

W. SIMON.
 DEVICE FOR CLOSING TABLET CAPSULES.
 APPLICATION FILED MAY 11, 1911.

1,062,368.

Patented May 20, 1913.

Fig. 1

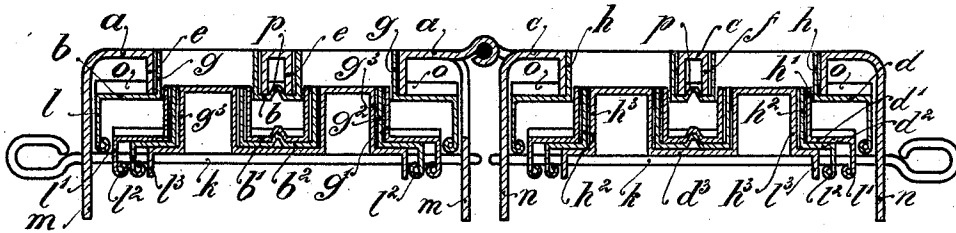


Fig. 3

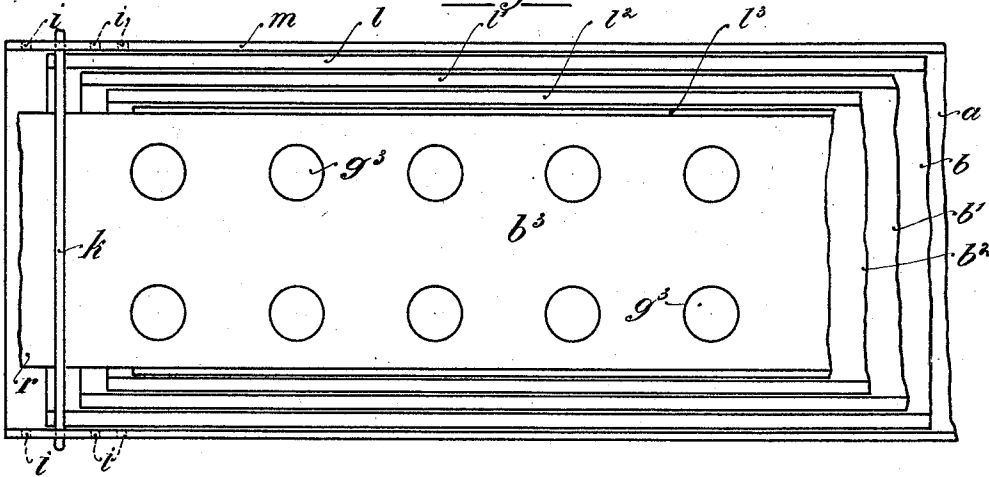
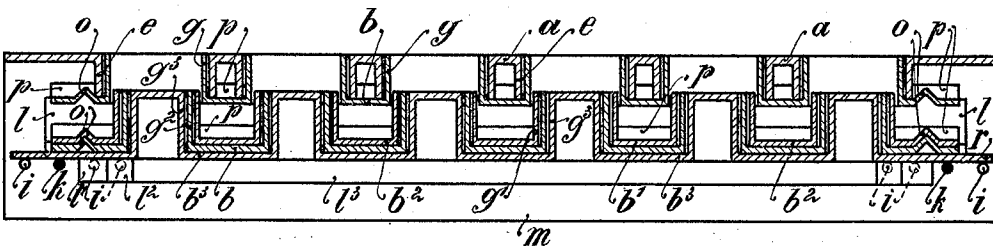


Fig. 2



Witnesses:
 Corinne Myers.
 Vera Paulsen.

Inventor:
 Wilhelm Simon
 by L. H. Böhm,
 Attorney.

UNITED STATES PATENT OFFICE.

WILHELM SIMON, OF NUREMBERG, GERMANY, ASSIGNOR TO JOHANN SCHMIDT, OF NUREMBERG, GERMANY.

DEVICE FOR CLOSING TABLET-CAPSULES.

1,062,368.

Specification of Letters Patent.

Patented May 20, 1913.

Application filed May 11, 1911. Serial No. 626,624.

To all whom it may concern:

Be it known that I, WILHELM SIMON, a citizen of the Empire of Germany, residing at Nuremberg, in the Empire of Germany, have invented a new and useful Device for Closing Tablet-Capsules, of which the following is a specification.

