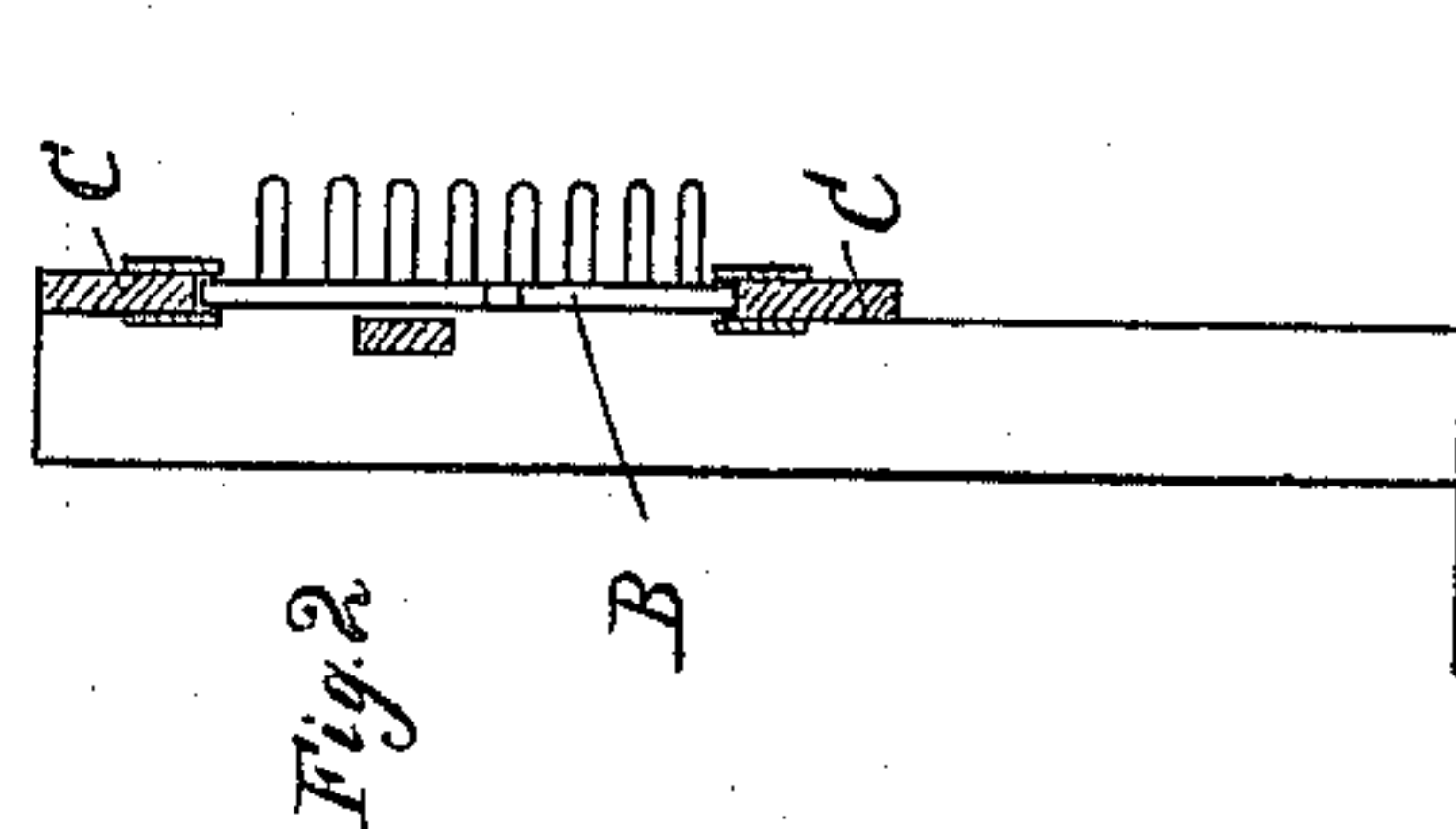
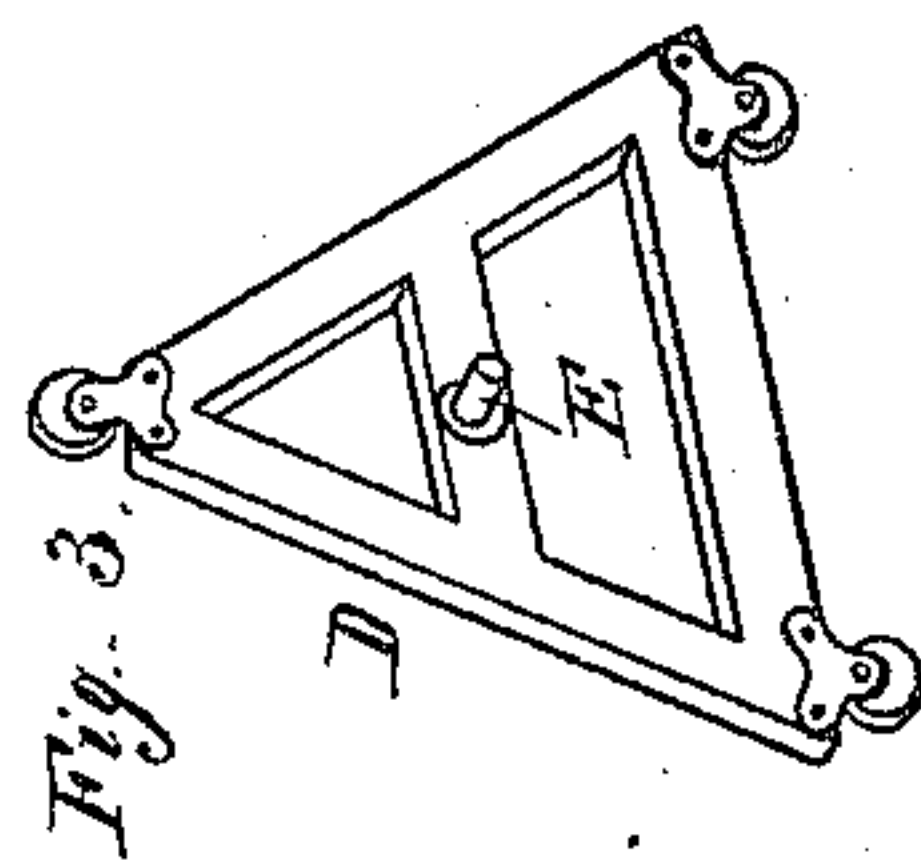
