No. 844,093. PATENTED FEB. 12, 1907.

J. V. BRANN.

TABLET MACHINE.

APPLICATION FILED MAY 18, 1906.

Fig. 1.

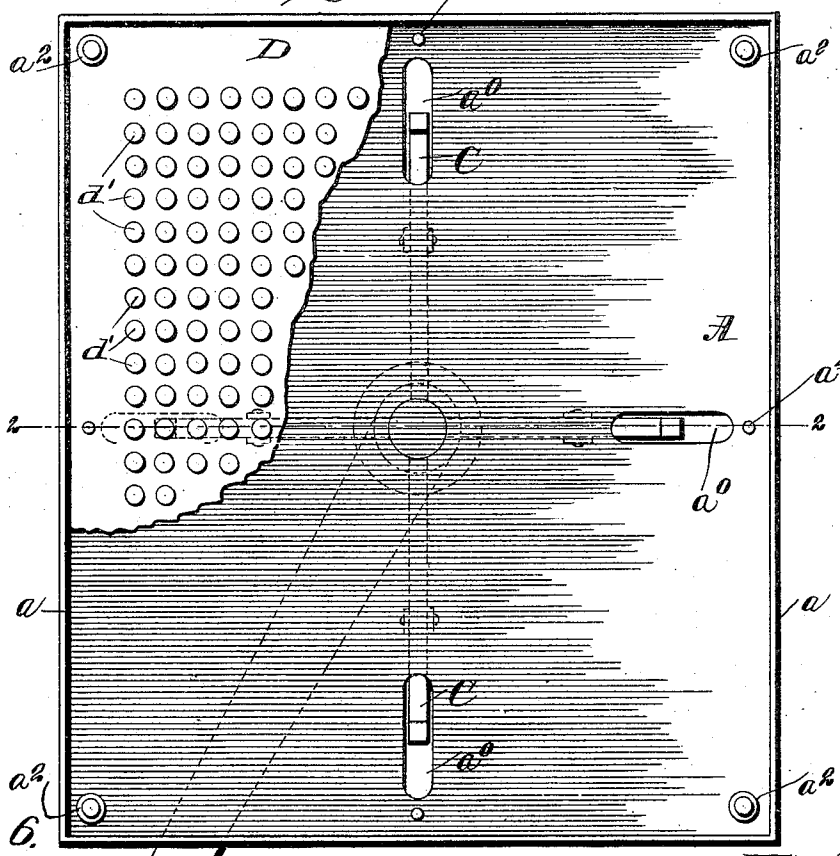
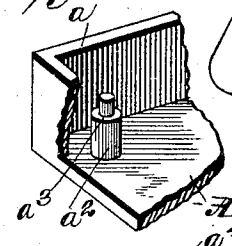


Fig. 6.



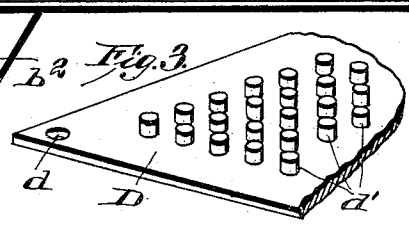


Fig. 3.

Fig. 5.

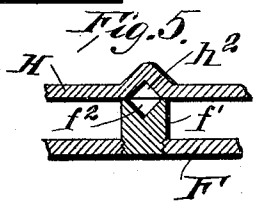


Fig. 2.

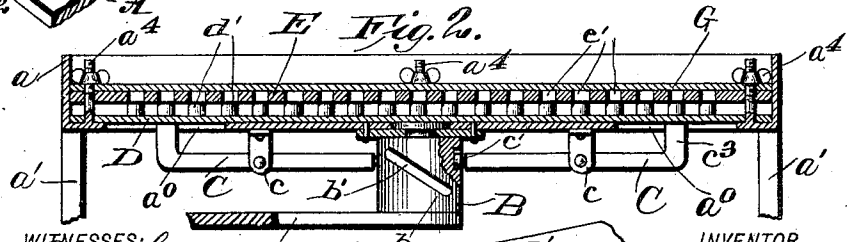
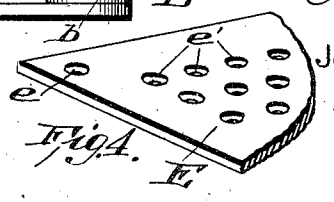


Fig. 4.



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TABLET-MACHINE.

No. 844,093. Specification of Letters Patent. Patented Feb. 12, 1907.

Application filed May 18, 1906. Serial No. 317,462.

To all whom it may concern:

Be it known that I, JOHN VINCENT BRANN, a citizen of the United States, and a resident of Knoxville, in the county of Marion and State of Iowa, have invented certain new and useful Improvements in Tablet-Machines, of which the following is a specification.

