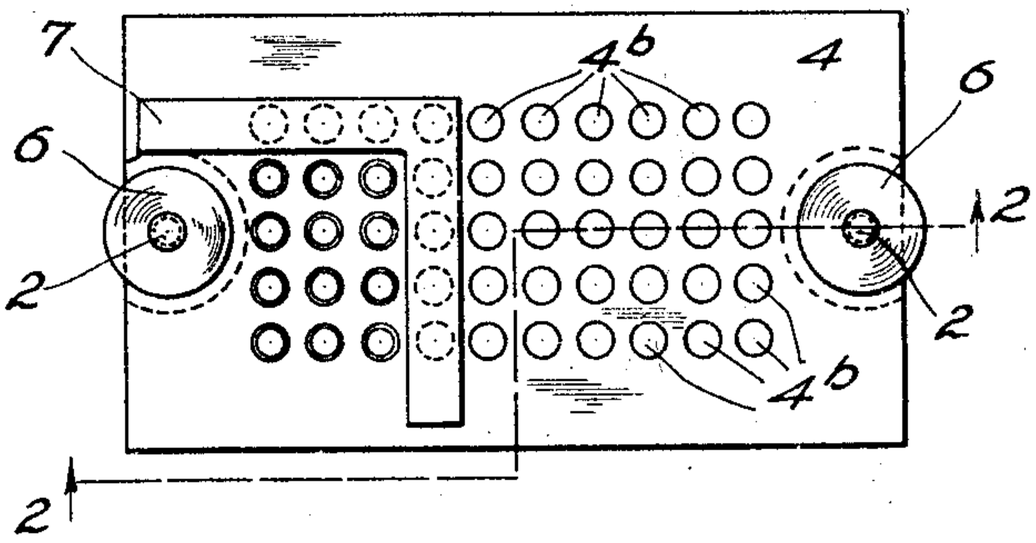
Feb. 7, 1928. 1,658,423

G. A. WARE

CAPSULE FILLING APPARATUS

Filed June 1, 1926

Fig. 1.



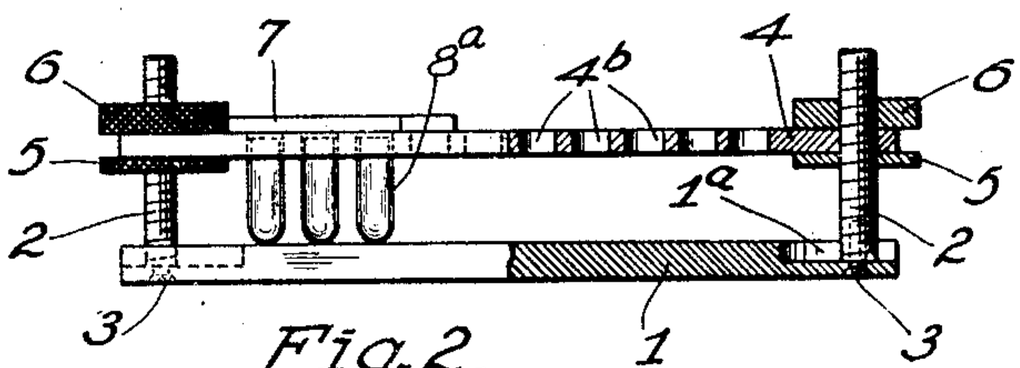




Fig. 2.

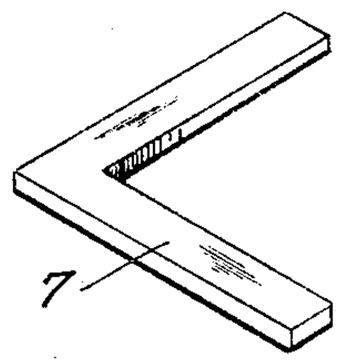



Fig. 4.

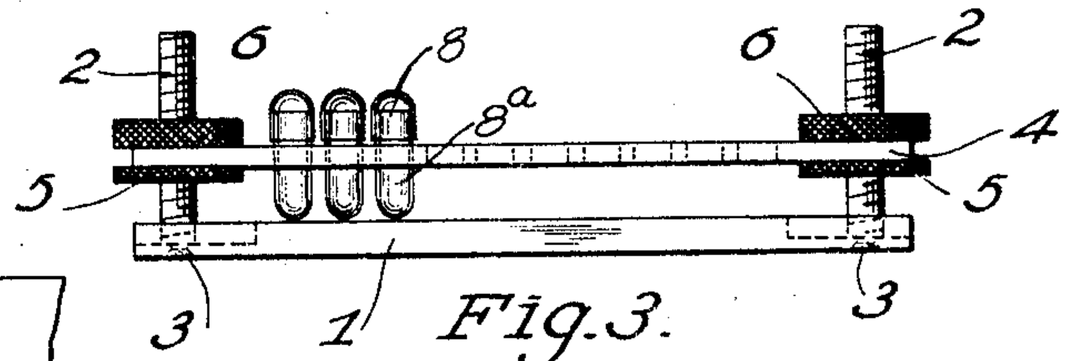



Fig. 3.

