F. J. STOKES.

MACHINE FOR APPLYING AND COMPRESSING POWDER ON TABLETS.

APPLICATION FILED APR. 30, 1917.

1,248,571. Patented Dec. 4, 1917.

2 SHEETS—SHEET 1.

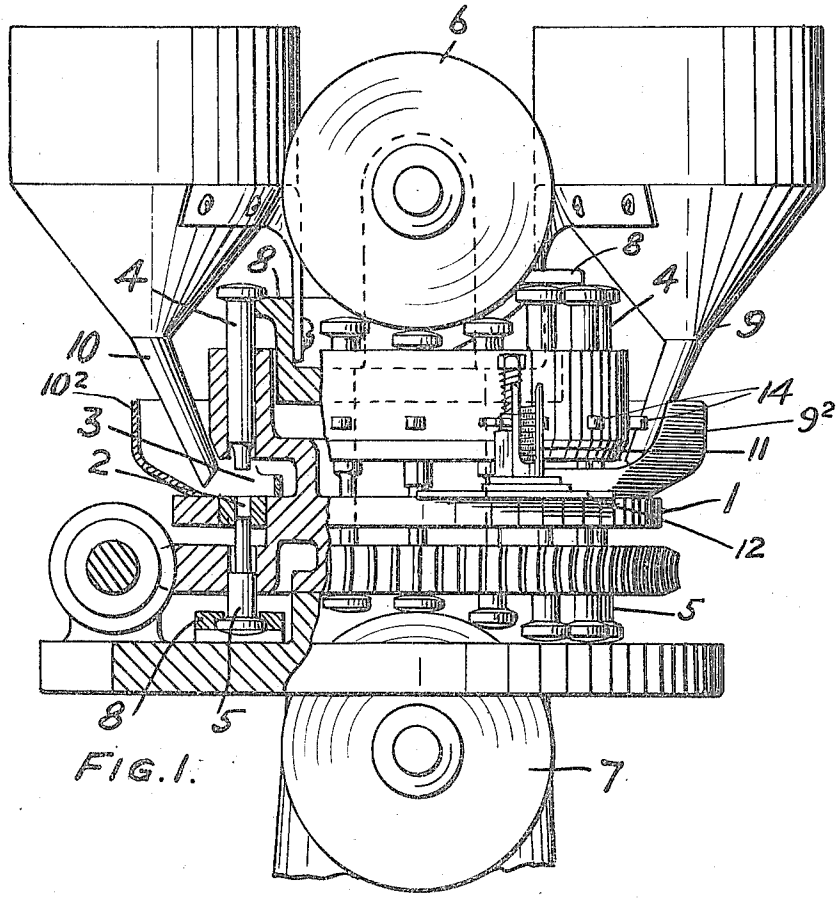


FIG. 1.

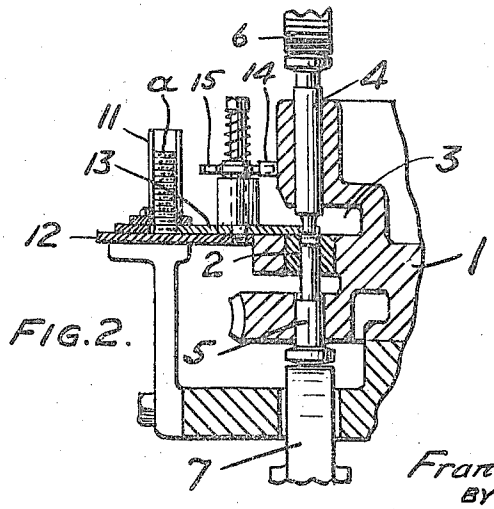


FIG. 2.

WITNESS:

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2 SHEETS—SHEET 2.

FIG. 3.

