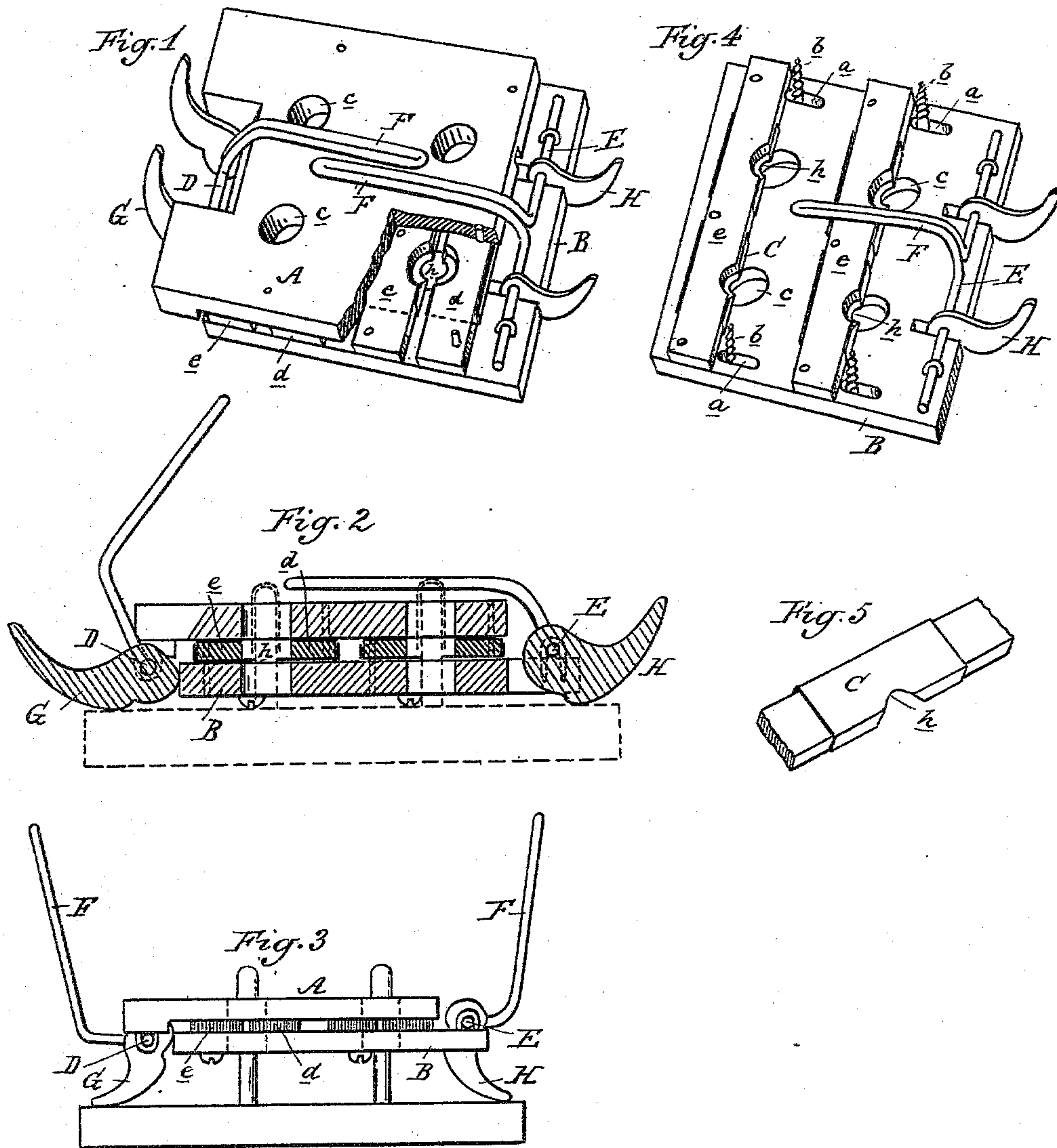


(No Model.)

J. KREHBIEL.
CAPSULE MACHINE.

No. 296,845.

Patented Apr. 15, 1884.



Attest:

A. Barthel
clerk of Court.

Inventor:

John Krehbiel

by his Atty Thos S. Sprague

UNITED STATES PATENT OFFICE.

JOHN KREHBIEL, OF DETROIT, MICHIGAN, ASSIGNOR TO THE GLOBE CAPSULE COMPANY AND HENRY J. MILBURN, OF SAME PLACE.

CAPSULE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 296,845, dated April 15, 1884.

Application filed October 16, 1883. (No model.)

