

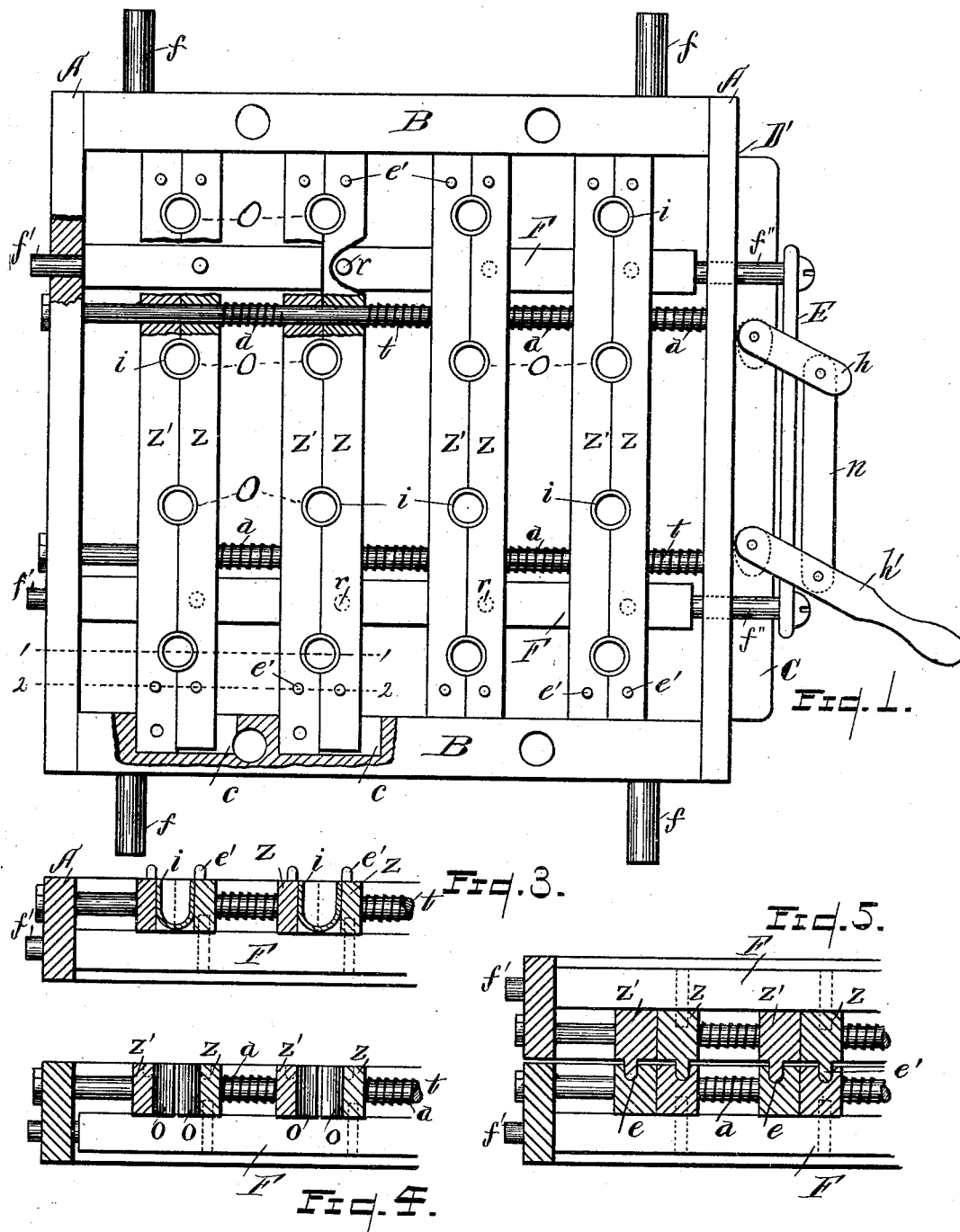
(No Model.)

2 Sheets—Sheet 1.

S. R. BATESON.  
CAPSULE RECEIVING FRAME.

No. 422,364.

Patented Mar. 4, 1890.



