

(Model.)

C. C. WELLS.

MACHINE FOR COATING PILLS.

No. 273,328.

Patented Mar. 6, 1883.

Fig. 1.

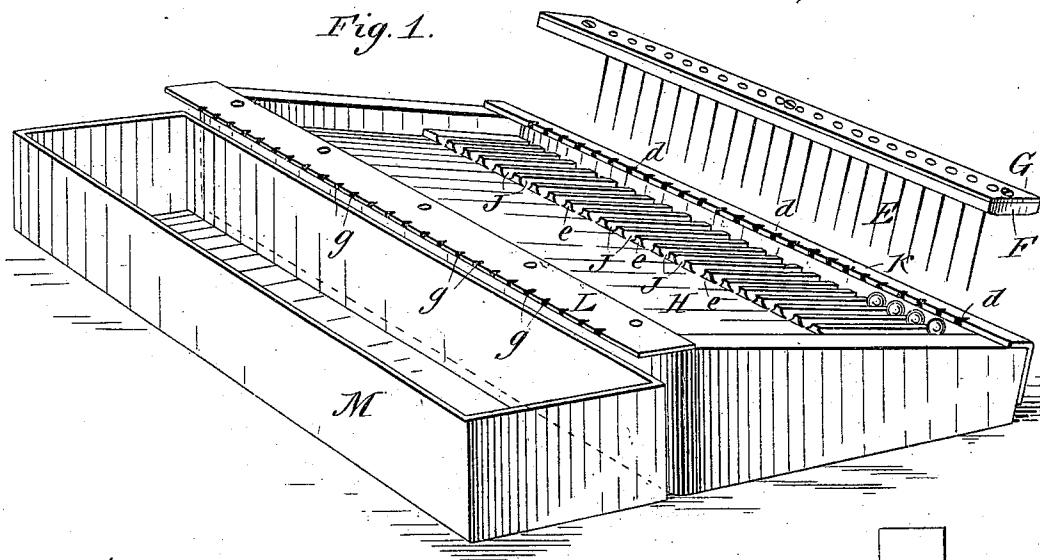


Fig. 2.

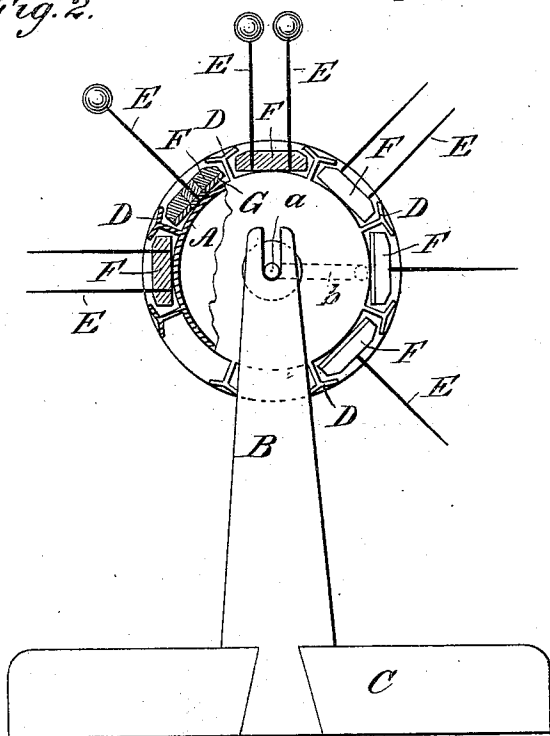
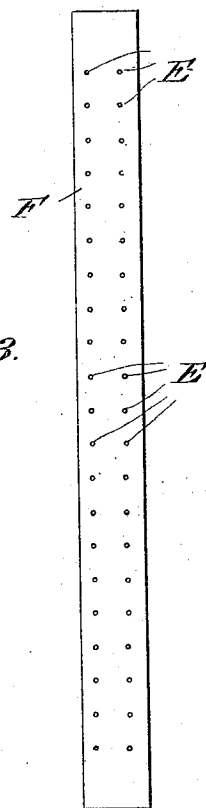


Fig. 3.



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MACHINE FOR COATING PILLS.

SPECIFICATION forming part of Letters Patent No. 273,328, dated March 6, 1883.

Application filed May 24, 1882. (Model.)

To all whom it may concern:

Be it known that I, CHARLES C. WELLS, of Saratoga Springs, Saratoga county, New York, have invented a new and Improved Machine for Coating Pills, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved machine for facilitating the coating of pills with gelatine or other fluid or semi-fluid coating materials.

The invention consists in a cylinder provided with a series of longitudinal grooves in its surface for receiving strips carrying needles for holding the pills. The coatings of the pills dry when the cylinder is rotated.

The invention further consists in a slightly-inclined board or platform provided with a series of inclined grooves, and with a notched strip for directing the needles into the pills, which platform is provided at the opposite edge with a notched strip for stripping the pills from the needles.

The invention also consists in details of construction and in combinations of parts, as will be more fully described hereinafter.

Reference is to be had to the accompanying drawings, forming part of this specification, in which similar letters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of the pick-up of my improved pill-coating machines and a perspective view of one of the needle-bars. Fig. 2 is an end elevation of the drying-cylinder of my improved pill-coating machine, parts being shown in section; and Fig. 3 is a plan view of one of the needle-bars.

