Oct. 31, 1950 E. L. BEJCEK 2,527,694

CAPSULE COUNTER

Filed July 5, 1947

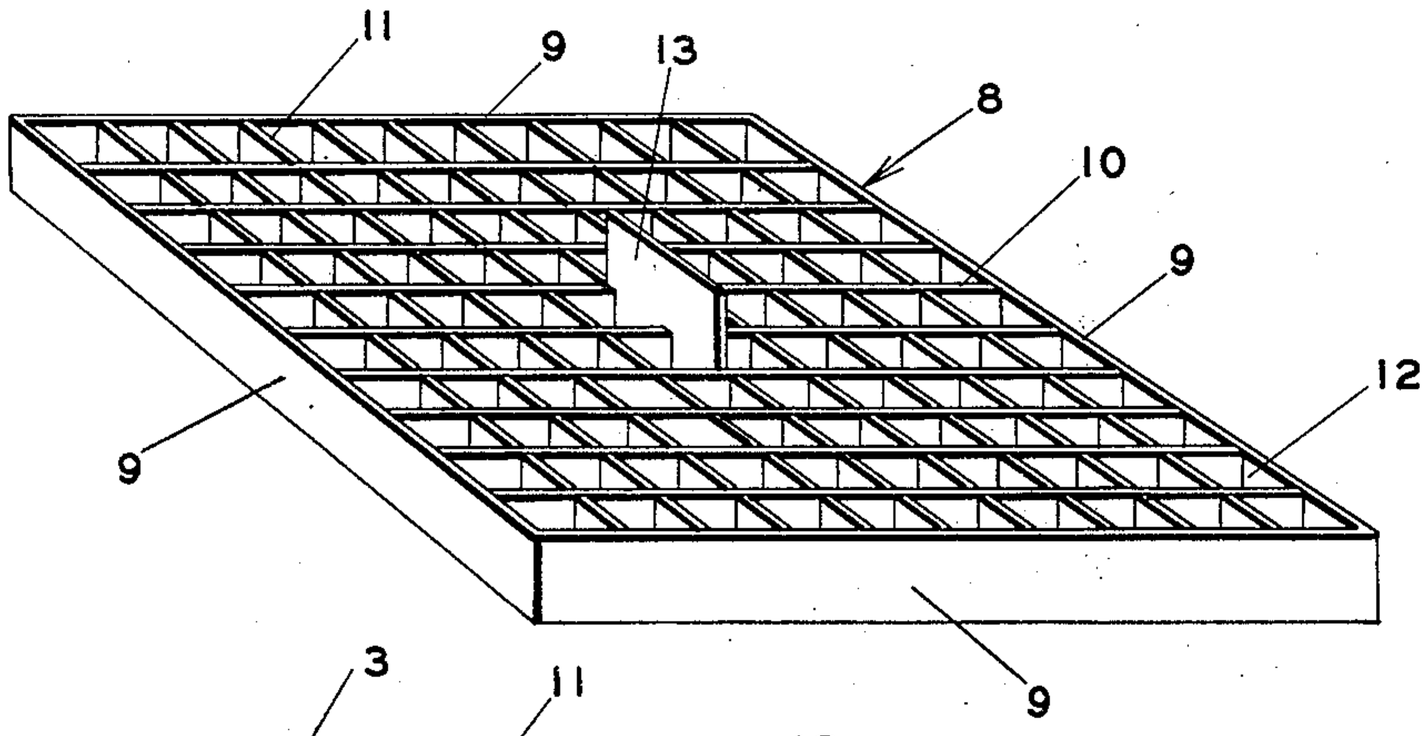

FIG. 4

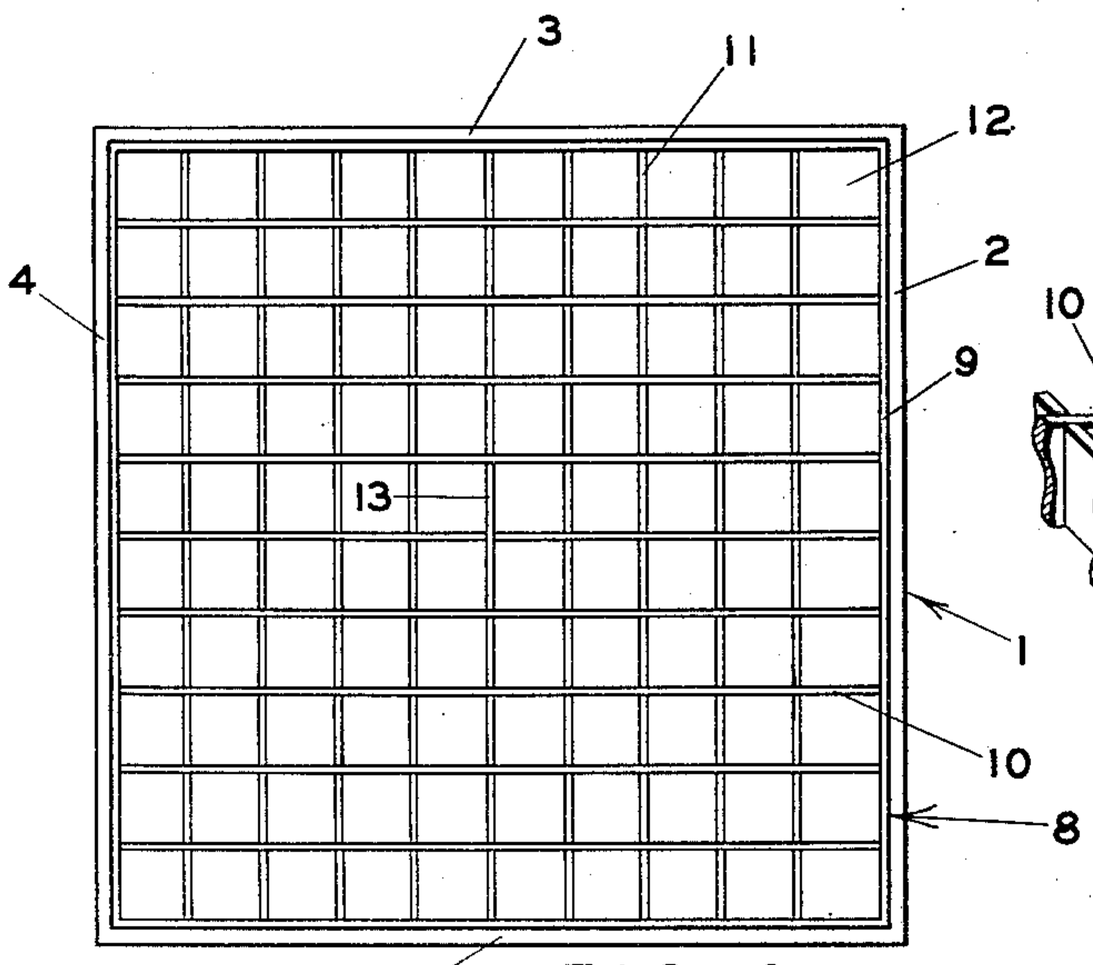

FIG. 1

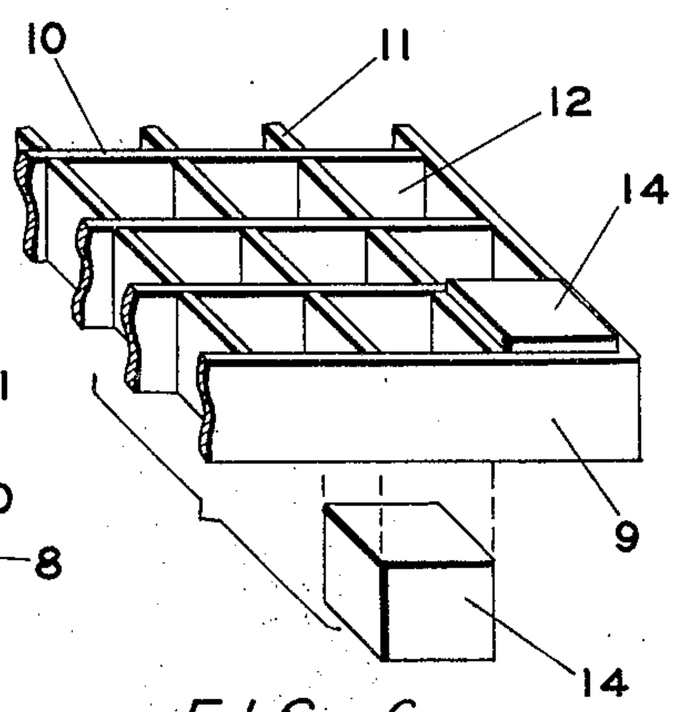

FIG. 6

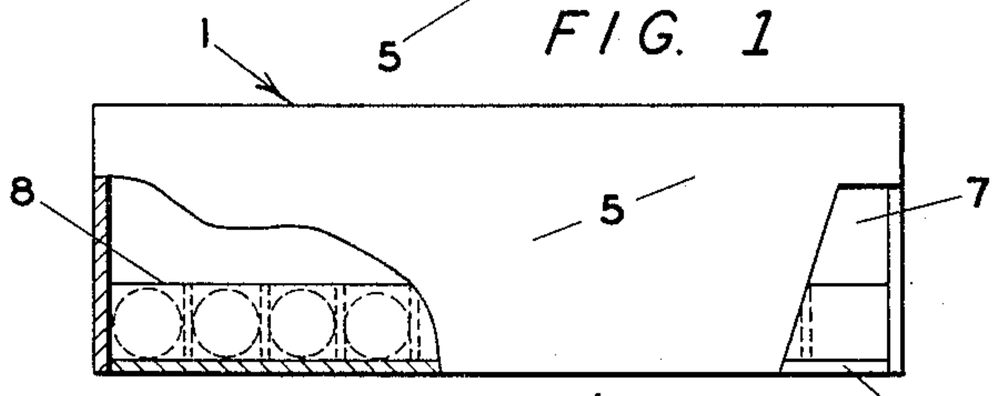

FIG. 2