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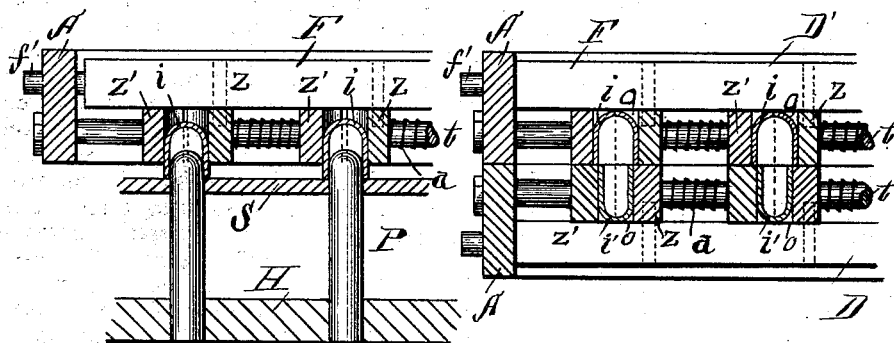
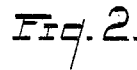


Fig. 7.

Fig. 6.

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# UNITED STATES PATENT OFFICE.

SAMUEL R. BATESON, OF DETROIT, MICHIGAN.

## CAPSULE-RECEIVING FRAME.

SPECIFICATION forming part of Letters Patent No. 422,364, dated March 4, 1890.

Application filed June 24, 1889. Serial No. 315,382. (No model.)

*To all whom it may concern:*

Be it known that I, SAMUEL R. BATESON, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Capsule-Receiving Frames; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to a capsule-receiving frame in the manufacture of gelatine capsules; and it consists in the construction of a capsule-receiving frame into which the caps and bodies of the capsules are received from the mold or capsule-forming pins, and in which said caps and bodies are held while being placed together or joined, completing the capsule, said frame being provided with a series of fixed bars and a corresponding series of movable bars, openings being formed in the meeting faces of said bars, springs are employed to move the traveling bars against the fixed bars, and cams are employed to force the traveling bars from the fixed bars and against the springs, all of which will be fully hereinafter set forth, and the essential features pointed out particularly in the claims.

In the accompanying drawings, forming a part of the specification, Figure 1 is a plan view of the receiving-frame, showing the bars of the frame closed and holding the cap or head end of the capsule in the concaves or openings formed in the meeting faces of said bars. Fig. 2 is a view of the same, showing the bars of the frame thrown apart. Fig. 3 is a detail in section on dotted line 1 1 of Fig. 1. Fig. 4 is a detail in section on dotted line 3 3 of Fig. 2. Fig. 5 is a section in detail of the cap and body receiving frames placed together, showing the engagement of the dowel-pins for holding said frames in position, as taken on dotted line 2 2 of Fig. 1. Fig. 6 is a section in detail of the cap and body receiving frames placed together, as taken on dotted line 1 1 of Fig. 1, showing the relative position of the cap and body of the capsule in the bars of said frames as before being

forced together or joined. Fig. 7 is a detail in section showing the capsule being stripped from the mold-pins into the openings in the bars of the receiving-frame.

As indicated in the drawings, A represents the end and B the side rails of the frames D and D'; Z and Z', the receiving-bars; F, the reciprocating bars to which the bars Z are secured; C, the plate carrying the cam-heads *d*; and E, the cross-head connecting the ends of the bars F. The outside rails A and B of the frame are joined at their ends, making the frame substantially square in form. The bars Z and Z' cross the frame transversely, their ends being let into the inner face of the side rails B. The bars Z' are permanently secured to said rails, but the bars Z fit loosely in the rails B, as shown at *c* in Figs. 1 and 2, allowing of their lateral adjustment, said bars Z and Z' also having in their opposite meeting faces the concaved or half-round openings O, crossing said bars.

The reciprocating bars F cross the frame at right angles to and beneath the bars Z and Z'. The reduced ends *f'* and *f''* of said bars F pass loosely through the end rails A of the frame, allowing said bars to have free end movement. The traveling bars Z are secured to the bars F by means of the pins *r*.

Crossing the frame parallel with the bars F and secured to the end rails A of the frame are the truss-rods *t*. Said rods pass transversely through the bars Z and Z', the traveling bars Z fitting loosely thereon. *a* are coiled springs encircling the rods *t*, between the traveling bar Z at the right of the frame and the end rail A and between the series of movable bars Z and fixed bars Z' of the frame, whereby the movable bars Z are held against the fixed bars Z', securing the capsule caps or bodies, as the case may be, in the openings formed between the joined faces of said bars, as shown in Fig. 1.