A cylinder, A, made of wood or metal, is provided with a shaft, *a*, removably journaled in standards B on a base, C, which shaft *a* is provided with a crank or analogous device for rotating it. A series of T-shaped rails, D, project radially from the cylinder A, with the transverse heads at the outer edges, whereby longitudinal grooves will be formed in the surface of the cylinder. A series of needles, E, are passed through strips F, of wood or metal, in such a manner that these needles will all project a like distance from the strip, and will be arranged in perfect straight longitudinal rows; or, if desired, they can be arranged in two rows, one being parallel with each longitudinal edge

of the strip, as shown in Figs. 2 and 3. If the strips F are made of wood, they can be backed by metal strips G, which makes the needle strips or bars more durable and substantial. The needle-bars E F are held removable on the cylinder by passing them into the grooves in the cylinder, the needles projecting radially from the cylinder, as shown in Fig. 2. A slightly-inclined board, H, is provided with raised edges on all sides, and rests upon a suitable base or bottom frame, and is provided with a series of transverse ridges, *e*, which extend from the lower edge of the inclined board one-third or half way across the same, and project above this inclined surface, these ridges forming a series of grooves, J, having semicircular cross-section, which grooves are open at the upper ends and are closed at the lower ends, as they abut against the raised edge at the lower side of the board. On this raised edge, at the lower side of the board H, a metal strip, K, is secured, which has a notch, *d*, above the lower end of every groove J, as shown in Fig. 1. A metal strip, L, is attached to the top of the raised edge of the upper side of the board H, and is provided in its outer projecting edge with a series of notches, *g*. A box, M, is placed below the strip L to receive the coated pills, which box can be secured to the support or frame of the board H, if desired. The needles E must all be spaced equidistant, and the notches *d* in the strip K and the notches *g* in the strip L must be spaced precisely the same as the needles, so that when a needle-bar is placed against the notched edge of the strip K or L the needles will all pass into the notches *d* or *g*.

The operation is as follows: The pills to be coated are placed on the inclined board H and roll down the same and down the grooves J, so that there will be a row of pills in each groove J. A needle-bar, E F, is inverted, so that the needles project downward, upon which the needles are passed into the notches *d* of the strip K. If the needle-bar is now pressed downward, each needle will be forced into the lowest pill in the corresponding groove J—that is, a pill will be fastened on the end of each needle. The lower ends of the needles are then moved from the inner edges of the bar K, and the needle-bar is raised. As

all the lowest pills in the grooves J have been withdrawn, all the pills in all the grooves will roll down the grooves the distance of one pill. The pills on the ends of the needles are then
 5 dipped into a coating solution. The coated but moist pills must now be dried, so that the coating will cover the pills uniformly. To accomplish this I slide the strip F into one of the grooves in the cylinder A, and then rotate
 10 this cylinder, care being taken not to rotate too rapidly, as the coating would be thrown to the outer ends of the pills by the centrifugal force; but at the same time care must be taken not to rotate too slowly, as otherwise the coating might collect at the needle-points.
 15 When the coated pills are dry the bars E F are withdrawn from the grooves in the cylinder A, the needles are placed in the notches g of the strip L in such a manner that the pills
 20 will be below the edge of this strip L, and the needle-bar F is drawn upward so that the edges of the strip L can push the pills from the ends of the needles, which pills drop into the box M. A clock-work or like mechanism may be
 25 used for rotating the cylinder to dry the pills. Having thus described my invention, I claim as new and desire to secure by Letters Patent—
 1. A machine for drying coated pills, made substantially as herein shown and described,
 30 and consisting of a cylinder carrying removable strips provided with projecting needles for holding the wet coated pills, which cylinder is rotated, whereby the wet or moist pills will be dried by moving through the air in circular
 35 lines, as set forth.
 2. In a machine for drying coated pills, the combination, with a cylinder, of removable bars held on the same, and projecting needles attached to these bars, substantially as herein

shown and described, and for the purpose set forth. 40

3. In a machine for drying coated pills, the combination, with a cylinder provided with longitudinal grooves in its rounded surface, of
 45 sliding bars fitting therein and needles projecting from these bars, substantially as herein shown and described, and for the purpose set forth.

4. In a machine for drying coated pills, the combination, with a cylinder, A, provided
 50 with radial longitudinal T-shaped rails D, of the bars F, passed in between these rails, and the needles E, projecting from the bars F, substantially as herein shown and described, and
 55 for the purpose set forth.

5. The combination, with the board H, provided with grooves J, of the strip K, projecting
 60 over the lower ends of the grooves, and provided with notches d d, substantially as herein shown and described, and for the purpose set forth.

6. A pick-up for pill-machines, made substantially as herein shown and described, and
 65 consisting of an inclined board or platform provided with a series of transverse grooves and devices for guiding the needles upon the centers of pills in the lower ends of the grooves, as set forth.

7. The combination, with a board or platform, H, of a notched strip, L, projecting from the edge
 70 of the board, and a box or receptacle, M, below the strip L, substantially as herein shown and described, and for the purpose of removing the dried coated pills from the needles, as set forth.

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Witnesses:

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