

July 17, 1928.

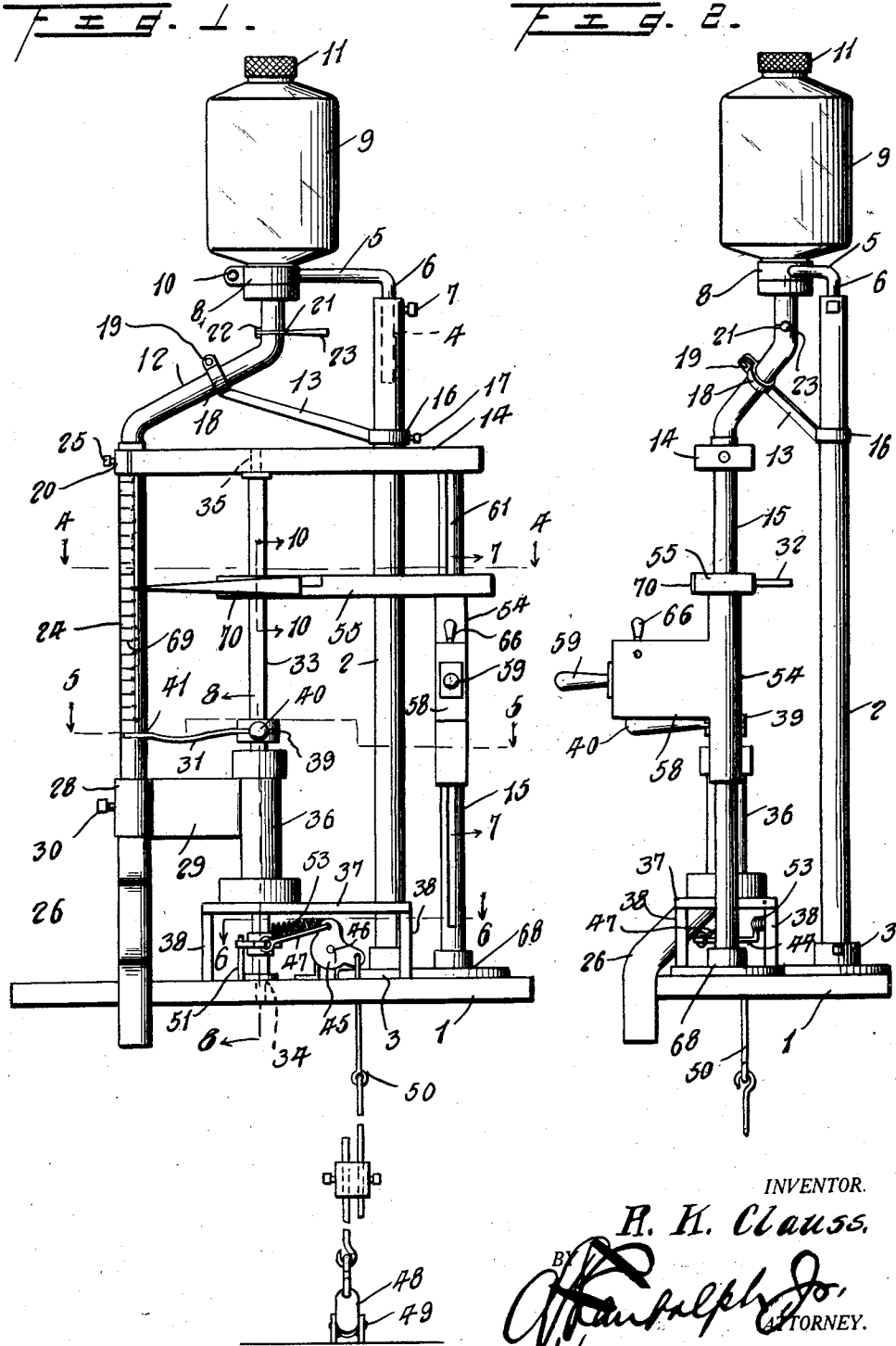
R. K. CLAUSS

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PILL COUNTING AND DISPENSING MACHINE

Filed July 28, 1927

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FIG. 4.