My invention is an improvement in machines for molding and compressing triturates or compressed tablets for physicians' use, and consists in certain novel constructions and combinations of parts hereinafter described and claimed.

Referring to the drawings forming a part hereof, Figure 1 is a plan view of my improved machine. Fig. 2 is a section on the line 2 2 of Fig. 1. Fig. 3 is a perspective view of part of the plate D. Fig. 4 is a perspective view of a part of the plate E. Fig. 5 is a detail section of a part of the plates F and G; and Fig. 6 is a detail perspective view of a corner of the base, showing the posts for alining and supporting the plates.

In the practical application of my invention I provide a base A, having the edges thereof provided with an upwardly-projecting flange a, the base being supported by feet a' of suitable length. At each of the corners of the base within the flanges are upwardly-projecting posts a^2, the lower part of the posts being larger in diameter than the upper part and separated therefrom by a square shoulder a^3.

A shaft B is journaled vertically at the center of the table, the lower end of the shaft projecting therethrough and being provided with a drum b, having arranged in the peripheral surface thereof a plurality of diagonal slots b' for a purpose to be hereinafter described. A handle b^2 is arranged upon the end of the shaft below the drum, the handle projecting beyond the edge of the base for convenience in manipulating the same.

A series of levers C are pivoted to the under surface of the base, as at c, the inner ends of the levers being provided with antifriction-rollers c', fitting within the diagonal slots b', and the outer ends of the levers being provided with projections c^3, extending upwardly through the slots a^0 in the base. The levers C are arranged at distances of nintey degrees from each other and are vibrated by the rotation of the drum.

A plate D of a size to fit snugly within the flanges of the base is supported upon the upper face thereof, the plate being provided with openings d of a diameter corresponding to that of the lower end of the corner-posts and with a plurality of cylindrical projections d' upon the upper face thereof. The posts are of a diameter corresponding to that of the tablets and are arranged in regular order upon the plate, the number of the posts corresponding to the number of tablets which it is desired to manufacture at one operation.

A second plate E is arranged above the first plate, the said plate being provided with openings e of a diameter equal to that of the upper end of the corner-posts and adapted to be supported by the shoulder, a distance above the first plate corresponding to the length of the projections. A plurality of perforations e' are provided in the plate corresponding in position and number to the cylindrical projections d' on the first plate and of a diameter equal to that of the said projections. Since the plate E is supported above the plate D a distance corresponding to that of the length of the projections, the tops of the projections will form bottoms for the perforations, thus making of each perforation a shallow receptacle for the medicated paste from which the tablets are formed.

For forming the plain tablet triturate the above-described plates are sufficient; but it is often desirable to form a triturate having enlargements on the face thereof, and for this purpose I provide a plate F, having corner openings and projections f', similar in all respects to the openings and projections of the plate D, except that the upper end of the projections is provided with a cup-shaped depression f^2. Tablets formed with the plates F and E will have a projection on one face—the lower one.

For forming compressed tablets I provide a fourth plate G, having corner-openings for engaging the posts and of a diameter equal to the upper end thereof, the under face of the plate being smooth and contacting closely with the upper face of the plate E. For the purpose of forming a projection on the upper face of a compressed tablet I provide a fifth plate H, having corner-openings for engaging the post and of a diameter equal to the upper end thereof, the under face of the plate being provided with a series of cup-shaped depressions h^2, corresponding in po-

sition and number to the position and number of the posts on the plates F and D. This plate when used with the plate E will form a compressed tablet having a projection on the upper face and when used with the plate F will form a tablet having projections upon both faces.

For the purpose of securing the plates in proper position during the formation of the tablets I provide thumb-screws a^4, adapted to engage the plate and attached to the base.

In the operation of forming tablet triturates the plate D is placed upon the base resting upon the upward extensions of the lever C, and the plate E is placed thereupon and is supported upon the shoulders of the corner-posts. The medicated paste is then spread upon the plate E, filling up the perforations, and the excess is removed. The handle b^3 is then turned to rotate the drum to elevate the outer ends of the levers C, which in turn elevate the lower plate, driving the cylindrical projections upwardly through the slots of the upper plate and forcing the tablets out of the receptacle. In making compressed tablets the same operation is repeated, except that the plate G is placed over the plate E, all the plates being secured together by the thumb-screws a^4. The drum is then rotated to elevate the lower plate, thus compressing the tablets between the upper ends of the cylindrical projections and the plate G. When the proper degree of compression has been obtained, the plate G is removed and the tablets ejected, as before. The procedure of forming the tablets with projecting sides is similar in all respects to that of forming the plain tablets, except that the plates E, F, and H are made use of instead of the plates D, E, and G.

