

# UNITED STATES PATENT OFFICE.

FRED L. UPJOHN, OF KALAMAZOO, MICHIGAN.

## PILL ENUMERATOR AND BOTTLING MACHINE.

SPECIFICATION forming part of Letters Patent No. 453,873, dated June 9, 1891.

Application filed October 17, 1890. Serial No. 368,485. (No model.)

*To all whom it may concern:*

Be it known that I, FRED L. UPJOHN, a citizen of the United States, residing at Kalamazoo, county of Kalamazoo, State of Michigan, have invented a new and useful Pill Enumerator and Bottling Machine, of which the following is a specification.

This invention has for its object the construction of a pill enumerator and bottling machine which is adapted to deposit a given number of pills in each bottle, thus obviating the necessity of counting by hand.

To this end the machine consists, in the main, of a revoluble disk bearing series of pockets in subdivisions of the desired number, said pockets being open at the bottom, but closed (except at the delivery-spout) by a base-plate upon which the revoluble disk rests.

The machine also consists of a tray for holding the pills and a spout leading therefrom to the disk containing the pockets.

In the drawings forming a part of this specification, Figure 1 is a perspective view. Fig. 2 is a section on line 3 3 in Fig. 1; and Fig. 3 is a plan view of a lettered detail in Fig. 2, and also showing a cross-section of a lettered detail in Fig. 1, hereinafter described.

Referring to the lettered parts of the drawings, A illustrates a bin for containing the pills, said bin of course being supported by a suitable frame-work in an elevated position. Supported by said frame-work is a bed-plate B, having a circular depression in which is placed the revoluble disk C. This disk C has a central pendent portion or axis F, passing down through a hole in the bed-plate B, as shown in Fig. 2. This pendent portion is internally cored to receive a crank *i*, by means of which crank the disk C is revolved. The crank *i* is detachably attached to said disk C, as shown in Fig. 2, in order that the same crank may be used with different disks containing different-sized pockets. The pockets consist of a series of perforations in different clusters or subdivisions, as shown at *s* in Figs. 1 and 2.

The bed-plate B is provided with a spout E at one side, as in Figs. 1 and 2, said spout extending beneath the bed-plate, said bed-plate being provided with an opening or slot

*t*, leading down into said spout. By this means the bed-plate B crosses the bottom of all the pockets, except those brought directly over the slot *t* in said bed-plate, as will clearly appear in Fig. 1.

The tray A is provided with a spout D, leading from said tray to the disk C, containing the pockets, so as to deliver the pills upon that portion of the disk around and nearer to its periphery which contains the perforations or pockets. Transversely across the disk C and bed-plate B is fixed a dam *v*, below the spout D, said dam just clearing the revoluble disk C, the purpose of said dam of course being to prevent the pills which are deposited upon the disk C from running off.

In Figs. 2 and 3 is shown a clamp device *a*, by means of which the bed-plate B is attached to a rod *e*, which rod supports the same; but so far as this particular means of supporting the bed-plate is concerned it might be of course supported in other ways; but by supporting it in this manner different bed-plates containing revoluble disks with different-sized pockets may be employed by detaching one and attaching the other, according to the size of the pills which are to be counted and bottled.

It should be understood that the different subdivisions of the series of pockets consist of a given number of said pockets, and consequently since in the operation each subdivision of pockets is filled with pills before they are presented over the slot *t* it necessarily follows that a bottle held under the spout E will receive the designed number of pills from one of the subdivisions of the series of pockets. To make the operation still clearer, referring to Fig. 1, the pills are supposed to be flowing down through spout D and loading up against the dam *v*, and consequently will spread over that portion of the disk which contains the pockets, and since the pills will thus spread over all that portion of the disk which contains the pockets at that given point during the revolution of said disk all of the pockets will become filled, and said filled pockets will be carried over the slot *t*, and the pills will consequently fall from the pockets into the spout E, and thence flow into the bottle, which would be held under the spout E. When one subdivi-