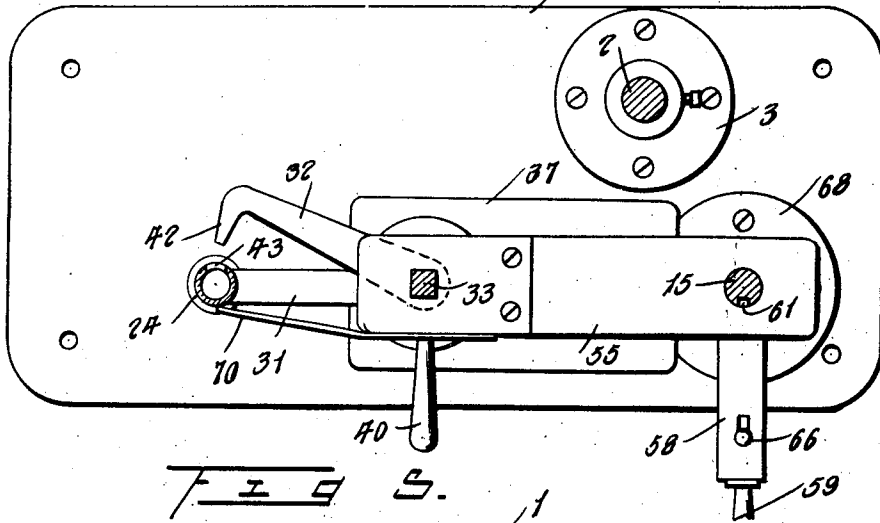


FIG. 5.

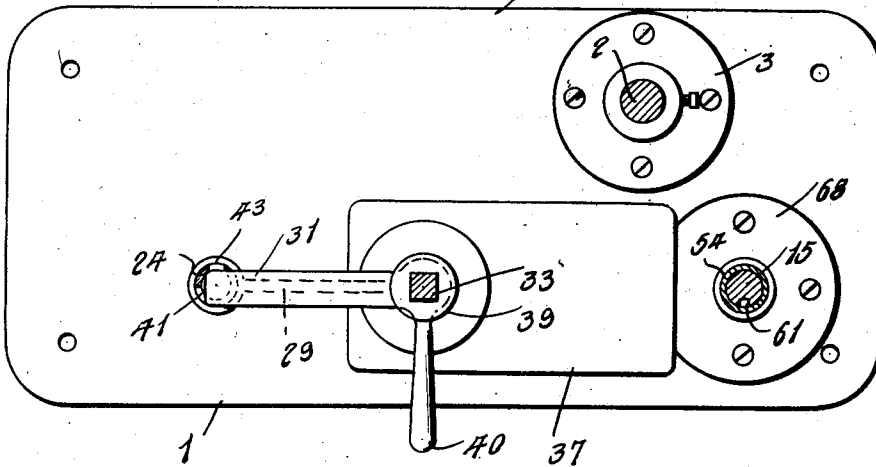
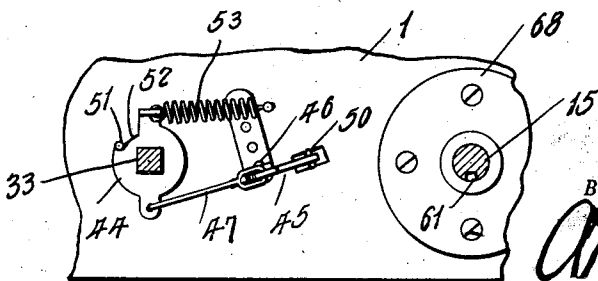


FIG. 6.



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BY

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ATTORNEY.

July 17, 1928.