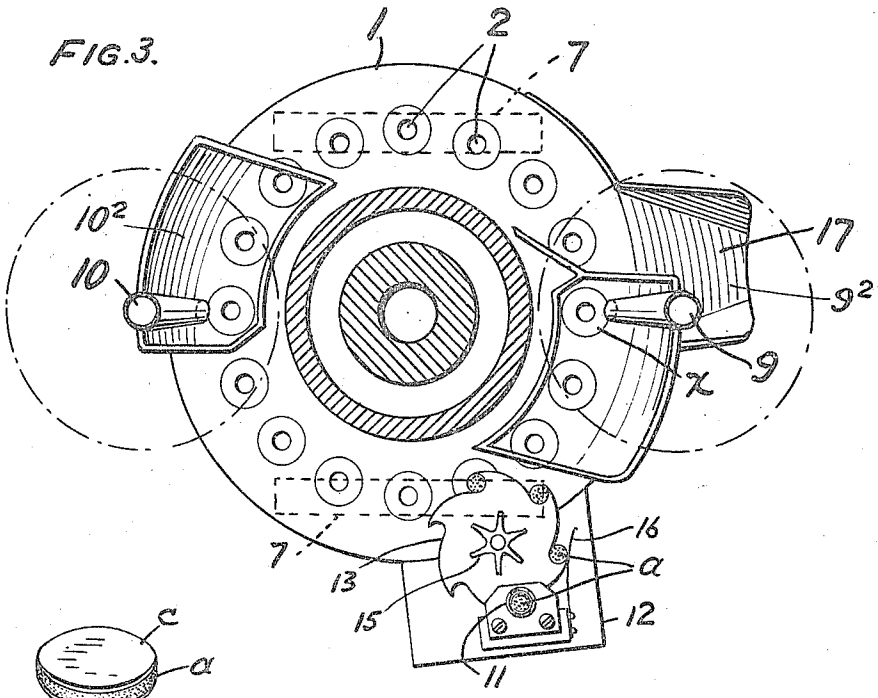


FIG. 5.

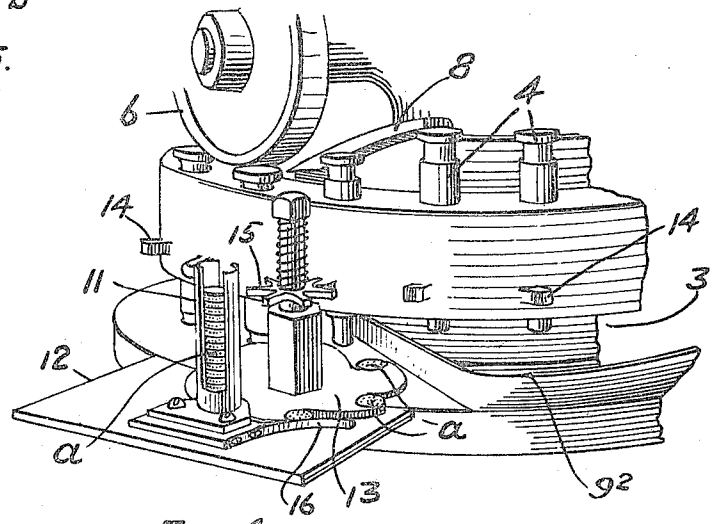


FIG. 4.

WITNESS:

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MACHINE FOR APPLYING AND COMPRESSING POWDER ON TABLETS.

1,248,571. Specification of Letters Patent. Patented Dec. 4, 1917.

Application filed April 30, 1917. Serial No. 165,349.

To all whom it may concern:

Be it known that I, FRANCIS J. STOKES, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Machine for Applying and Compressing Powder on Tablets, of which the following is a specification.

The principal object of the present invention is to provide for mechanically applying and compressing a powder, as sugar, upon the faces of previously prepared tablets, as chewing gum, so as to present the article in an attractive and sanitary form.

The invention will be claimed at the end hereof and other of its objects will appear from the following description which will be given in connection with the accompanying drawings in which—

Figure 1, is an elevational view, partly in section, of a machine embodying features of the invention.

Fig. 2, is a fragmentary sectional view.

Fig. 3, is a diagrammatic plan view, partly in section.

Fig. 4, is a perspective view, and

Fig. 5, is a perspective view illustrative of the product of the machine.

