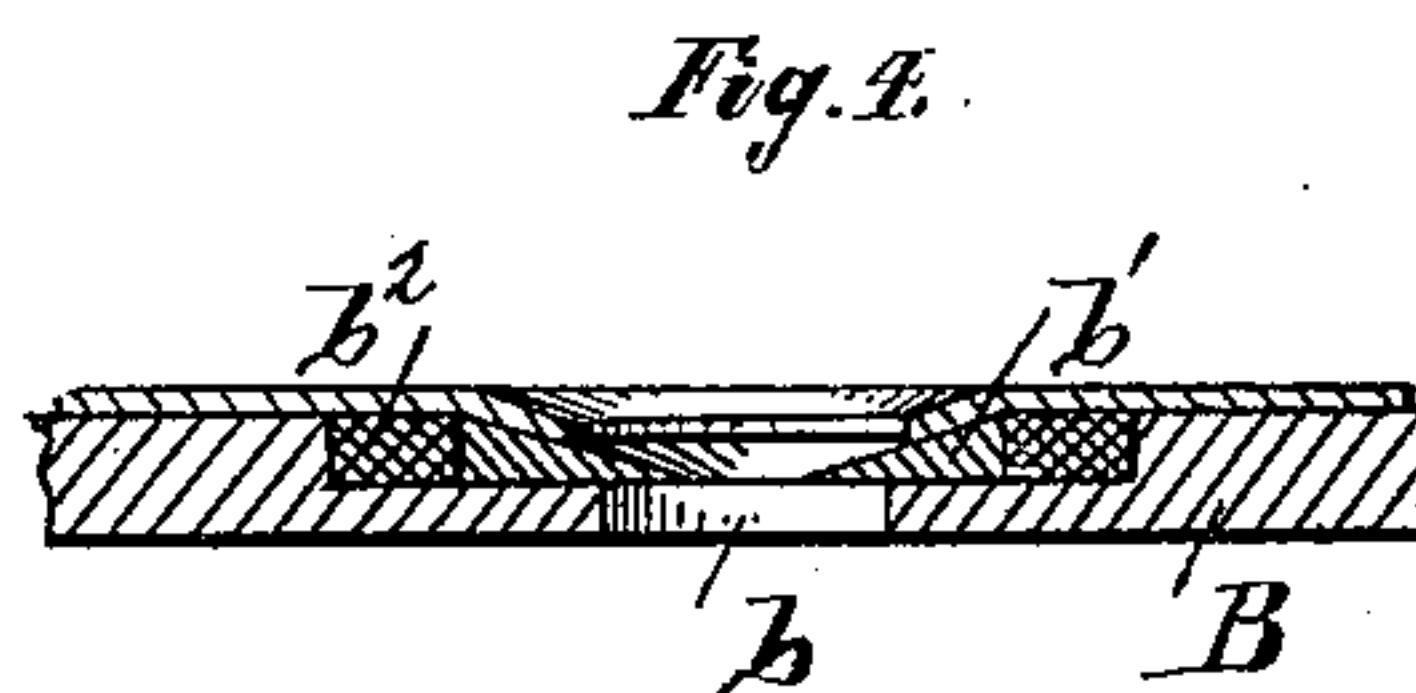