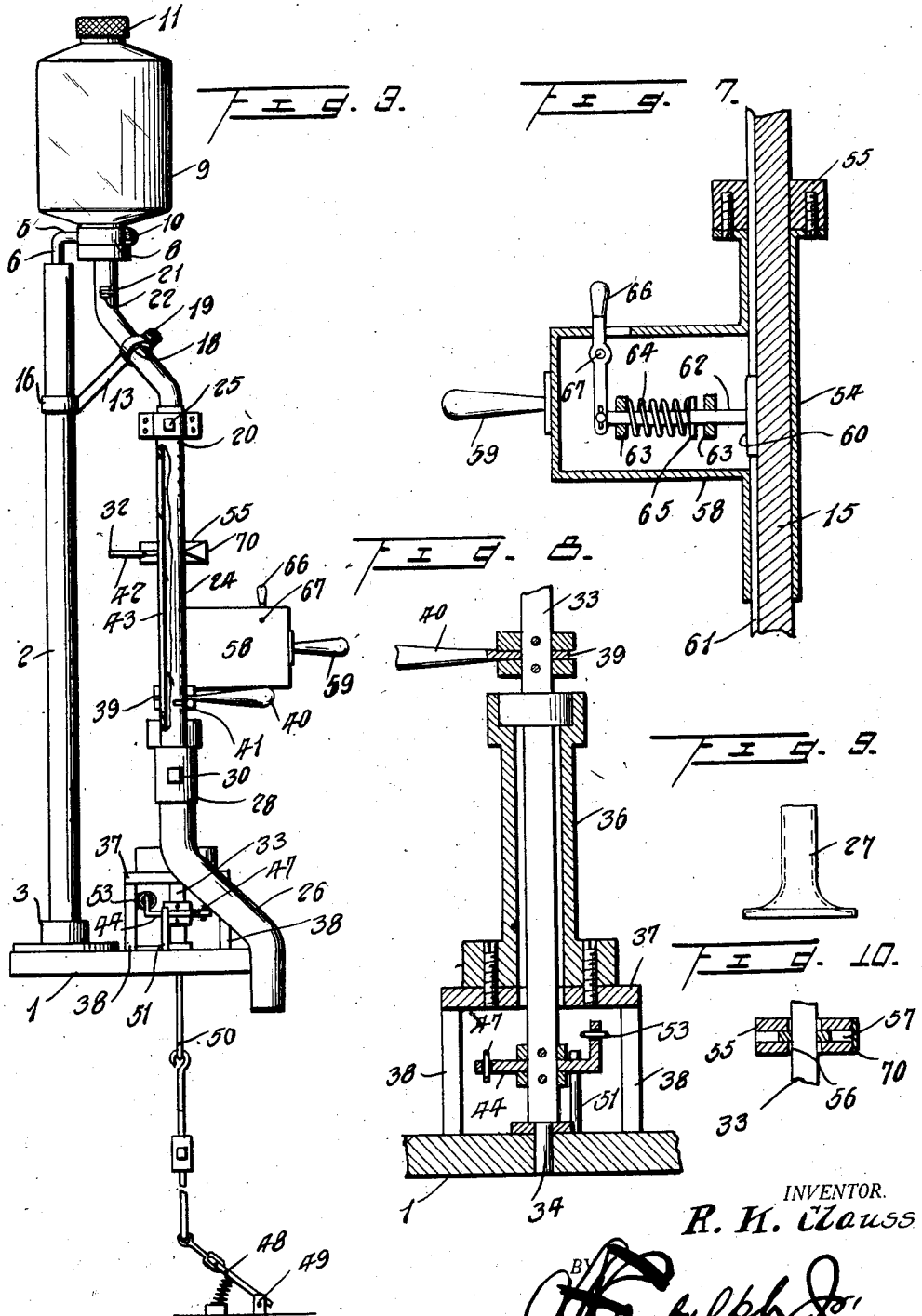
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UNITED STATES PATENT OFFICE.

ROBERT KLOTZ CLAUSS, OF LEHIGHTON, PENNSYLVANIA.

PILL COUNTING AND DISPENSING MACHINE.

Application filed July 28, 1927. Serial No. 209,045.

This invention relates to dispensing machines, and has for one of its objects to provide a novel, simple and highly efficient machine of this character through the medium of which the desired or required number of pills may be readily placed in boxes, envelopes, sacks or the like.

With the foregoing and other objects in view, the nature of which will appear as the description proceeds, the invention consists of the construction, combination and arrangement of parts hereinafter fully described and claimed, and illustrated in the accompanying drawings, wherein:

Figure 1 is a view in front elevation of the machine,

Figure 2 is a view in side elevation of the machine,

Figure 3 is a view similar to Figure 2 looking from the opposite side of the machine,

Figure 4 is a sectional view taken on the horizontal plane indicated by the line 4—4 of Figure 1,

Figure 5 is a sectional view taken on the horizontal planes indicated by the line 5—5 of Figure 1,

Figure 6 is a sectional view taken on the horizontal plane indicated by the line 6—6 of Figure 1,

Figure 7 is a sectional view taken on the vertical plane indicated by the line 7—7 of Figure 1,

Figure 8 is a sectional view taken on the vertical plane indicated by the line 8—8 of Figure 1,

Figure 9 is an elevational view of one of the spouts of the machine, and

Figure 10 is a sectional view taken on the horizontal plane indicated by the line 10—10 of Figure 1.

The machine comprises a base 1 which may be mounted upon a counter, table or other suitable support. A standard 2 is secured to and upon the base 1 by means of a foot plate 3, and it is provided at its upper end with a socket 4. A horizontal bracket 5 is secured to the upper end of the standard 2 through the medium of a stem 6 extending downwardly from such end thereof and fitting in the socket 4 and a set screw 7 carried by the standard and engaging the stem. The bracket 5 is provided at its other or outer end with a split ring 8 within which is secured the lower end of a glass container or reservoir 9 for the pills.