To all whom it may concern:

Be it known that I, JOHN KREHBIEL, of Detroit, in the county of Wayne and State of Michigan, have invented new and useful Improvements in Devices for Stripping Gelatine Capsules From Their Molds; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to certain new and useful improvements in devices designed for removing or "pulling" capsules from the mold-pins upon which they have been formed. The invention consists in the devices employed for embracing the mold-pin below the capsule and the means for operating the same; in the means employed for simultaneously operating the pulling-jaws and removing the capsules from the entire series of pins at the same time, and in the peculiar construction, arrangement, and various combinations of the parts, all as more fully hereinafter set forth.

Figure 1 is a perspective of my improved device, with parts in position to be engaged with the mold-pins, and with one corner broken away to disclose a pair of pulling-jaws. Fig. 2 is a vertical central section, showing my device engaged upon a mold-plate before pulling capsules. Fig. 3 is a diagram showing position of device after capsules have been removed. Fig. 4 is a perspective with the top plate removed. Fig. 5 is a perspective of one of the jaws detached.

In the accompanying drawings, which form a part of this specification, A represents the upper, and B the lower, plates of my improved device, the latter being provided with slots *a*, through which pass screws *b*, which engage with the upper-plate, A, and through these two plates is formed a series of holes, *c*, equal in number to the pins upon the mold-plate with which they are to engage, such mold-plate being fully described in a separate application. Upon the under face of the plate A, and upon one side of each lateral row of holes *c*, I secure a strip of rubber, *d*, or other suitable material, and upon the upper face of the bottom plate, B, I secure similar strips, *e*, but upon the opposite side of the holes *c* from that upon which the strips *d* are arranged.

Upon each of the strips I place the plates or jaws C, arranged in pairs, the meeting edges of which are provided with a segmental gripping-edge, *h*, those in each pair of jaws being coincident with the holes *c*, through the plates A B, which should be provided with a suitable opening, so as to keep the jaws open or separated, excepting as they are closed upon the mold-pins, as hereinafter stated. Upon each of the plates A B, and at opposite ends thereof, I properly secure the rock-shafts D E, respectively, each of which is provided with an actuating-lever, F. Upon the rock-shaft D, I secure one or more cams, G, the heels of which rest against the corresponding edge of the plate B, and upon the rock-shaft E, I secure one or more cams, H.

In practice, this device is designed to follow a capsule-cutting device, for which I have applied for separate Letters Patent, and its operation is as follows: After the capsules upon the mold-pins have been cut, this puller is placed over the mold-plate, the pins and capsules projecting into and through the holes *c*, the jaws C coming between the tag of the capsule and the mold-plate. This being done, I then slightly raise the lever of the rock-shaft D of the upper plate, which compels the two plates to slide upon each other, and a consequent approach toward each other of the jaws C, which latter encircle, or nearly encircle, the mold-pins, and in which position they are locked. By then raising both levers of the rock-shafts the cams are brought in contact with the face of the mold-plate and forcibly slide this device up the mold-pins, stripping or pushing the capsules off in advance of it, and from whence they fall into any suitable receptacle. Returning the levers to the positions from which they started, the parts assume their normal positions, ready to be again employed in pulling capsules from another series of pins.

By placing the jaws upon rubber strips I provide a sufficient rigidity to the jaws, while at the same time there is an elastic resistance to the lateral displacement of the jaws as would follow in engagement with a bent pin, while the jaws are free to move longitudinally upon their respective strips or guides, to engage with a pin bent in the opposite direction. It is evident that there are various ways

of providing for this elasticity of parts—such as employing a stiff strip, with a spring resistance at its back—which could be employed without departing from the spirit of my invention.

What I claim as my invention is—

1. In a capsule-removing device, a series of sliding jaws arranged on suitable supports, as A B, in combination with cams connected with said sliding jaws, and having one part constructed to close the jaws upon the mold-pins on which the capsules are formed, and another part to push the jaws with the capsules off the mold-pins, substantially as described.
2. In a capsule-machine, the combination of yielding jaws arranged in pairs upon sliding plates provided with holes designed to register

with the pins upon the mold-plate, and upon which the capsules are formed, and cams, substantially as described, for closing such jaws around the mold-pins, substantially as set forth.

3. In a capsule-removing device, the combination of a mold-plate provided with mold-pins, and the plates A B, having orifices to register with the mold-pins, and yielding jaws C, with cams, substantially as described, for separating the plates from the mold-plate, and thus stripping the capsules from the mold, as set forth.

JOHN KREHBIEL.

Witnesses:

H. S. SPRAGUE,

E. SCULLY.