O. E. HERMANN & E. C. DE WITT.

PILL PACKAGING MACHINE.

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998,000. Patented July 18, 1911.

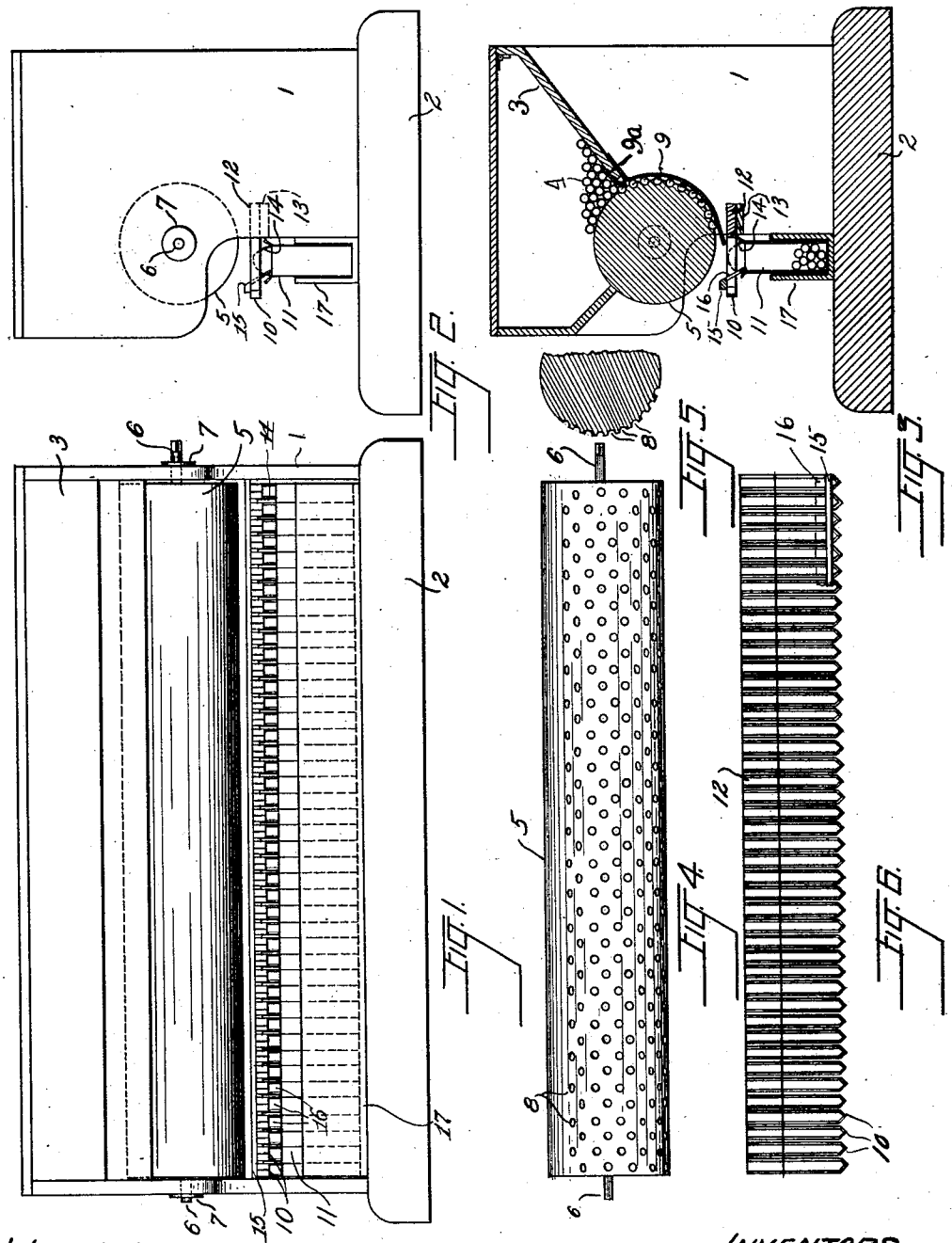

FIG. 2.

FIG. 3.

FIG. 1.

FIG. 4.

FIG. 5.

FIG. 6.

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PILL-PACKAGING MACHINE.

998,000. Specification of Letters Patent. **Patented July 18, 1911.**

Application filed January 21, 1911. Serial No. 603,791.

To all whom it may concern:

Be it known that we, OTTO E. HERMANN and ELDEN C. DE WITT, citizens of the United States, and residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Pill-Packaging Machines, of which the following is a complete specification.

The main objects of this invention are to provide a machine adapted to fill packages, such as boxes, bottles, cartons and the like, with pills or other articles; to provide a pill packaging machine adapted to automatically separate a given number of pills from a mass or quantity and place them in packages; to provide a pill packaging machine which is adapted to simultaneously fill a large number of packages; and to provide a very cheap, simple and durable construction which will not readily get out of repair, and which will perform its work with great rapidity.