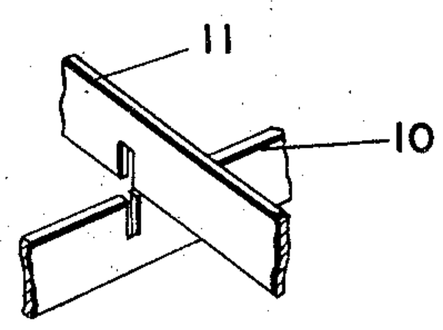

FIG. 5

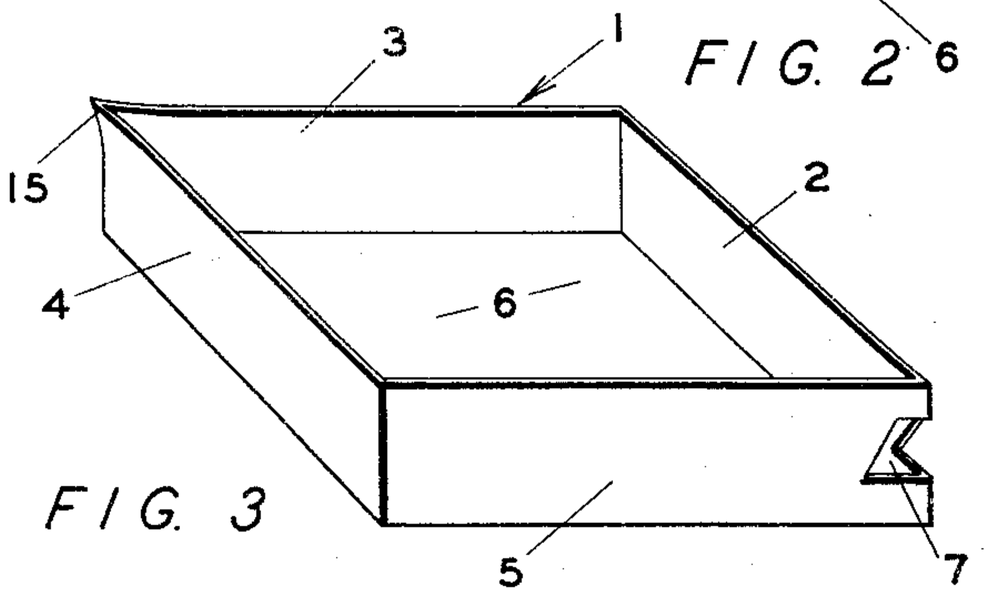

FIG. 3

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Patented Oct. 31, 1950 2,527,694

UNITED STATES PATENT OFFICE

2,527,694

CAPSULE COUNTER

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Application July 5, 1947, Serial No. 759,135

1 Claim. (Cl. 214—1)

1

This invention relates to a means for counting small objects such as capsules and more particularly to a counter having a plurality of pockets, each designed to hold one or more capsules.