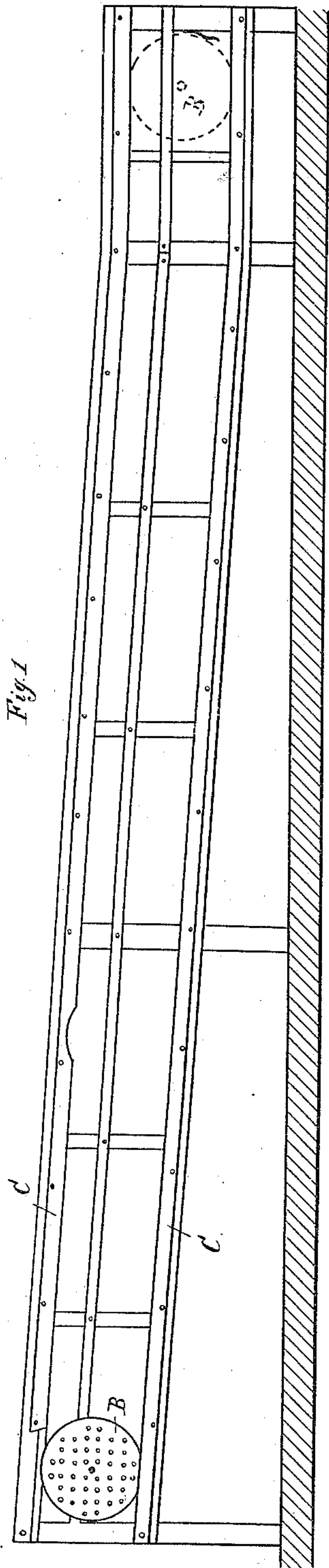


