

H. M. DURY.
Apparatus for Coating Pills.

No. 220,361.

Patented Oct. 7, 1879

Fig: 1.

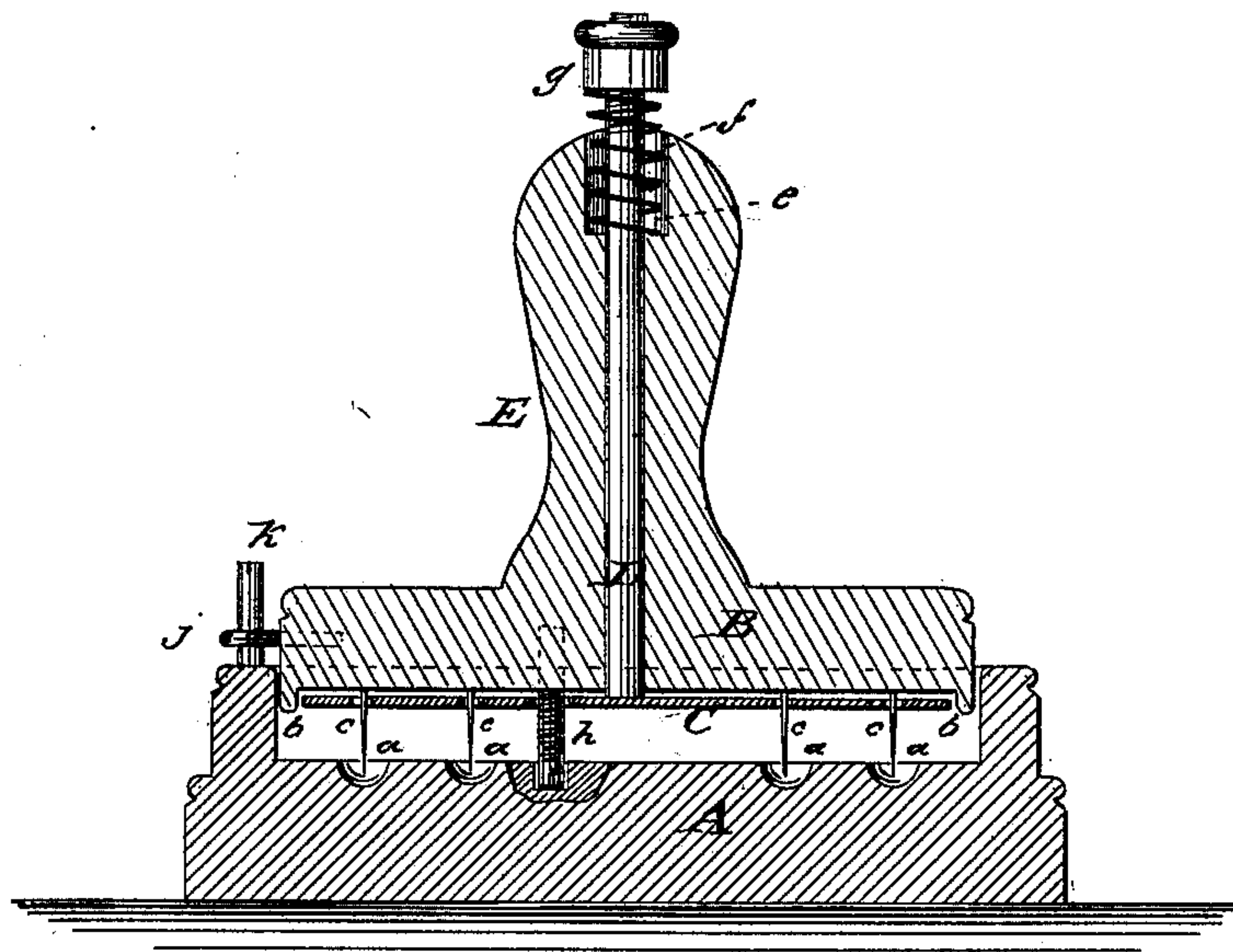


Fig: 2.