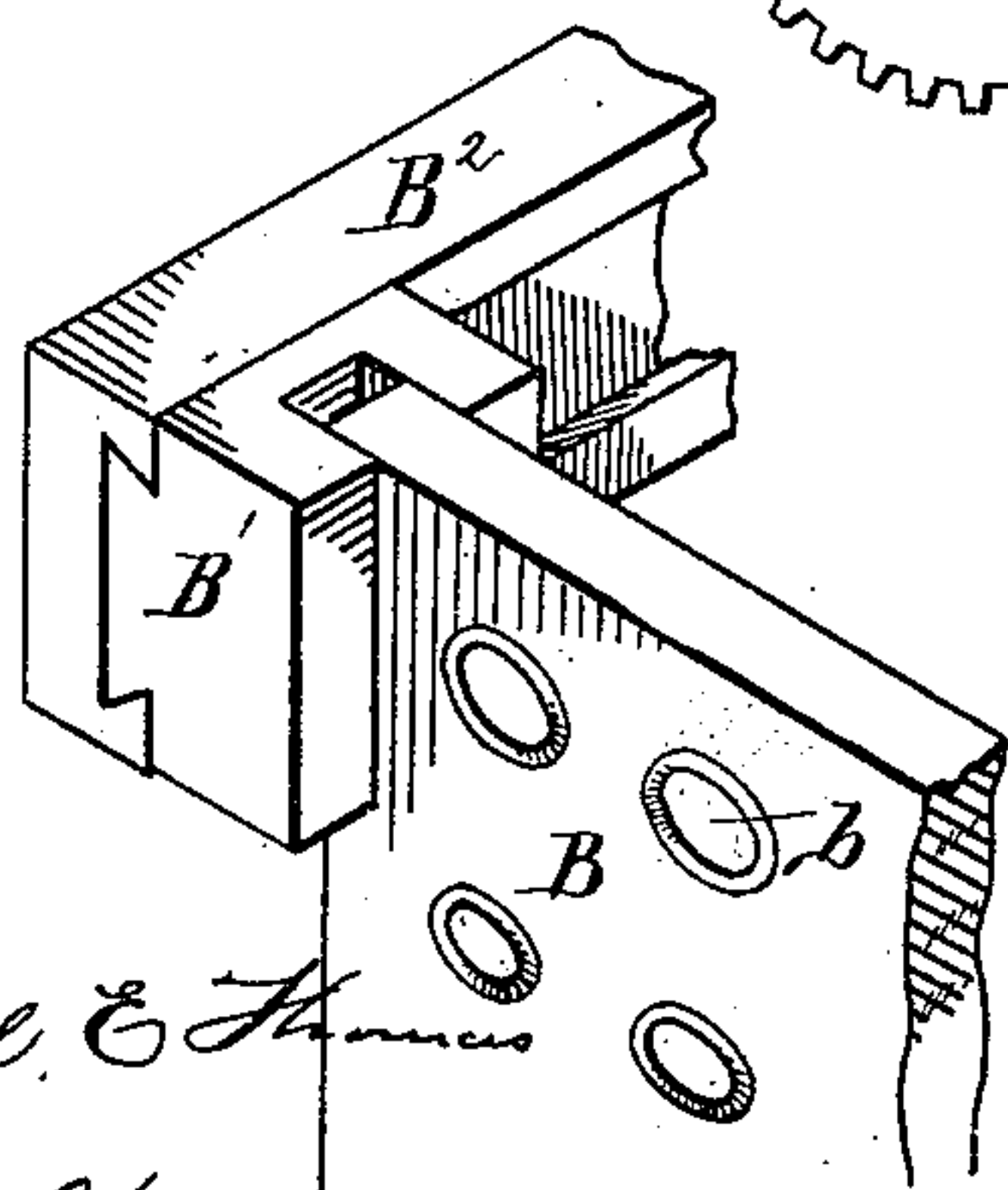
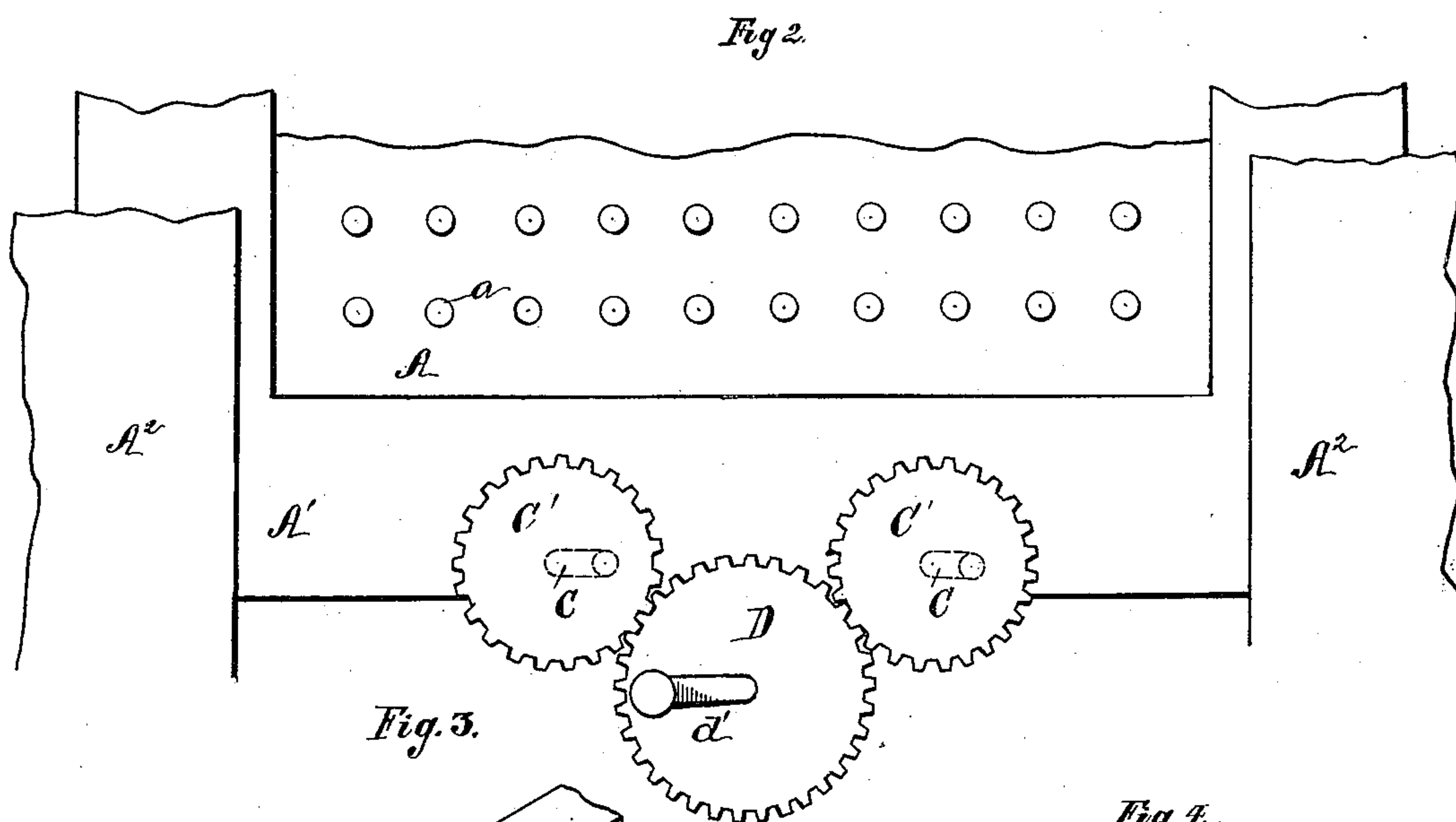