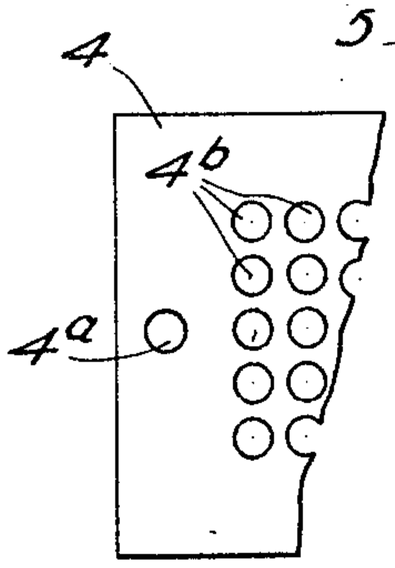



Fig. 6.

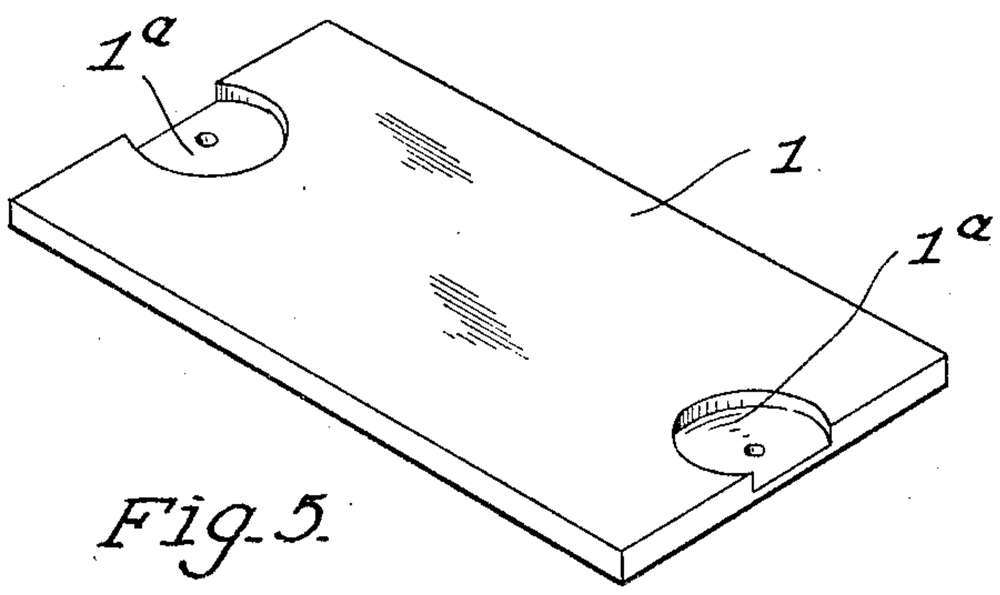



Fig. 5.

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# UNITED STATES PATENT OFFICE.

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## CAPSULE-FILLING APPARATUS.

Application filed June 1, 1926. Serial No. 112,819.

My invention relates to an apparatus for filling capsules such as used in drug stores and by the medical profession.

The objects of my invention are: first, to provide an apparatus of this class whereby a plurality of capsules may be easily and quickly filled without spilling or wasting any or substantally any of the contents or filling substance thereof; second, to provide an apparatus of this class whereby a plurality of capsules for containing medicines and the like, either in powdered or liquid form, may be uniformly filled; third, to provide an apparatus of this class for filling capsules of various sizes; fourth, to provide an apparatus of this class in which the plate for positioning the capsules relative to each other may be readily supported to various heights to conform with the lengths of the capsules adapted to be filled with medicines or the like; fifth, to provide novel means in connection with a perforated capsule positioning plate for confining the capsule filling substance to a specified area for filling a specified number of capsules or pill boxes; sixth, to provide an apparatus of this class in which the capsule positioning plate may be lowered relative to the upper open ends of the capsules so that the caps of the capsules may be easily placed over the upper or container portions thereof and whereby the caps may be so placed over the other or container portions of the capsules so as to make the capsules of uniform length after being filled and enclosed; seventh, to provide as a whole a novelly constructed apparatus for filling capsules, and eighth, to provide an apparatus of this class which is particularly simple and economical of construction, durable, efficient, and which will not readily deteriorate or get out of order.

With these and other objects in view, as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions, as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon, which form a part of this application, in which:

Figure 1 is a top view of my capsule filling apparatus in one form of construction, showing a plurality of the lower sections of capsules positioned thereon and showing the means for confining the filling substances to a specified area; Fig. 2 is a partial sectional and partial elevational view thereof, taken at 2—2 of Fig. 1; Fig. 3 is a side elevational view thereof, showing the capsule positioning plate adjusted to a lowered position for placing the caps on the capsules; Fig. 4 is a perspective view of the means for confining the filling substances to a specified area on the capsule positioning plate; Fig. 5 is a perspective view of the base plate, and Fig. 6 is a fragmentary view in plan of a capsule positioning plate having larger perforations for filling capsules of larger diameters.

Like characters of reference refer to similar parts and portions throughout the several views of the drawings.