The ring 8 is adapted to be contracted by a screw 10 in order to secure the container 9 thereto. The container 9 is provided at its upper end with a filling opening which is closed by a cap 11. A tube 12 extends downwardly from the lower or discharge end of the container 9 and is of angular formation in plan. The tube 12 is supported by a bracket 13 and an arm 14, the former being carried by the standard 2 and the latter by an upright guide rod 15. The bracket 13 is provided at one end with a collar 16 which is applied to the standard 2 and is provided with a set screw 17 engaging the standard. The other end of the bracket 13 is provided with a split ring 18 which embraces the tube 12 and is adapted to be contracted by a bolt 19 in order to secure the tube therein. The tube 12 has its lower or discharge end positioned in an opening 20 formed in the arm 14, and it is provided adjacent its upper end with a cut-off valve 21 which is pivotally mounted as shown at 22 and provided with a handle 23.

A vertically disposed measuring or counting tube 24 has its upper end secured in the opening of the arm 14 by means of a set screw 25. The upper or intake end of the tube 24 communicates with the discharge end of the tube 12, and a spout 26 of angular formation in plan communicates with and extends downwardly from the lower or discharge end of the tube 24. The spout 26 is to be used when the pills are to be packed in envelopes, sacks and the like. When the pills are to be packed in boxes, the spout 27 shown in Figure 9 is used. The spout used has its upper end secured in the sleeve 28 of an arm 29. The lower end of the tube 24 is positioned in the sleeve 28, and the spout is secured to the sleeve by a set screw 30.

It will be understood that, when the valve 21 is opened, the pills will pass from the container 9 to the envelopes, sacks or boxes by way of the tubes 12 and 24 and the spout 26 or 27. Means are provided for dispensing a predetermined number of pills at each operation of the machine. This means is associated with the tube 24 and comprises a lower cut-off valve 31 and an upper cut-off valve 32 which are carried by a vertical shaft 33 and so angularly related that when one is in closed position the other is in opened position. The shaft 33 is journaled at its lower end in a bearing 34 carried by

the base 1 and at its upper end in a bearing 35 carried by the arm 14. A third bearing 36 for the shaft 33 carries the arm 29 and is mounted upon a sub-base 37 which is supported from the base 1 by uprights 38. The valve 31 is of elongated formation and is secured at one end to the shaft 33 by a collar 39 which is provided with a handle 40. The other or free end of the valve 31 moves into and out of a horizontal slot 41 formed in the front side of the tube 24 and this movement thereof takes place during the travel of the valve from its closed to its opened position, the valve being shown in closed position in Figures 1 and 5. The valve 32 is also of elongated formation and horizontally disposed, and one end thereof is connected to the shaft 33 for rotation therewith and for vertical adjustment with respect thereto. The other or free end of the valve 32 is of angular formation, as shown at 42 and moves into and out of a vertical slot 43 formed in the rear side of the tube 24. This movement of the end 42 of the valve 32 takes place during the movement of the valve from one of its positions to the other, the valve being shown in opened position in Figure 4. The valves 31 and 32 are adapted to be operated through the medium of a handle 40 which is first moved to cause the valve 31 to occupy its closed position and to cause the valve 32 to occupy its opened position. The handle 40 is thereafter operated to cause the valve 31 to assume its opened position and to cause the valve 32 to assume its closed position, with the result that the desired number of pills will be fed to the spout 26 or 27.

If desired, the valves 31 and 32 may be operated by the foot. The means for permitting this operation of the valves comprises a disk 44 which is fixed to the shaft 33 at a point below the sub-base 37, an angle lever 45 pivoted as at 46 to the base 1, and a link 47 connected to the lever 45. This means also comprises a pedal 48 which is pivoted below the base 1 as at 49, and a link 50 which is adjustable as to length and connected to the lever 45 and the pedal 48. A pin 51 which is carried by the base 1 and enters an arcuate notch 52 in the disk 44, limits the movement of the shaft 33 when it is operated by the handle 40 or the pedal 48. A spring 53 which is secured to the base 1 and disk 44 and is tensioned when the shaft 33 is operated by either the handle 40 or the pedal 48, functions to normally maintain the valve 31 in closed and the valve 32 in opened position.