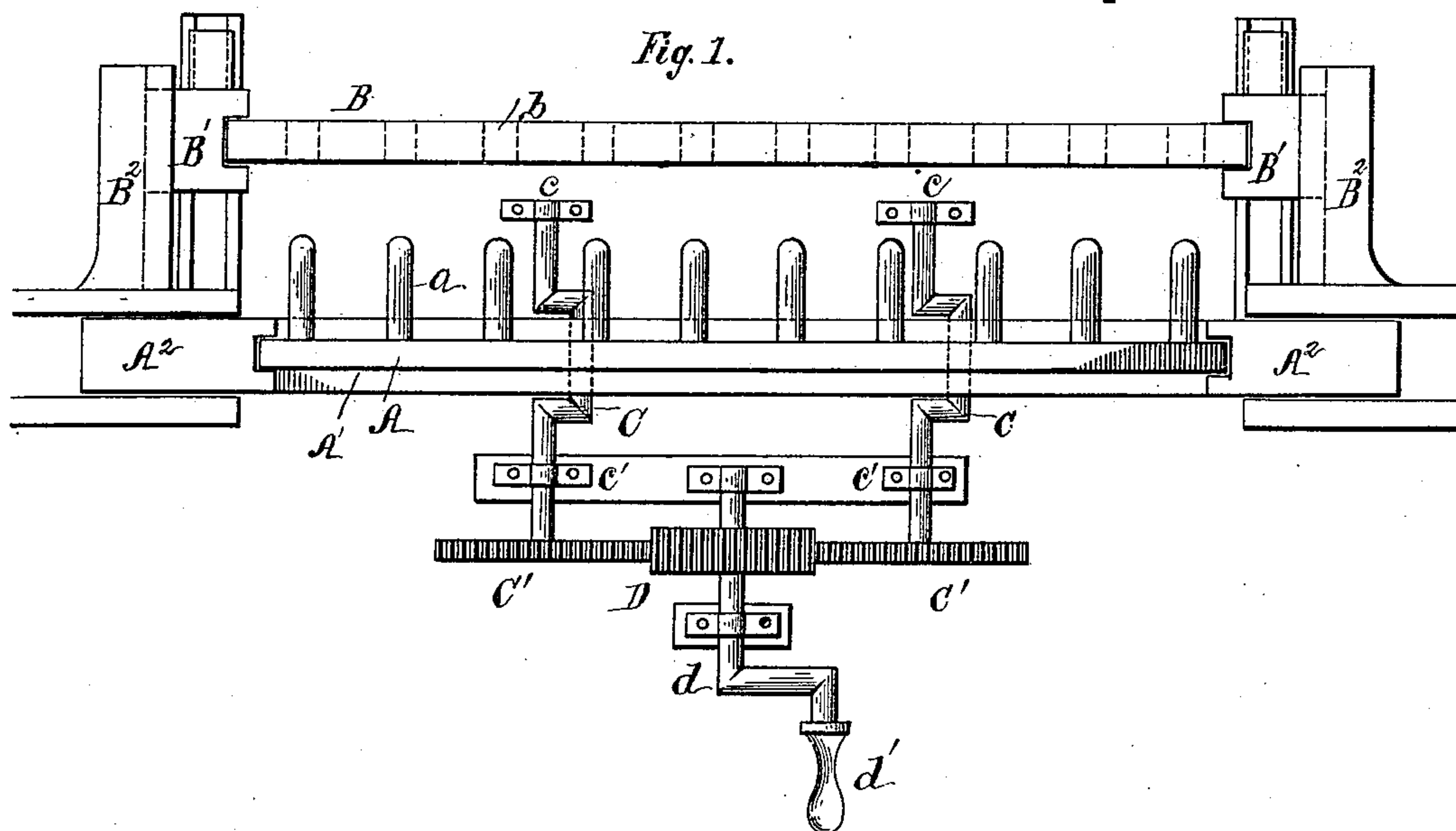