The base plate 1, supporting screw members 2, screws 3, capsule positioning plate 4, plate adjusting nuts 5 and 6, and the filling substances confining member 7, constitute the principal parts and portions of my capsule filling apparatus in one form of construction.

The base member 1 and the capsule positioning member 4 are preferably made of bakelite because of its chemical resisting qualities or of some other similar substance. These members are preferably made rectangular in shape and of substantially the same size. At the upper side of the base member and at the opposite ends thereof are provided recesses 1ª in which are secured, by means of screws 3, the lower ends of supporting screw members 2, which extend upwardly from said recesses and above said base plate. The screws 3 extend upwardly from the lower side of said base plate and through the lower walls forming said recesses. The capsule positioning member or plate 4 is provided at its opposite ends with holes 4ª for receiving the supporting screw members 2 when positioned over the base plate 1. The capsule positioning plate 4 is supported relative to the plate 1 by means of relatively large, exteriorly knurled, adjusting nuts 5 at their lower sides, which nuts are mounted on the screw members 2. Said plate 4 is secured to the upper sides of the nuts 5 by means of similar nuts 6 also mounted on the screw members 2 and adapt- to be clamped against the upper side of the plate 4. The nuts 5 are of a thickness slightly less than the depth of the recesses 1ª so that the plate 4 may be lowered to the greatest possible extent relative to the base plate 1, and, if necessary, in engagement therewith. The peripheral knurled por-

tions of the nuts 5 and 6 extend beyond the ends of the base plate 1 and the plate 4 so that the same may be easily adjusted by the finger.

The plate 4 is provided with a plurality of vertical and longitudinally and transversely alined openings or perforations 4[b]. These perforations are round and of a size to conveniently receive the lower or container portions 8[a] of capsules 8 for supporting the same in upright positions. The plate 4 is adjusted vertically by loosening the nuts 6 and adjusting the nuts 5 until the upper side of the plate 4 is flush with the upper open ends of the capsule sections 8[a]. The nuts 6 are then secured against the upper side of the plate 4.

When desiring to fill a specified number of capsules with a powdered substance, the lower or container portions 8[a] of the capsules are placed in adjacent holes through the plate 4, forming a compact group; the filling substance confining member 7, which is made in the form of a carpenter's square and of flat construction, is placed to cover holes or capsules in holes adjacent to those occupied by capsules adapted to be filled, as shown in Fig. 1; the powdered substance is then placed on the plate 4 over the portion occupied by the capsules to be filled and scraped by a suitable instrument over the several capsules until the same are all filled; the excess powdered substance, if any, is then removed, the member 7 removed, the plate 4 adjusted to a lower position, as shown in Fig. 5, and the caps 8[a] of the capsules 8 placed over the open ends of the lower portions 8[a] and preferably forced down so that the same engage the upper side of the plate 4 so that the completed capsules will all be of the same length.

In order to fill capsules of larger diameters, a plate having larger perforations, as shown fragmentarily in Fig. 6, is substituted for that shown in Figs. 1, 2 and 3.

Though I have shown and described a particular construction, combination and arrangement of parts and portions, I do not wish to be limited to this particular construction, combination and arrangement, but desire to include in the scope of my invention the construction, combination and arrangement substantially as set forth in the appended claims.

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

1. In an apparatus of the class described, a base member, screw members secured to the opposite ends of said base member and extending upwardly therefrom, a perforated capsule positioning plate positioned over said base member with its opposite ends adjacent said screw members, adjusting nuts mounted on said screw members adapted to engage the under side of said positioning plate for supporting the same relative to said base member, and securing nuts mounted on said screw members adapted to engage the upper side of said positioning plate for clamping the same against said first mentioned nuts, said base member being provided with recesses surrounding said screw members for receiving said first mentioned nuts to permit said positioning plate to be lowered into engagement with said base member.

2. In an apparatus of the class described, a base member, screw members secured to the opposite ends of said base member and extending upwardly therefrom, a perforated capsule positioning plate positioned over said base member with its opposite ends adjacent said screw members, adjusting nuts mounted on said screw members adapted to engage the under side of said positioning plate for supporting the same relative to said base member, and securing nuts mounted on said screw members adapted to engage the upper side of said positioning plate for clamping the same against said first mentioned nuts, said adjusting nuts extending beyond the opposite ends of said base member and said positioning plate to permit free access to the peripheral portions of said adjusting nut for adjusting the same.

3. In an apparatus of the class described, a base plate having spaced apart upwardly extending screw members and recesses in said base plate surrounding said screw members, a perforated capsule positioning plate mounted above said base plate over said screw members, and pairs of exteriorly knurled adjusting nuts mounted on said screw members for clamping the opposite side of said positioning plate therebetween for supporting the positioning plate relative to the base plate, said recesses in said base plate being adapted to receive one of the nuts of each pair for adjusting the positioning plate in close proximity to said base plate, the knurled portions of said adjusting nuts extending beyond said positioning plate.

In testimony whereof, I have hereunto set my hand at Los Angeles, California, this 18th day of May, 1926.

GEORGE A. WARE.