

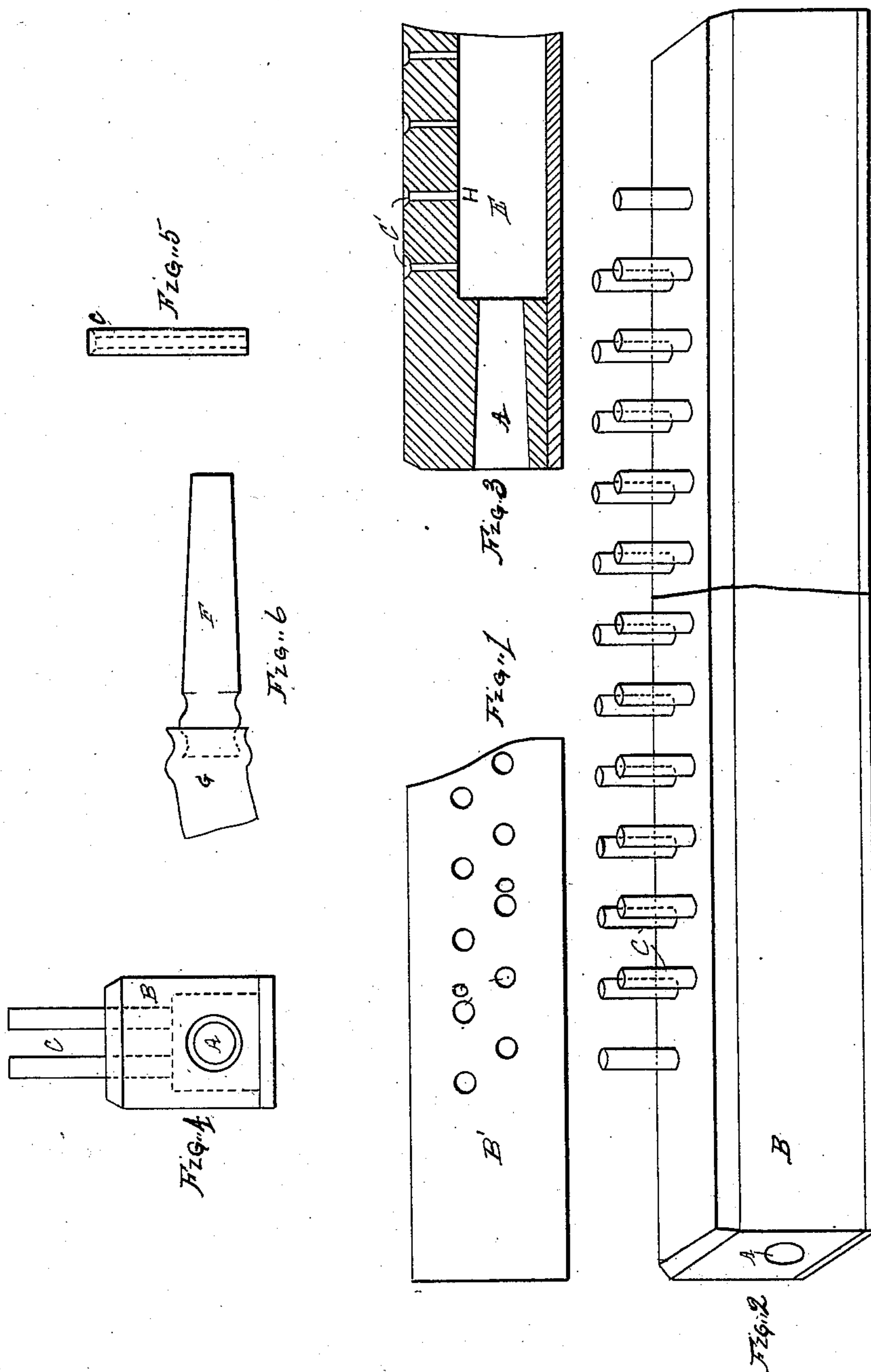
(No Model.)

J. B. RUSSELL.

DEVICE FOR HOLDING AND DIPPING PILLS, &c.

No. 389,485.

Patented Sept. 11, 1888.



Witnesses
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JOHN B. RUSSELL, OF DETROIT, MICHIGAN.

DEVICE FOR HOLDING AND DIPPING PILLS, &c.

SPECIFICATION forming part of Letters Patent No. 389,485, dated September 11, 1888.

Application filed November 16, 1887. Serial No. 255,325. (No model.)