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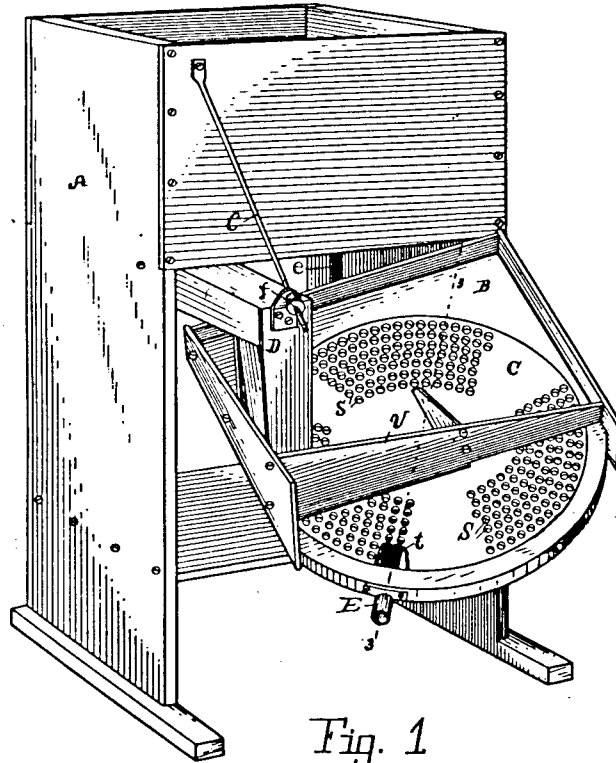


Fig. 1

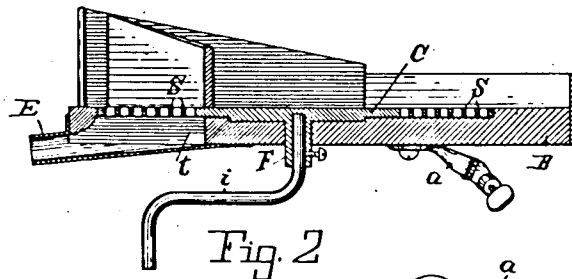


Fig. 2



Fig. 3

Witnesses:

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By *Lucius C. West*  
Att'y.

vision of pockets has passed, the operator of course stops turning the disk long enough to place another bottle under the spout E and then continues the operation.

5 It will of course be understood that while this machine is illustrated as being operated by hand it may be operated by power.

Referring to Fig. 1, it will be seen that the spout is vertically adjustable by means of  
10 the brace-rod c, which supports the spout, said rod having a screw-threaded end which is passed loosely through a hole of a plate attached to said spout, said threaded end being provided with an adjustable nut f. The ob-  
15 ject of thus raising and lowering the spout is to admit of a greater or less number of pills flooding the perforated surface of the disk C above the dam v.

It should be observed that while this ma-  
20 chine is described as a pill enumerator and bottler it of course may be employed for enumerating any product for which it is adapted. It does not necessarily follow that bottles need be used to receive the deposit from the spout  
25 E, as the article being enumerated may be deposited in any suitable receptacle.

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

30 1. A pill enumerator and bottling machine consisting of a tray, the spout leading therefrom, an inclined bed-plate having a slot pro-

vided with a spout leading therefrom, a revol-  
uble disk having a series of perforations in  
subdivisions constituting pockets, said disk 35  
being mounted upon said bed-plate in a revol-  
uble manner, a dam fixed transversely across  
said disk, and a spout leading from said tray  
to said disk above the dam, substantially as  
set forth.

2. The combination of an inclined revoluble  
tray having a spout, a supporting-frame for  
said tray, an inclined base-plate provided with  
the slot and with the spout leading therefrom,  
said base-plate having a central hole, and a 45  
revoluble disk having the series of perfora-  
tions, said disk having a central pendent axis  
in the center hole of said base-plate, said base-  
plate being detachably supported by said sup-  
porting-frame, substantially as set forth. 50

3. The combination of an inclined revoluble  
tray, a vertically-adjustable spout leading  
therefrom, a supporting-frame in said tray, a  
base-plate provided with the slot, a revoluble  
disk having the series of perforations consti- 55  
tuting pockets, and a dam transversely across  
said disk, substantially as set forth.

In testimony of the foregoing I have here-  
unto subscribed my name in presence of two  
witnesses.

FRED I. UPJOHN.

Witnesses:

W. L. BROWNELL,  
EMIL HERZHEIM.