It has long been common practice to count capsules and similar objects by providing a number of pockets in a flat surface or in a container each designed to hold one of the objects. However, each of these devices have certain disadvantages materially restricting their capacity, accuracy and efficiency. The pockets for holding the capsules to be counted are shallow so that when the excess capsules are removed some of those lodged in the pockets fall out destroying the accuracy of the count.

Another disadvantageous characteristic of the prior devices has been the necessity of turning the counter over to remove the capsules after each count. This slows up each operation and makes it difficult to pour the capsules off into a small container such as a bottle or box.

Another disadvantage has been the failure to provide a device in which the objects may be thoroughly agitated to insure filling each of the pockets without spilling some of the contents. This not only necessitates a much longer period of agitation but reduces the accuracy of the counter by making it difficult to fill every pocket.

Accordingly, a major object of my invention is to provide a counting device having pockets of sufficient depth that capsules which have once entered the pockets cannot become dislodged therefrom.

A further object of my invention is to provide a device from which the excess capsules may be easily and quickly poured without dislodging those seated in the counting pockets.

An additional object of my invention is to provide a counter from which the counted capsules may be quickly poured into a container having a restricted opening.

Another object of my invention is to provide a device which will not spill any of the capsules even when it is severely agitated.

A further object of my invention is to provide a counter which can be easily modified to double the number of capsules in each operational cycle.

Another object of my invention is to provide a counter which will be both swift and simple to operate.

An additional object of my invention is to provide a counter capable of handling cylindrical objects as well as spherical ones.

A further object of my invention is to provide

2

such a counter which will be both simple and cheap to manufacture.

Further objects and purposes of my invention will be apparent to those acquainted with apparatus of this type upon reading the following disclosure and inspection of the accompanying drawings.

In the drawings:

Figure 1 is a top view of my counter.

Figure 2 is a partially broken side elevational view of my counter.

Figure 3 is an oblique view of the container of my invention illustrating a modified form thereof.

Figure 4 is an oblique view of the removable grid of the counter.

Figure 5 is a fragmentary view of a typical joint in the removable counter.

Figure 6 is a fragmentary oblique view of the removable grid part of my improved counter.

In providing means for accomplishing the above named purposes, I have used a container, open on one end and at one corner with a removable member therein provided with a plurality of pockets open at both the top and the bottom.

Description

Referring now to the drawings in more detail, the numeral **1** indicates a container having sides **2**, **3**, **4** and **5** and a bottom closure member **6**. An opening **7** is provided through the sides of the container. This opening may be located at any point around the vertical periphery of the container but for the most satisfactory results it should be at one of the corners as shown in Figs. 2 and 3. This opening extends from the upper surface of the bottom member **6** to a point usually about half way up the sides **2** and **5**. The minimum height of the opening is established by the fact that sufficient clearance must be left above the counting member **8** to permit a capsule to pass through it. The reason for this will appear more fully hereafter.

A modification of the container **1** is shown in Fig. 3. In the arrangement shown the opening **7** does not extend below the top surface of the counting member **8**. A discharge lip **15** is provided, preferably in the corner opposite the opening **7**.

The counting member **8** has a frame **9** surrounding the entire member. Within this frame there is contained a plurality of section members **10** set parallel to each other and rigidly affixed to the frame **9**. A second group of section members **11** set parallel to each other and at 90 degrees to the section members **10** completes the interior of

the counting member 8. These section members 11 are also rigidly attached to the frame 9. Between the section members 10 and 11 are a plurality of openings 12, the purpose of which will appear more fully hereinafter. These openings are unobstructed on either end and permit any object within them to be removed in either direction.

A handle 13 is provided in the center of the counting member 8, which handle may conveniently be an extension of one of the section members as shown in Fig. 4 or it may be a separate part. If a separate part is used, then the size and shape of the handle must be such as not to obstruct any of the openings 12.

The counting member 8 and the container 1 may be made from any suitable material such as wood, metal, plastic or cardboard. If they are built up from separate pieces, these may be rigidly joined by cementing, gluing, or other joining method suitable for the type of material used. Where the frame and section members of the counting member are separated pieces, preferably they may also be interlocked as illustrated in Fig. 5.