In the accompanying drawings 1, is a rotary head provided with a circle of mold pockets 2, opening through the bottom wall of a circumferential groove 3, formed in the head. 4 and 5, are a series of top and bottom punches carried by the head and of which there is a top and bottom punch for each mold 2. There are two pairs of rollers 6 and 7, between which the punches pass as the head rotates in order to cause the punches to compress the contents of the molds, one after another. One pair of rollers 6 and 7, is shown in Fig. 1, and the position of both pairs is shown by dotted lines in Fig. 3. 8, are cams acting upon the heads of the punches to open the molds, to limit the capacity of the molds, and to eject the contents of the molds. 9 and 10, are top and bottom powder magazines spaced apart and fixed in respect to the rotary head 1. 9^2 and 10^2 are top and bottom distributers also spaced apart and fixed in respect to the rotary head. These are called top and bottom feeds because one 9^2, feeds the powder into the bottom of the mold for the bottom coating of the tablet, and the other 10^2 feeds into the mold on top of a tablet *a*, forming the top coating. 11, is a tablet hopper arranged in rear of the bottom powder feed 9, and in advance of the top powder feed 10, and adjacent to the rim of the rotating head. The hopper is shown as carried by a table 12, supported by some non-rotating part of the machine. 13, is a star-wheel superposed on the table 12, and underlapping the hopper 11, and overlapping the bottom wall of the groove 3, of the head 1, so as to transfer tablets 1, on the table 12, from the hopper and drop them through or past the table into the mold 2. The motion of this feed star-wheel 13, is intermittent and it may be driven by projections 14, arranged on the head 1, and operating upon a toothed wheel 15, connected with the star-wheel 13. 16, is a spring finger for preventing escape tangentially of the tablets from the star-wheel.

The mode of operation of one mold will be described and from this description the mode of operation of all the molds will be readily understood, for all the molds operate alike.

The mold *x*, receives powder in appropriate quantity for making the bottom coating *b*, Fig. 5, in passing the powder feed 9^2. In passing the tablet-feed, a tablet *a*, is fed by the star-wheel 13, into the mold on top of the powder. In passing the rollers 6 and 7, indicated by dotted lines at the bottom in Fig. 3, the punches press the tablet *a*, onto the powder in the mold and powder forms the coating *b*, on the bottom of the tablet. In passing the powder feed 10^2, powder is received in the mold on top of the tablet for the purpose of making the top coating *c*, Fig. 5. Thereafter and in passing the roller 7, at the top in Fig. 3, the punches compress the powder in the mold below and on top of the tablet and so make a hard coating at *b* and *c*. At 17 the finished product is ejected. By making the tablet smaller in diameter than the mold it is possible to coat the edge of the tablet.

What I claim is:

1. In a machine of the type specified the combination of a mold pocketed rotary head and its complementary top and bottom punches, a bottom powder feed and top powder feed, a tablet feed arranged adjacent to the bottom powder feed, punch actuating mechanism arranged in rear of the adjacent tablet and bottom feeds to press the tablet onto the bottom coating at one operation, and punch actuating mechanism arranged in rear

of the top powder feed to press the top coating onto the tablet at a second operation, substantially as described.

2. In a machine of the type specified the combination of a mold pocketed rotary head and its complementary top and bottom punches, a bottom powder feed and top powder feed, a tablet feed arranged adjacent to the bottom powder feed, a pair of top and bottom rollers arranged in rear of the adjacent tablet and bottom powder feeds and by which the punches are actuated in passing, and a second pair of top and bottom rollers arranged in rear of the top powder feed and by which the punches are actuated in passing, substantially as described.

3. In a machine of the type recited the combination of a rotary star-wheel for feeding tablets, a rotary head provided with pockets for receiving the tablets from the star-wheel, and pin-and-toothed wheel mechanism interposed between the head and star-wheel for intermittently turning the latter, substantially as described.

4. In a machine of the type recited the combination of a rotary star-wheel, a rotary head provided with pockets and in lapping relation to the wheel, and means for driving said head and turning said wheel with an intermittent motion to deliver tablets from the wheel into the pockets.

FRANCIS J. STOKES.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."