The plate C is secured to the end rails A of the frame. To said plate is pivoted the lever-arms *h* and *h'*, which are connected by the cross-bar *n*. The cam-heads *d* are located on the opposite face of the plate C to that of the lever-arms *h* and *h'*, but are permanently secured to said arms and move therewith.

The cross-head E is secured to the extended ends *f'* *f''* of the bars F, and in such position

as to be acted upon by the cam-heads  $d$  when the lever  $h'$  is swung, whereby the bars  $F$  are drawn endwise, moving the bars  $Z$  from the bars  $Z'$ , as shown in Fig. 2, thereby enlarging the capsule-receiving chambers between said bars.

The operation is as follows: To fill the receiving-frame with the caps or bodies of the capsules the bars  $Z$  of said frame are drawn apart from the bars  $Z'$ , as shown in Fig. 2, by the action of the lever  $h'$ . The frame is then placed over the mold-pin plate so that the mold-pins will register with the openings  $O$  in the opposite meeting faces of the bars  $Z Z'$ . The stripping-plate is then raised, removing the capsules from the pins and forcing them into the openings  $O$  between the bars  $Z Z'$ , as clearly shown in Fig. 7, in which  $P$  represents the mold-pins,  $II$  the mold-plate,  $S$  the stripping-plate, and  $i$  the capsule-cap. The lever  $h'$  is then thrown back, releasing the cams  $d$  from contact with the cross-head  $E$ , when the coiled springs  $a$  will force the bars  $Z$  against the fixed bars  $Z'$ , confining and securing the capsule-caps  $i$  in the openings between said bars, as shown in Fig. 1. The capsule-body-receiving frame  $D$  is filled in the same manner. The two filled frames are placed together. The dowel-pins  $e'$  of the bars  $Z Z'$  of the frame  $D'$  enter the holes  $e$  in the bars  $ZZ'$  of the frame  $D$ , as clearly shown in Fig. 5, thus securely holding the two frames in position, so as to cause the openings  $O$  in said frames to register with each other, bringing together the open ends of the cap and body of the capsules in said frames, as shown in Fig. 6, in which position (by a machine which will be made the subject-matter of another application) the caps are placed upon the bodies of the capsules and the joined capsules discharged from the frames. The lugs  $f$ , extending from the sides of the frame  $D'$ , are engaged by hooks to the other frame by means of which the frames are firmly held together when in position, as shown in Figs. 5 and 6. (The hooks are not shown, as they will appear in another application and are not essential in this case.)

It will be observed on looking at the frames

that the frame  $D$  has pin-holes  $e$  in the bars  $Z Z'$ , while the frame  $D'$  has dowel-pins  $e'$ , which fill the holes of the other frame when said frames are placed together, as shown in Fig. 5. It will also be observed that the openings formed in the meeting faces of the bars  $Z Z'$  of the frame  $D'$ , are larger than the like openings in the frame  $D$ , for the reason that the diameter of the cap of the capsule is greater than that of the body  $i'$  of the capsule, as clearly shown in Fig. 6.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a device for the purposes set forth, and in combination, the frame having a series of stationary bars and a series of alternating traveling bars, said bars having openings in their adjacent faces for the reception of the parts of capsules, and the mechanism set forth for moving the traveling bars from the stationary bars, substantially as specified.

2. In a capsule-receiving device, the combination of the frame, the stationary bars  $Z'$ , the traveling bars  $Z$ , said bars having openings  $O$  in their adjacent faces, the rods passing through said bars, the coiled springs on said rods, the bars  $F$ , the cross-head coupling said bars, the plate  $C$ , the cams, and operating-levers, as and for the purposes specified.

3. In combination with the frame  $D$ , having the series of stationary bars  $Z'$ , the series of traveling bars  $Z$ , said bars having openings  $O$  in their adjacent faces and holes  $e$  in both series of bars of the frame  $D'$ , having also a series of stationary and traveling bars, said bars having openings  $O$  in their adjacent faces and pins  $e'$  in both series of bars which register with the holes  $e$  of the frame  $D$ , and the mechanism set forth for operating the traveling bars, substantially as and for the purposes specified.

In testimony whereof I affix my signature in presence of two witnesses.

SAMUEL R. BATESON.

Witnesses:

P. A. SCHMIDT,

R. B. WHEELER.