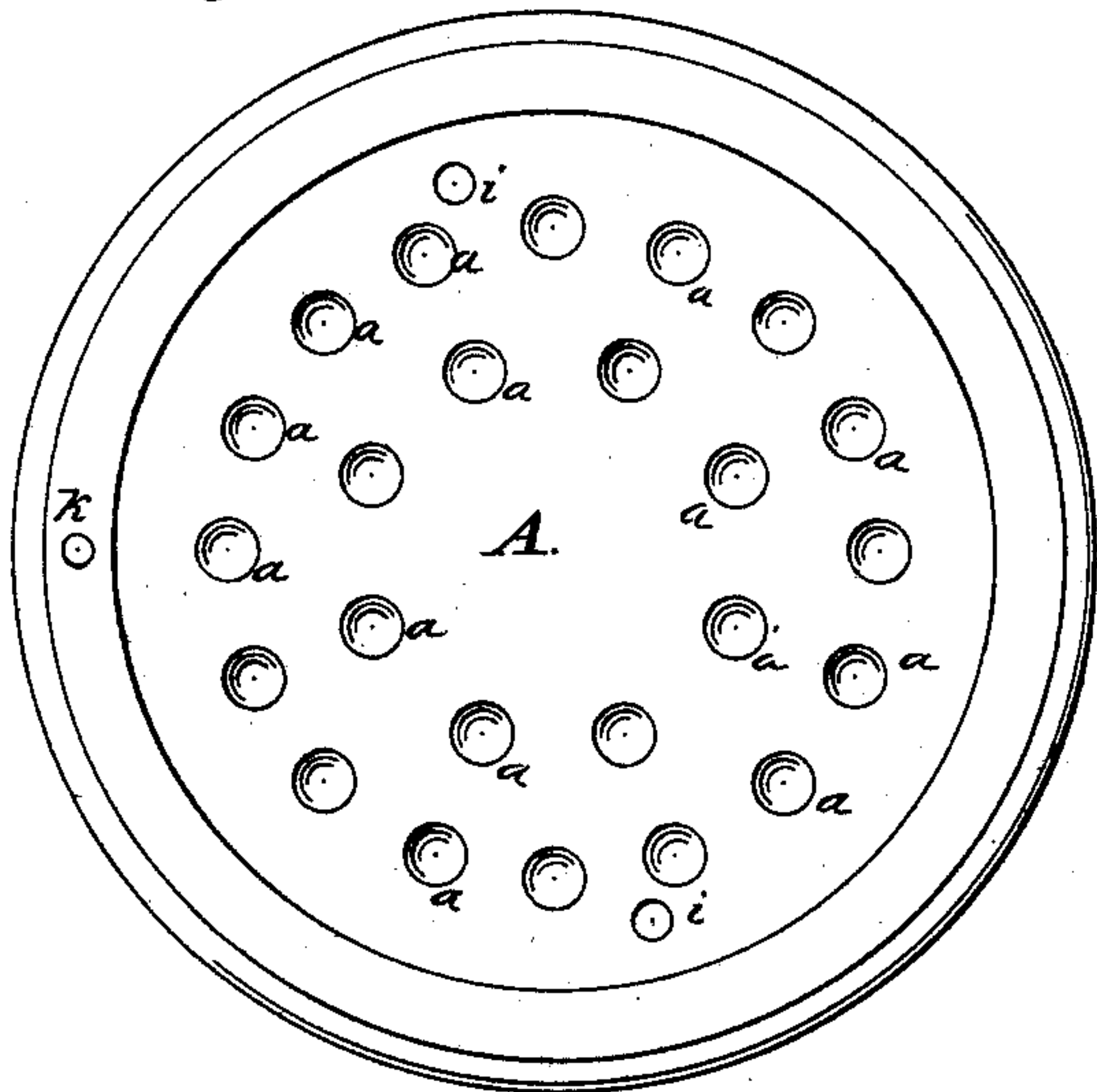