Operation

The counting member 8 is inserted in the container 1 with the lower part resting on the bottom member 6 of the container. The operator may then close the opening 7 by holding his hand or a suitably shaped closure member (not illustrated) over this opening if such appears desirable, although usually it is not necessary. The capsules are then poured into the container, usually at a corner other than that having the outlet opening, and the entire assembly tilted and agitated until each of the openings 12 contains a capsule. Any excess capsules may be poured out through that part of the opening 7 extending above the counting member 8, removing, of course, any obstruction which may have been placed over it. The capsules within the openings in the counting member will be held by the pockets therein against escape at this time. The counting member 8 is then raised from the bottom member 6 a sufficient distance to permit all the capsules in the openings 12 to pass into the space between the counting member and the bottom member 6. Since both ends of the openings 12 are unobstructed, the capsules in these openings will drop into this space in the countainer and may be poured off into any suitable package. The opening 7 by extending to the bottom 6 of the container 1 facilitates this operation. Since the number of openings in the counting member 8 is known and each opening contains one capsule, the number of capsules remaining when the counting member is removed is equal to the number of such openings, and thus the counting is both accurate and reliable.

When the modified container 1 illustrated in Fig. 3 is used, the excess capsules are poured off through the opening 7 but the counted capsules are poured off using the discharge lip 15 after removal of the counting member 8.

The size of the openings both in width and depth must conform to the size of the capsule to be counted. Each opening is large enough to hold loosely all, or substantially all, of one capsule (Fig. 2) but to prevent any part of another capsule from entering it.

The height of the counting member 8 may be increased so that each of the openings 12 will contain two capsules, one resting vertically upon the other, but no more. In this manner the capacity of the device may be doubled. In a similar manner any other multiple of the number of openings in the counting member may be provided.

Since the number of openings 12 determines the number of capsules counted by each operation, the number of such openings will conform to the usual units of count for capsules and similar products such as 50 or 100 which capacity may be multiplied as explained above. A counting member capable of counting 100 units in each operation is shown in Fig. 4. Odd units or count may be obtained by using a counting member having an odd number of openings. This may be done using one of the 50 or 100 unit counting members by plugging the unwanted openings 12 with a plug 14 (Fig. 6) made of rubber, felt or similar material capable of remaining in the opening throughout the operation cycle but removable when so desired. Inasmuch as the openings are unobstructed on both ends the plugs 14 may be made flush with each end of the opening and removed by pushing them out.

The counting device will function with cylindrical capsules as well as spherical ones. To count cylindrical capsules the depth of the openings 12 is increased to the length of the capsule with the length and width of the opening providing a loose fit for the circular part of the capsule. By seating the capsules with their greatest dimension in a vertical direction only one capsule can possibly enter each opening thereby assuring the accuracy of the count.

Although I have used capsules as the objects to be counted this has been for purposes of illustration only and should not be considered as limiting inasmuch as my device will satisfactorily count any other objects having a substantially spherical, square or cylindrical shape such as pills, ball bearings, or marbles.

Other modifications and variations will be evident to persons acquainted with articles of this type so that the interpretation of the claim should be limited only as required by the express language thereof.

I claim:

In a device for counting substantially spherical capsules, the combination comprising: a rectangular receptacle having a bottom panel and side panels integral with and perpendicular to said bottom panel and engaging each other at their adjacent ends to provide a wall around said bottom panel, two of said panels being cut away at adjacent ends thereof to provide an opening through one corner of said wall extending from the said bottom panel a distance substantially less than the height of said wall and slightly greater than twice the diameter of one of said capsules, and said opening being slightly wider than the diameter of a said capsule; a counting frame snugly receivable within said receptacle for support upon said bottom panel, said frame having a plurality of parallel separating strips spaced from each other a distance substantially equal to the diameter of a said capsule, one portion of said strips being perpendicularly disposed with respect to the remainder thereof, said strips all extending between two parallel planes spaced from each other a distance substantially equal to the diameter of a said capsule; a frame extending between said planes and surrounding said strips, said frame engaging both longitudinal extremities of substantially all of said strips; and a handle integral with one of said separating strips; so arranged and constructed that capsules in excess of the quantity required to fill the spaces

between the said strips may be poured through the said opening into one container, after which the said frame may be removed from said receptacle and the remaining capsules poured through said opening into another container.

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