My invention relates to improvements in devices for closing tablet capsules for packing medicine in predetermined quantities which capsules are made of dough consisting preferably of wheat flour and water and finished by baking. These novel devices are rendered useful for several sizes of capsules in such a manner, that by securing certain parts the size of the capsules to be closed can be selected.

I will now proceed to describe my invention with reference to the accompanying drawing, in which—

Figure 1 is a vertical cross section through the improved device in its unfolded state. Fig. 2 is a vertical longitudinal section through the lower case half on the left in Fig. 1, and, Fig. 3 is a view from below of the same, a right part being broken away and the hinges being omitted.

Similar letters of reference refer to similar parts throughout the several views.

The lower half of the improved device shown in Fig. 1 on the left and in Figs. 2 and 3 consists of a rectangular plate bent at right angles in two lines parallel to the long sides, so that the lower edges of the two vertical side portions *m m* can rest on some table or other support. The horizontal portion *a* is shown to be provided with two parallel rows of downwardly projecting short tubes *e e*, which may be formed in any known manner. The side portions *m m* are shown to be each provided with four holes *i i* near each end, all of these holes being at the same height above the table or support (not shown). In any of the four holes *i* a pin *k* can be inserted in the cross direction, as is shown at Fig. 1. A plate *b* is bent at right angles in two parallel lines similar to the case half *a* and is provided with upwardly projecting short tubes *g g*, so that the plate *b* fits the plate *a* and its tubes *g g* engage in the tubes *e e* of the plate *a*. The lower edges of the vertical portions *l l* of the plate

b are roll-shaped (see Fig. 1), so that they can rest on the two pins *k k*. The two side portions *l l* of the plate *b* are made so high that the plate *b* comes in contact with the lower end faces of the tubes *e e*, if the roll-shaped lower edges of the side portions *l l* bear from above against the two pins *k k* and in this position the upper end faces of the tubes *g g* are made flush with the upper surface of the plate *a*. The plate *b* is made so long, that its end faces are in planes between the outer holes *i* and the next following holes *i*, as is shown at Fig. 2. It will be seen, that the plate *b* can be displaced with regard to the plate *a* only in the vertical direction, since its tubes *g g* are guided in the tubes *e e* of the plate *a*. A second plate *b*¹ similar to *b* is provided, which fits the plate *b*, its tubes *g*¹ *g*¹ engaging in the tubes *g g* of the plate *b* and being therein guided. The plate *b*¹ differs from the plate *b* in that its tubes *g*¹ *g*¹ are a little smaller in diameter and a little higher than the tubes *g g* and in that its two side portions *l*¹ *l*¹ are a little lower than the side portions *l l* of the plate *b* and terminate in planes between the second and third holes *i i* when counting from the ends. A third plate *b*² similar to *b* is also provided, which fits the second plate *b*¹ and differs from the latter in that its tubes *g*² *g*² are a little smaller in diameter and a little higher than the tubes *g*¹ *g*¹ and in that its side portions *l*² *l*² are a little lower than the side portions *l*¹ *l*¹ of the plate *b*¹, so that the upper end faces of the tubes *g*² *g*² are made flush with the upper surface of the plate *a* if the roll-shaped lower edges of the side portions *l*² *l*² rest on the two pins *k k*. The side portions *l*² *l*² are made a little shorter than *l*¹ *l*¹, their end faces being in planes between the third and fourth holes *i i* when counting from the ends. A fourth plate *b*³ similar to *b* is further provided, which fits the third plate *b*² and differs from the latter in that its tubes *g*³ *g*³ are a little smaller in diameter and a little longer than tubes *g*² *g*², said tubes *g*³ *g*³ being closed at the upper end. The side portions *l*³ *l*³ of the fourth plate *b*³ are a little shorter than the side portions *l*² *l*² of the third plate *b*², their end faces being in planes within the inner holes *i*. For the purpose

of centering the various tubes put one into the other the several plates b b^1 b^2 b^3 are preferably provided with parallel projections o o in the cross direction and p p in the longitudinal direction on the upper side, the projections o o p p of any plate engaging in corresponding grooves on the lower side of the next higher plate.