(No Model.)

J. KREHBIEL.
CAPSULE MACHINE.

No. 344,783.

Patented June 29, 1886.



Attest:
John Schuman
Edmund J. Scully.

Inventor.
John Krehbiel.
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UNITED STATES PATENT OFFICE.

JOHN KREHBIEL, OF DETROIT, MICHIGAN, ASSIGNOR TO GEORGE W. BULLIS, OF SAME PLACE.

CAPSULE-MACHINE.

SPECIFICATION forming part of Letters Patent No. 344,783, dated June 29, 1886.

Application filed September 10, 1885. Serial No. 176,708. (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 Manufacturing Gelatine Capsules; 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 new and useful improvements in devices employed in the manufacture of gelatine capsules; and the invention consists in the peculiar construction, arrangement, and adaptation of parts, as more fully hereinafter described and claimed.

Heretofore great difficulty was often experienced in preventing the semi-fluid gelatine, with which the molds were coated after being dipped, from running and forming, when dry, capsules of uneven thickness or irregular form. This tendency was only very imperfectly counteracted by the practice of the operator agitating the mold-plate, after dipping, with his hands for a few seconds, and then depositing it on its back. This practice not only requires a considerable amount of manual labor, but it does not overcome the difficulty above described, and capsules thus manufactured are always liable to be more or less thickened at the open end from the tendency of the gelatine, while yet fresh, to gather or run toward the foot of the mold-pin when the mold-plate is laid upon its back.

In my Patent No. 296,844, granted to me April 15, 1884, I have shown, described, and claimed a device by which the molds were evenly coated; but the process of manipulating the mold-plate there shown was so laborious, consumed so much time, and required so much manual labor, as the operator had to walk with and hold the plate in position, as to be of comparatively little practical use. It requires the constant care of an attendant, and pains have to be taken in revolving the mold-plate to keep the same squarely on its edge to retain the mold-pins in a horizontal position.

My improvement does away with the manual labor heretofore performed in agitating the mold-plate in order to distribute the gela-

tine evenly upon the mold-pins while it hardens or sets, and substitutes therefor the novel mode of revolving the mold-plate without the care of an attendant, which not only produces a superior result, but also greatly expedites the manufacture, all as hereinafter described and claimed.

Figure 1 is an elevation of an inclined runway adapted for round mold-plates like the one marked B; and Fig. 2 is a cross-section of this runway, which is so constructed and arranged that when a mold-plate is placed, as shown, between the parallel and inclined guide-bars C C its gravity will make it run down the incline. Fig. 3 represents a truck by which the mold-plate may be carried along the runway.

In practice the upper end of this runway is placed in proximity to the operator at the dipping-machine. From there the runway extends a suitable distance to give the gelatine the necessary time to set while the mold-plate is running down the incline, terminating at a point which is convenient to the capsule-cutting machine.

It is obvious that the above arrangement merely illustrates the spirit of my invention, which for practical application depends to a large degree upon the location, arrangement, size, and kind of plant in use. For instance, one runway may be arranged to serve more than one dipping-machine, and by providing it with switches, running it zigzag, or adopting other devices known and used in connection with tracks and runways of similar nature, it will not be difficult to apply my invention successfully in every given instance.

It will be seen that when a mold-plate, after leaving the dipping-machine, is rolled down the runway its rotary motion will keep the gelatine evenly distributed all around the pins till the gelatine has set sufficiently. The progressive motion of the mold-plate in rolling allows a current of air to rush between the pins, and thereby makes the gelatine set quicker.

Where my device of a runway is adopted, it is best to combine it with a similar return-runway, by means of which the mold-plates after use may be again rolled back to the dipping-machine in the same manner, and thus

save the labor and time of carrying them. Aside from the primary object, (which may be obtained in a different manner, as herein-after described,) the use of the runways may
5 still be of great advantage in saving manual labor in the handling of the mold-plate.

My device of a runway is equally applicable to other than round molds. For example, a rectangular mold-plate, in which case I
10 construct a little truck, D, or carriage, such as is shown in Fig. 3 in perspective. This truck is adapted to travel in the runway, and bears a central pin, E, upon which the mold-plate is suspended by means of a central hole,
15 with which the mold-plate has been provided. In this case the operator hangs his mold-plate after dipping on the pin of the truck, and before starting the latter gives the mold-plate a rotary motion around this pin by a tap with
20 his hand. Instead of the truck D, a round disk adapted to roll in the runway may be used, to which the rectangular mold-plate is secured.

What I claim as my invention is—

1. An inclined runway combined with a 25 circular mold-plate, substantially as and for the purposes specified.

2. An inclined runway provided with guides, combined with a circular mold-plate, substan- 30 tially as and for the purpose specified.

3. The combination, with an inclined runway, of a carriage designed to travel thereon and a mold-plate carried by said carriage, as set forth.

4. The combination, with an inclined run- 35 way, of a carriage adapted to travel thereon and provided with rollers, and a mold-plate carried by said carriage, substantially as and for the purpose specified.

5. The combination, with an inclined run- 40 way having guides, of a carriage provided with a pin, E, and a mold-plate having central opening, substantially as and for the purpose specified.

JOHN KREHBIEL.

Witnesses:

H. S. SPRAGUE,
EDMOND I. SCULLY.