J. H. GLOVER.
CAPSULE MACHINE.

No. 297,380.

Patented Apr. 22, 1884.



WITNESSES
Samuel E. Thomas
N. S. Wright.

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(No Model.)

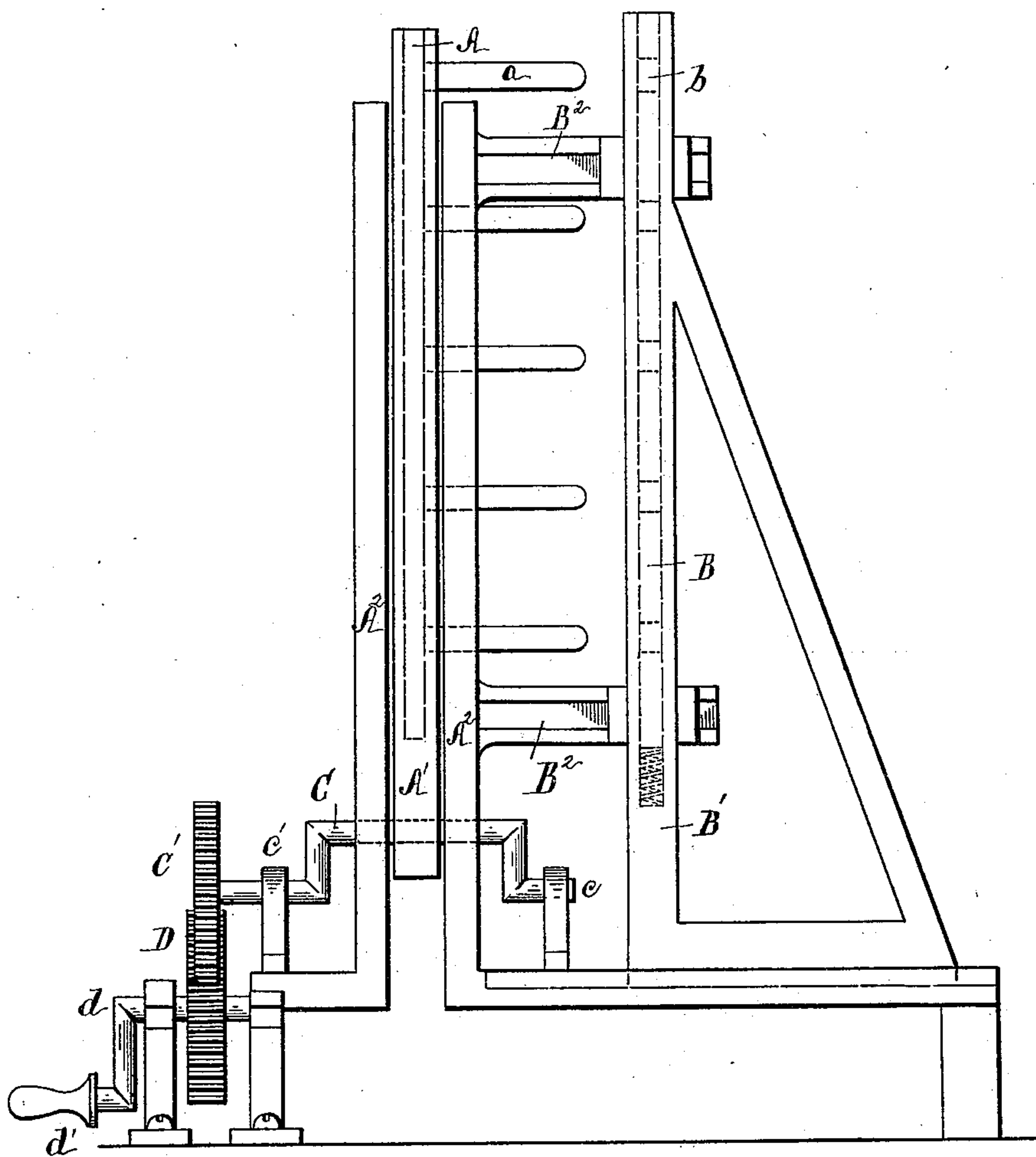
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Fig 5