To all whom it may concern:

Be it known that I, JOHN B. RUSSELL, of Detroit, in the county of Wayne and State of Michigan, have invented a new and useful
5 Improvement in Devices for Holding and Dipping Pills, &c., of which the following is a specification.

My invention consists in an improvement in devices for holding and dipping pills, &c.,
10 hereinafter fully described and claimed.

Figure 1 is a plan view of part of a distributing-board. Fig. 2 is a perspective of one form of my dipping mechanism. Fig. 3 is a vertical longitudinal section of a portion of
15 the dipping-bar, showing a slight modification in construction. Fig. 4 is an end view of Fig. 2. Fig. 5 is a detail side elevation of one of the pill-supporting tubes, and Fig. 6 is an elevation of a tapering tube and part of a flexible
20 tube, by which the dipping mechanism is connected with a suction apparatus.

Pills are now dipped in gelatine by the use of what is known as a needle-bar, viz., a bar in which are set a number of needles. The
25 pills are impaled on these needles, partially dipped, are allowed to dry, and then removed from the needles usually by spring-fingers and the uncoated portion dipped. This of course makes a hole in each pill, and requires considerable manipulation.

My invention consists in holding the pills on the dipping mechanism by atmospheric pressure; and I do this by maintaining a partial vacuum behind the pills when in position.

35 The drawings represent mechanism adapted to practice my process, in which B represents a bar having therein a cavity, E, and an orifice through one end of the bar, preferably somewhat tapering, the other end of the bar
40 being closed.

C represents a number of tubes set tightly in the top of bar B and communicating with the interior cavity, E.

In the modification shown in Fig. 3 the tubes
45 C are omitted and holes H are drilled through the bar into the cavity E, terminating at their outer end in concavities C'. The end of each tube C also has a slight concavity formed therein, as indicated in dotted lines in Fig. 5,
50 to partially fit the pills or other objects to be held thereby.

F represents a hollow tube adapted to fit the orifice A and preferably tapered to fit said orifice.

G represents a flexible tube, one end of which 55 is connected with the tube F and the other end with any suitable suction apparatus, such as an exhaust-fan, ejector, or pump.

B' represents a portion of a board perforated with holes O, slightly larger than the pills to 60 be coated, bored so as to register with the tubes C or concavities C'.

The operation of my invention is as follows: The bar B is laid down with the tubes or concavities upward, and the board B' is placed in 65 a frame so that the holes O register with the tubes C. A number of uncoated pills are thrown upon the board B', and some of them pass down through the holes O until they rest upon the end of tubes C, when the surplus 70 pills are brushed off and the board removed, leaving a pill on the end of each tube or in each concavity C'. The tube F is now pressed into the orifice A, and, being connected with the suction apparatus, the air is exhausted 75 from the cavity E and the pills are pressed firmly, to avoid twisting tube G, and the pills are then dipped in a gelatine bath as deeply as possible without permitting the gelatine to come in contact with the tube or to be sucked 80 up through the tube or holes H by the vacuum. The pills are removed from the gelatine, the bar is given a slight rotary motion to distribute the gelatine evenly, and laid down with the tubes upward, in which position the tube F 85 may be withdrawn and the bar and pills are left to dry. When the coating has become dry, the bar is again connected with the suction apparatus. A similar bar is laid down with the holes or tubes up, and with a perforated board, B', placed over it, as before described. The bar containing the partially-coated pills is now raised, turned over, and the pills presented to the perforated holes in the board, and the suction apparatus is dis- 95 connected from the bar, when the partially-coated pills fall on the ends of the tubes and are held thereby. The suction apparatus is now connected to the second bar, the perforated board removed, and the uncoated portion 100 of the pills dipped and dried, as before.

It is evident that the gist of my invention

consists in supporting the articles to be dipped by atmospheric pressure instead of by mechanical means, and that the form and mechanical construction details of the specific apparatus shown can be considerably modified.

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

1. In mechanism for dipping pills, a chambered dipping-bar having seats for the pills which have atmospheric connection with an exhaust-chamber in said bar, substantially as described.

2. In a mechanism for dipping pills, a dipping-bar having seats for the pills and provided with passages forming atmospheric con-

nection between said seats, and an interior exhaust-chamber formed in said bar, and a tubular connection entering said chamber and having a flexible tube or section to permit the movement of said bar when the chamber is exhausted, substantially as described.

3. In combination with the bar B and tubes C, the tapering tube F and the flexible tube G, connected with a suction apparatus, substantially as and for the purposes set forth.

JOHN B. RUSSELL.

Witnesses:

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