It will be evident from the description that my machine may be made to manufacture any desired number of tablets at a single operation and is especially suitable for physicians' use, since it may be constructed at a small expense and is capable of producing either compressed tablets or tablet triturates. The machine is simple in construction and there are no complicated parts to get out of order.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a tablet-machine and in combination, a base having upwardly-projecting flanges at the edges thereof, a vertical shaft journaled centrally in the base, a drum on the shaft beneath the base and provided with diagonally-arranged slots in the peripheral surface thereof, a handle for the shaft below the drum, levers pivoted upon the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers engaging the slots of the drum, extensions in the outer ends of the levers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts fitting within the flanges of the base and resting upon the upward extensions of the levers, a plurality of cylindrical projections having cup-shaped depressions in their upper ends on the upper face of the plate, a second plate having openings to receive the posts above the shoulders, and resting upon the shoulders, and having a plurality of perforations of a diameter equal to that of the projections on the first plate, and corresponding in position and number thereto, and a third plate having openings to receive the corner-posts and cup-shaped depressions corresponding to the cylindrical projections of the first plate.

2. In a tablet-machine and in combination, a base, a shaft journaled centrally of the base, a drum on the shaft beneath the base and provided with a plurality of diagonally-arranged slots in the peripheral surface thereof, a handle on the shaft below the drum, and projecting beyond the base, levers pivoted on the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers for engaging the slots of the drum, extensions in the outer ends of the rollers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, a second plate having openings to receive the posts above the shoulders and resting thereupon, a plurality of perforations of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto, and a third plate having openings to receive the corner-posts and resting upon the second plate.

3. In a tablet-machine, and in combination, a base, a shaft journaled centrally of the base, a drum on the shaft beneath the base and provided with a plurality of diagonally-arranged slots in the peripheral surface thereof, a handle on the shaft below the drum, and projecting beyond the base, levers pivoted on the under surface of the base at intervals of ninety degrees from each other, rollers on the inner ends of the levers for engaging the slots of the drum, extensions in the outer ends of the rollers projecting upwardly through slots in the base, posts having shoulders at the four corners of the table, a plate provided with openings at its corners for engaging the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, and a second plate having openings to receive the posts above the shoulders and resting thereupon, and having a plurality of perfora-

tions of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto.

4. In a tablet-machine and in combination, a base, levers pivoted to the under surface of the base and having extensions projecting upwardly therethrough, posts having shoulders at the four corners of the base, a plate provided with openings at its corners for receiving the posts and resting upon the upward extensions of the levers, a plurality of cylindrical projections on the upper face of the plate, a second plate having openings to receive the posts above the shoulders, a plurality of perforations of a diameter equal to that of the projections on the first plate and corresponding in number and position thereto, and means to operate the levers to force the plates into contact with each other.

5. In a tablet-machine and in combination, a base, a plate provided with a plurality of cylindrical projections having cup-shaped upper ends and supported by the base, a plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, a third plate having cup-shaped depressions on its lower surface corresponding in position and number to those of the base and supported by the second plate, means for securing the plates to the base, and means whereby to press the first plate toward the other plates.

6. In a tablet-machine and in combination, a base, a plate provided with a plurality of cylindrical projections, and supported by the base, a second plate having perforations to receive the projections of the first plate means for supporting said plate thereabove a distance equal to the length of the projections, a third plate resting upon the second plate, and means whereby to press the first plate toward the remaining plate.

7. In a tablet-machine, and in combination, a plate provided with a plurality of cylindrical projections, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, a third plate resting upon the second plate, and means whereby to move the first plate toward the remaining plate.

8. In a tablet-machine, and in combination, a plate provided with a plurality of cylindrical projections, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distanee equal to the length of the projections, and means whereby to elevate the first plate to force the projections thereof through the openings in the second plate.

9. In a tablet-machine, and in combination, a plate having a plurality of cylindrical projections on the upper face thereof, a second plate having perforations to receive the projections means for supporting said plate above the first plate a distance equal to the length of the projections, and means for moving the plates toward each other to force the projections through the perforations.

10. In a tablet-machine and in combination, a plurality of plates, one of the plates having cylindrical projections, and the other having perforations to receive the projections, means for supporting the plates in such position that the tops of the projections form bottoms for the perforations, means for moving the plates toward each other whereby to force the projections through the perforations, and means on the opposite side of the plate having perforations for resisting the passage of the projections.

11. In a tablet-machine, and in combination, a plurality of plates, one of the plates having cylindrical projections and the other having perforations to receive the projections, means for supporting the plates in position such that the tops of the projections form bottoms for the perforations, and means for moving the plates toward each other where by to force the projections through the perforations.

JOHN VINCENT BRANN.

Witnesses:
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JOHN D. BATES.