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UNITED STATES PATENT OFFICE.

JAMES H. GLOVER, OF DETROIT, MICHIGAN.

CAPSULE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 297,380, dated April 22, 1884.

Application filed May 19, 1883. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. GLOVER, of Detroit, county of Wayne, State of Michigan, have invented a new and useful Improvement in Capsule-Cutting Machines; and I declare the following to be a full, clear, and exact description of the same, such as will enable others skilled in the art to which it pertains to make and use it, reference being had to the accompanying drawings, which form a part of this specification.

My invention consists in the combinations of devices and appliances hereinafter specified, and more particularly pointed out in the claims.

In the drawings, Figure 1 represents a plan view of apparatus embodying my invention. Fig. 2 is a front elevation of a portion of the same. Fig. 3 is a perspective view of the cutter-plate. Fig. 4 is a separate view. Fig. 5 is a side elevation.

The object of my invention is to provide an improved capsule-cutting machine in which the mold-pins are projected through a cutter-plate, the pins then being rotated about the inner edge of annular cutters, with which the cutter-plate is provided. I accomplish this object as follows:

As illustrated in the drawings, A represents a mold-plate provided with capsule pins or molds *a*, secured thereto in any proper manner. A' is a frame in which said plate may be secured.

A² represents guides in which the frame may operate.

B is the cutter-plate provided with suitable orifices, *b*. The plate is provided with annular orifices containing cutters *b'*, which are each formed by an annular chamfered or beveled edge projecting inwardly toward the center of the orifice. The cutters of the form mentioned may be secured to the plate in any desired manner. The plate may be provided with cutters, as shown in Fig. 4, in which a suitable cushion of rubber, *b²*, or other elastic material, should be located behind the cutter, the plate being recessed to receive the rubber and the cutter, as shown, the cutters being adjustable and removable, and may be held in place in any proper manner. As thus constructed, each cutter may be removed to be sharpened, or be replaced by another when-

ever desired. I do not, however, limit myself to this method of constructing the cutter-plate, as a plate of any proper material may be properly sharpened at the perimeter of the orifices *b*, or a plate of thin material may be used.

B' is the frame in which the cutter-plate is secured. I prefer that said frame should be adjustably secured to guides B², the construction being such that the cutter-plate may be projected over the pins of the mold-plate, and also be adjusted so that the edge of the cutters shall be in contact with the mold-pins.

