disk having radially-sliding pistons coupled in pairs in planes at right angles, and provided also with leading-throats *b*, adapted to transfer the pomace from the ends 15 of the crescent-shaped spaces to the grooves *c* and the outlet-openings, as described.

ALLEN C. BURNER.

Witnesses:

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