A specific construction embodied in the invention is illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation of a pill packaging machine embodied in this invention. Fig. 2 is an end elevation of the same. Fig. 3 is a vertical, transverse section of the machine. Fig. 4 is a side elevation of the selecting or counting cylinder. Fig. 5 is a fragmentary section of the cylinder. Fig. 6 is a plan view of the delivery spouts.

In the construction shown, the frame 1 is mounted on a suitable base 2, and supported in the upper portion of the frame is the hopper 3, which is adapted to hold in bulk a quantity of pills or other articles 4 to be packaged. The front and rear walls of the hopper 3 incline or slant downwardly and inwardly and have their bottom edges spaced a distance apart, as shown more clearly in Fig. 3.

The counting or selecting cylinder 5 is provided at its ends with trunnions or journals 6 which are journaled in suitable bearings 7 in the ends of the frame 1, in such a position that the cylinder lies in an approximately horizontal plane with its upper portion extending up into the opening between the lower edges of the said walls of the hopper, and in such close proximity to said edges that the pills cannot pass between said edges and the periphery of the cylinder.

The cylinder 5 is provided in its periphery with a plurality of rows of transversely or circumferentially alined pockets 8, each of which is of sufficient size and depth to contain one pill and no more. The number of pockets per row is equal to the number of pills it is desired to place in a single package, or is an equal divisor of that number, and preferably the transverse rows extend only part way around the cylinder, thereby leaving one side of the cylinder blank, so that it will deliver pills during a part only of each revolution. The pockets 8 of adjacent rows are also arranged staggering so to insure that the pills will enter the pockets.

Rigidly secured to the lower edge of the back wall of the hopper 3 is a flap 9^a of felt or other preferred material which brushes against the cylinder and turns the pills down into the pockets and prevents them wedging between the cylinder and the rear wall of the hopper. A guard plate 9 is secured to the rear wall of the hopper and extends the full length of the cylinder and is curved transversely to fit closely to the surface of the cylinder and close the pockets 8 when they are adjacent to the plate to prevent the pills from falling from the pockets too soon. The lower edge of the plate 9 extends below the cylinder, and supported on the frame beneath the edge of said plate is a plurality of delivery spouts 10 which are adapted to deliver the pills to the packages 11 as they are brought forwardly from the lower edge of the plate. Said spouts may be constructed in any preferred manner, but, as shown, they are formed of strips of metal which are bent to a close U shaped form and the ends are embedded in a plate or bar 12 which is secured to a front piece 13 which extends from end to end of the frame beneath the forward portion of the plate 9. The forward end of each spout is tapered to permit it to readily pass between the flaps 14 of adjacent cartons 11, and connecting said ends is a bar 15 which is secured on the tops of the spouts and has portions 16 extending back and downwardly into the spouts to cause the pills to roll back into the carton if they leave the cylinder with sufficient force to cause them to go to the ends of the spouts.

The cartons 11 when being filled are carried in a tray 17 which is adapted to hold as many cartons or other packages as there are delivery spouts. When cartons are used,

the tray filled with cartons is moved rearwardly beneath the spouts 10, and each spout enters between the flaps of a carton and spreads the flaps apart to permit the pills to drop through the spouts into the cartons.

One end of the shaft 6 is angular and is adapted to receive a crank or other tool by means of which the cylinder may be rotated. When the cylinder is rotated in a direction to carry the pockets 8 toward the rear wall of the hopper, each pocket becomes filled with a pill which is carried down past the guard plate 9. As the pockets emerge from the lower edge of the guard plate the pills drop through the spouts, each of which is in alinement with a row of pockets in the cylinder, and pass into the packages. If the number is not sufficient to fill the package the cylinder is given two or more revolutions, as required.

While but one specific embodiment of the invention has been herein shown and described, it will be understood that various details of the construction shown may be altered or omitted without departing from the scope of the claims.

We claim:

1. A pill packaging machine, comprising a hopper open at its bottom, a guard plate extending downwardly and forwardly from one side of the opening in the hopper, a rotative member closing the opening in the hopper and having circumferentially alined pockets therein adapted to be closed by said plate when passing the plate, a flap secured on the hopper and having a yielding margin adapted to turn the articles into the pockets, a plurality of spouts projecting forwardly from the lower edge of the plate and adapted to receive articles from the pockets as they pass from the lower edge of the plate, and a bar connecting the forward ends of the spouts and having portions extending downwardly and rearwardly thereinto.

2. A pill packaging machine, comprising a frame, a hopper supported on the frame, a guard plate extending downwardly and forwardly from the rear wall of the hopper, a cylinder journaled on the frame in close proximity to said plate, a bar supported on the frame beneath said plate, a plurality of U shaped members projecting forwardly from said bar, and a bar connecting the forward ends of said members and having portions extending downwardly and rearwardly into the members.

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