A sleeve 54 is slidably mounted on the guide rod 15. A horizontal arm 55 is secured at one end to the sleeve 54 and is provided near its other end with a vertical opening 56 for the reception of the shaft 33 and with a horizontal slot 57 for the reception

of that end of the valve 32 connected to the shaft. As the sleeve 54 is adjustable vertically on the guide rod 15, the valve 32 may be adjusted vertically with respect to the valve 31 so that the number of pills dispensed at each operation of the machine may be varied. The sleeve 54 is provided with a casing 58 extending forwardly therefrom, and the casing is provided at its front end with a handle 59 through the medium of which the sleeve may be adjusted vertically on the guide rod 15. The sleeve 54 is secured in adjusted position by a brake shoe 60 which travels in a vertical slot 61 formed in the guide rod 15 and is carried by a shaft 62 which is slidably mounted within the casing 58. Spaced bearings 63 are provided for the shaft 62, and a spring 64 positioned between one of the bearings and a pin 65 carried by the shaft serves to hold the shoe 60 in such frictional contact with the guide rod 15 as to prevent casual downward movement of the sleeve 54. A lever 66 pivoted as at 67 and connected to the shaft 62, provides means by which the shoe 60 may be withdrawn from contact with the guide rod 15 when it is desired to raise or lower the sleeve 54 on the guide rod and thus effect the adjustment of the valve 32 with respect to the valve 31. The guide rod 15 is secured to the base 1 by a flanged foot 68.

The front side of the tube 24 is graduated as shown at 69, and a pointer 70 cooperating with the graduations is carried by the arm 55. The graduations 69 and the pointer 70 enable the operator to readily adjust the valve 32 with respect to the valve 31 to adapt the machine to feed at each operation thereof the required number of pills. To effect the adjustment of the valve 32, it is only necessary to release the sleeve 54 by retracting the shoe 60 through the medium of the lever 66, then raise or lower the sleeve through the medium of the handle 59, and thereafter release the shoe so as to secure the valve 32 in adjusted position. To operate the machine, it is only necessary to depress the pedal 48 or swing the lever 40 to the right. This will swing the valve 32 into closed position and the valve 31 into opened position, and the desired or required number of pills will pass to the envelope, the sack or the box. When the pedal 48 of the lever 40 is released, the spring 53 will swing the valve 32 into opened position and the valve 31 into closed position, so that when the machine is again operated the same number of pills will be fed to the envelope, the sack or the box.

It should be understood that the drawings are merely illustrative and do not pretend to give exact proportions. Furthermore, the said drawings are illustrative of a preferred construction, it being my expectation that various changes and modifications

may be made without departing from the spirit and scope of my invention.

What is claimed is:—

1. A machine of the character set forth, comprising a container, a tube communicating with the container, cut-off valves associated with the tube, a guide rod, a sleeve slidably mounted on the guide rod, means carried by the sleeve and cooperating with the guide rod to hold the sleeve against casual movement thereon, an arm carried by the sleeve and carrying one of said valves, the valves being arranged so as to permit one to be moved to closed and the other into opened position, and valve operating means.

2. A machine of the character set forth, comprising a container, a tube communicating with the container and provided with a transverse and a longitudinal slot, a shaft, a cut-off valve carried by the shaft for movement into and out of the transverse slot, a guide rod, a sleeve slidably mounted on the guide rod, means carried by the sleeve and cooperating with the guide rod to secure the former against casual movement, an arm secured to the sleeve and provided with an opening for the slidable reception of the shaft and with an opening at an angle to said first opening, a second valve fixed to the shaft for rotation therewith and sliding movement thereon and adapted to move into and out of the longitudinal slot, the valve passing through the second opening of the arm, and shaft operating means.

3. A machine of the character set forth, comprising a container, a tube communicat-

ing with and extending downwardly from the container and provided in different sides thereof with slots, a rotatable shaft arranged parallel to the tube, angularly related valves extending radially from the shaft for movement into and out of said slots, means associated with the shaft for normally holding one of said valves in closed position, and means associated with the shaft by which it may be rotated to move said valve into opened position and to move the other valve into closed position.

4. A machine of the character set forth, comprising a container, a tube communicating with and extending downwardly from the container and provided in different sides thereof with slots, one of the slots extending transversely and the other longitudinally of the tube, a member, means supporting the member for adjustment in the direction of the length of the tube, a rotatable shaft arranged parallel to the tube, angularly related valves extending radially from the shaft for movement into and out of the slots, one of the valves being connected to the member for adjustment therewith in the direction of the length of the tube, means associated with the shaft for normally holding one of the valves in closed position, and means associated with the shaft by which it may be rotated to move said valve into opened position and to move the other valve into closed position.

In testimony whereof I affix my signature.

ROBERT KLOTZ CLAUSS.