The upper half of the device shown in Fig. 1 on the right is constructed similar to the lower half described above, only the tubes f f of the supporting plate c and the tubes h , h^1 , h^2 , h^3 , of the plates d , d^1 , d^2 , d^3 , are made a little larger than the tube e , e of the plate a and the tubes g , g^1 , g^2 , g^3 , of the plates b , b^1 , b^2 , b^3 , corresponding to the halves of the tablet capsules to be used. The two supporting plates a and c are in any known manner hinged together, as is for example shown at Fig. 1.

The device described is operated as follows: When tablet capsules of any desired size are to be closed, the outer plates and one or more pairs of intermediate plates, depending upon the size of capsules to be used, are coupled together according to the position of the pins, k , k . For instance when the upper halves fit the tubes h h and the lower halves fit the tubes g g , then the two case halves are turned with the bottom upward and the pins k k in each case half are inserted in the second holes i i of the plates a and c , when counting from the ends, as is shown at Figs. 2 and 3, after which the two case halves are again turned downward, as is shown at Fig. 1. Now the pins k k will keep the plates b and d in their upper position and permit only the other plates b^1 , b^2 , b^3 to drop into their lower position shown. In this manner circular recesses will be left in the upper surfaces of the two case halves. The lower halves of the tablet-capsules are inserted in the recesses left in the left case half in Fig. 1 and are filled with some medicine. The upper halves of the tablet-capsules, on the contrary, are inserted in the recesses left in the right case half. Then the case is closed by turning its right half upward and over the hinges downward, so that the lower edges of the upper tablet capsule halves are supported by the upper surface of the plate a of the left case half. The folded or closed case is thereupon so turned, that the side portions n n bear on the table or other support, after which the plate b^3 is pressed downward by the fingers or otherwise, so as to force the filled lower halves into the upper halves of the tablet-capsules. At last the case is again opened and the closed tablet-capsules are ejected from the upper case half by pressing on its plate d^3 .

The intermediate plates with smaller tubes above described serve for the purpose of filling smaller tablet capsules.

The device for closing tablet-capsules can be varied without departing from the spirit of my invention.

I claim:

1. A device for closing tablet capsules, comprising a case consisting of two halves hinged together, the lower half of the case having openings corresponding in diameter to the lower halves of the tablet capsules of maximum size and the upper half of the case having openings corresponding in diameter to the upper half of the tablet capsules of maximum size, tubes adapted to be placed one into the other and into the openings of the two halves of the case, two plates with projections fitting the smallest size of said tubes, and removable pins passing through the lower side portions of the case for limiting the stroke of the two plates.

2. A device for closing tablet capsules, comprising a case consisting of two halves hinged together, the lower half of the case having openings corresponding in diameter to the lower halves of the tablet capsules of maximum size and the upper half of the case having openings corresponding in diameter to the upper half of the tablet capsules of maximum size, tubes adapted to be placed one into the other and into the holes of the two halves of the case, two plates with projections fitting the smallest size of said tubes, and means for securing said tubes in the holes of the two halves of the case.

3. A device for closing tablet capsules, comprising a case consisting of two halves hinged together having each holes in their lower side portions, the lower half of the case having openings corresponding in diameter to the lower halves of the tablet capsules of maximum size and the upper half of the case having openings corresponding in diameter to the upper half of the tablet capsules of maximum size, tubes adapted to be placed one into the other and into the holes of the two halves of the case, two outer plates with projections fitting the smallest size of said tubes, pairs of intermediate plates adapted to connect said tubes of corresponding size, removable pins fitting the holes of the side portions of the halves of the case for limiting the stroke of the outer plates, and projections on the intermediate plates for coupling said plates in the two halves of the case.

4. A device for closing tablet capsules, comprising a case consisting of two halves hinged together having each holes in their lower side portions, the lower half of the case having openings corresponding in diameter to the lower halves of the tablet capsules of maximum size and the upper half of the case having openings corresponding in diameter to the upper half of the tablet capsules of maximum size, tubes adapted to

be placed one into the other and into the
holes of the two halves of the case, two outer
plates with projections fitting the smallest
size of said tubes, pairs of intermediate
5 plates adapted to connect said tubes of cor-
responding size, and means for selectively
securing said intermediate plates in the two

halves of the case comprising removable
pins adapted to be passed through the holes
in the lower side portions of said case.

WILHELM SIMON.

Witnesses:

FRITZ DROSTE,
ELISABETH HELLMUTH.

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