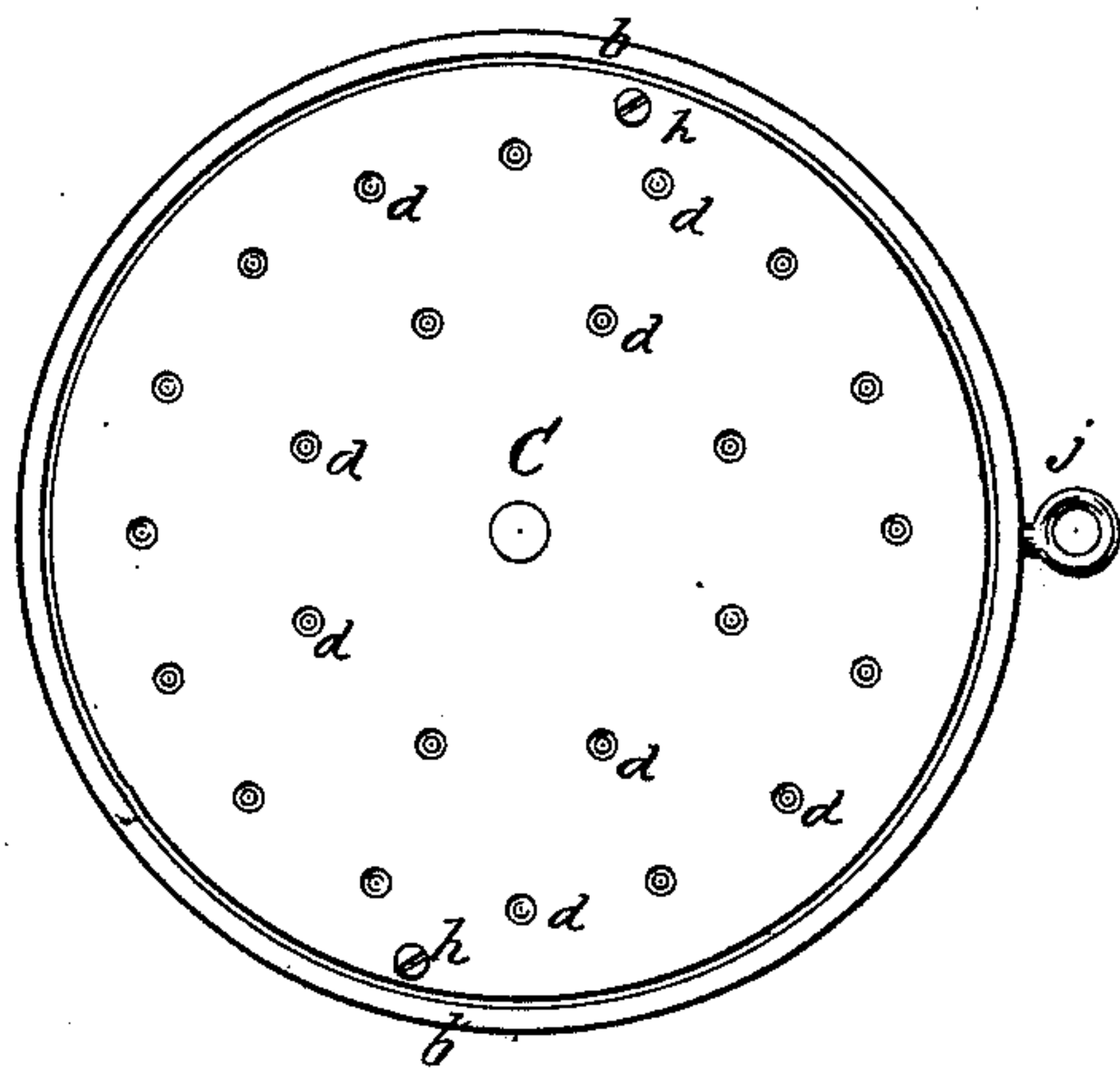