C represents a crank secured in the frame of the mold-plate and provided with suitable bearings, as shown at *c* and *c'*, said cranks provided with suitable gear-wheels, C', adapted to mesh with a drive-wheel, D, mounted upon a shaft, *d*, and provided with a crank, *d'*, or other means by which it may be rotated. I prefer that there should be two of these cranks secured in the frame of the mold-plate to give greater steadiness of operation, though I contemplate the employment of one or more as coming within the scope of my invention.

The operation of the device is as follows: When the pins of the mold-plate have been dipped in the gelatine and the capsules formed thereon are ready to be cut, the plate is adjusted into the frame A'. The cutter-plate is then projected over the pins with the capsules formed thereon and adjusted so that the edges of the cutters are in contact with the capsules. By rotating the shaft *d* the motion is communicated to the cranks, and the pins are caused to rotate about the edges of the annular knives of the cutter-plate. The crank-arm may be of any desired length to give the mold-pins the desired rotation, and the diameter of the orifices of the cutter-plate may be of any desired measurement, the length of the crank-arm and the diameter of the orifices being made to correspond, so that at each rotation of the pins they will pass about the perimeter of the cutters.

Any desired means may be employed to reciprocate the cutter-plate upon the mold-plate and for adjusting the cutting-edges against the capsules; also, any suitable mechanism may be employed to give the desired rotation to the pins about the cutting-edges.

It is evident, in this construction, that the mold-pins are not separately rotated in the mold-plate, but that the whole plate, with the mold-pins rigidly secured thereto, is given
5 such a motion as will cause the pins to rotate about the cutting-edges of the cutter-plate.

I have described the cutter-plate so constructed that it may be reciprocated and adjusted so as to be projected over the mold-
10 pins and the cutting-edges brought into contact with the mold-pins; but it is evident, and I would have it understood as coming within the scope of my invention, that the mold-plate may be provided with means whereby it may
15 be reciprocated and adjusted so that the mold-pins shall be projected through the orifices of the cutter-plate, and then, instead of giving to the mold-pins the motion described, the cutter-plate may be given a motion similar to
20 that described in connection with the mold-plate, so that the cutting-edges of the plate shall rotate about the mold-pins.

I would have it expressly understood that I contemplate the cutting off of the capsules
25 by either of these operations, as may be desired.

I am aware that a capsule-machine has been provided with a plate having orifices or sleeves the edges of which serve to sever capsules
30 formed on mold-pins which are reciprocated in the sockets or sleeves; and such, therefore, I do not wish to be understood as claiming, for my invention differs therefrom in that the cutter-plate has an orifice containing an annular beveled cutting-edge which projects
35 inward toward the center of the orifice in such manner that a capsule inserted in the orifice and caused to travel around the orifice against the inward-projecting beveled
40 cutting-edge will be severed in a rapid, nice, and effective manner.

What I claim is—

1. In a capsule-cutting machine, a plate provided with an orifice having an annular cutting-edge, in combination with a frame con-
45

structed to receive a mold-plate provided with a capsule-mold pin which is adapted to enter the cutting-orifice of the plate, and mechanism acting on the frame to impart a circular motion to the mold-pin within said orifice, 50 substantially as described.

2. In a capsule-cutting machine, a cutter-plate constructed with an orifice surrounded by an annular beveled cutting-edge projecting inwardly toward the center of the orifice, 55 substantially as described.

3. In a capsule-cutting machine, a plate having an annular cutting-edge, in combination with a frame constructed to receive a mold-plate having a mold-pin adapted to enter the
60 cutting-orifice of the plate, a crank connected with the said frame, and mechanism for rotating the crank to impart motion to the mold-pin in the cutting-orifice for severing the capsule, substantially as described. 65

4. In a capsule-cutting machine, a plate provided with an orifice having a yielding cutting-edge, in combination with a mold-plate having a mold-pin adapted to enter said
70 cutting-orifice, and means for imparting motion to the mold-pin in the orifice, substantially as described.

5. In a capsule-cutting machine, a plate provided with one or more orifices, annular cutters arranged around said orifice or orifices, 75 and a bushing of elastic material around the periphery of the cutters, and means for rotating the plate, substantially as described.

6. The combination, in a capsule-cutting machine, of ring-cutters cutting upon their
80 inner peripheries, and a bushing of elastic material, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

JAMES H. GLOVER.

Witnesses:

N. S. WRIGHT,

W. M. PORTER.