Fig: 3.



WITNESSES:

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HENRY M. DURY, OF EDGEFIELD, TENNESSEE.

IMPROVEMENT IN APPARATUS FOR COATING PILLS.

Specification forming part of Letters Patent No. **220,361**, dated October 7, 1879; application filed December 28, 1878.

To all whom it may concern:

Be it known that I, HENRY M. DURY, of Edgefield, in the county of Davidson and State of Tennessee, have invented a new and useful Improvement in Apparatus for Coating Pills, of which the following is a specification.

The object of this invention is to facilitate the operation of coating pills with gelatine and other fluid coating materials; and it consists of a shallow circular dish or pan, in the bottom whereof are hemispherical indentations to receive the pills. In this pan works a plunger provided with projecting needles or points corresponding in number to the indentations. Sheathed over these needles or points is a metal plate attached to a rod passing up through the handle, and held up so as to leave the needles unsheathed by a spring, the apparatus being adapted to take up the pills from the pan and hold them while they are being dipped into the coating material and until they dry, after which they are forced from the needles by pressing the metal plate against them, as will be hereinafter specifically set forth.

In the accompanying drawings, Figure 1 is a vertical section of the apparatus. Fig. 2 is a plan of the pan, and Fig. 3 shows the disk or plate.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A is the shallow circular pan, made of wood or metal. In the bottom are a number of hemispherical indentations, *a*. B is the plunger, also made of wood or metal, of a diameter slightly less than that of the pan A. The face of this plunger is slightly sunken to within a short distance of its periphery, leaving thus a circular ledge or rim, *b*, around the face. In the sunken face are fixed in lines parallel with the axis of the plunger needles or points *c*, equal in number to the indentations *a* in the pan, and in the same position on the face of the plunger relatively with the indentations *a* in the pan.

Over the points is sheathed a metal plate or disk, C, (the points passing through holes *d* therein,) so as to fit within the rim *b* and against the depressed face of the plunger. To the under side or back of the disk C is fixed the end of a rod, D, which passes up through

the handle E of the plunger. At the top of the handle is a spring-seat or socket, *e*, in which is a spiral spring, *f*, encircling the rod D and its upper end bearing against the under side of a screw-cap, *g*, screwed to the upper end of said rod. This spring throws the rod up, so that the disk C is close to the depressed face of the plunger, thus unsheathing the metal points and leaving them to project above the disk; but the disk is movable by pressing on the screw-cap *g*, whereby it can be made to move beyond the points, and thus cover or sheathe them at will.

In the depressed face of the plunger, at points diametrically opposite each other, are fixed vertical posts *h h*, which project through corresponding holes in the metal disk C, and when the plunger is placed in the pan the posts enter holes *i i* in the bottom of said pan. These posts serve as guides for the disk C when moved up and down, so that it will move in a straight line, remaining parallel with the face of the plunger. On the periphery of the plunger is an eye, *j*, which fits over a post, *k*, placed in the upper edge of the rim of the pan whenever the plunger is placed in the pan.

The relative positions of the eye *j*, post *k*, posts *h h*, and holes *i i*, and points *c* are such that when the plunger is placed in the pan with these parts in the proper position the needles or points will fall exactly over the center of the hemispherical indentations, as shown in Fig. 1.

The operation of my invention is as follows: The pills are put in the pan so as to cover the bottom, and a slight shake given them, so that they will fall into the indentations *a*. The plunger is then placed into the pan, and, as the points *c* rest directly over the indentations, on pressing it down, they each impale a pill and retain it, so that when lifted out there will be as many pills withdrawn from the pan as there are points on the plunger. They are then, while adhering to the points, dipped into the gelatine or other coating material and the plunger hung up or laid aside until the coating dries, after which the plunger is again entered into the pan, the screw-cap pressed upon by the thumb, and this causes the plate C to force the pills from the points and deposit them again into the indentations. The puncture in

the pills is then covered with the coating by means of a camel's-hair brush, the pills removed from the pan, and the operation is repeated.

Another way of coating the puncture is to heat the plunger, so that the point will melt the gelatine, and when removed it will flow over the puncture.

By this arrangement it will be seen that the operation of coating the pills can be performed very rapidly without handling the pills, and with the additional advantage that the pills need not be counted, as the plunger can be arranged to take up a definite number at a time, and thus at every operation the number treated will be accurately known.

The apparatus can be made of various sizes to suit the business of the manufacturer.

To prevent pills from dropping into the holes *i* of guide-posts *h* and hindering the posts from entering, there may be fitted in the holes *i* tubes of interior diameter slightly larger than posts *h*, and projecting a short distance above the bottom of pan A.

I am aware that an apparatus for coating pills, consisting of a bed-plate having hemispherical indentations, a covering-plate with corresponding indentations, a guide-plate with guide-holes, and a needle-plate with a series of needles affixed thereto, is not new, such being shown in the patent of H. C. Nier, May 30, 1876, No. 178,183; but

What I claim, and desire to secure by Letters Patent, is—

As an improvement in apparatus for coating pills, the plunger B, having depressed face and rim *b*, projecting needles or points *c*, perforated plate C, fixed to rod D, incased in handle E, and controlled by spring *f*, posts *h h*, projecting from the face, and eye *j* in the periphery, in combination with pan A, having hemispherical indentations *a* to receive the pills, tubes *i' i'* to receive posts *h h*, and post *k* to receive eye *j*, substantially as described.

HENRY MAXMILLIAM DURY.

Witnesses:

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ALBERT MASKEY.