June 9, 1931. H. D. GREGORY 1,809,690

DISPENSING DEVICE FOR STACKED ARTICLES

Filed Jan. 14, 1929

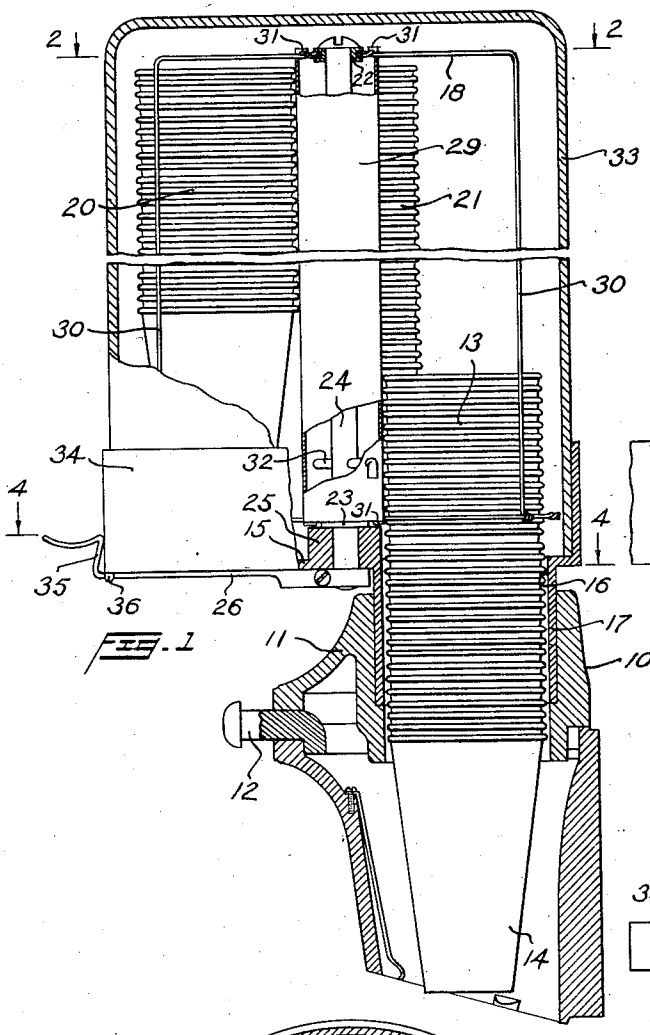

FIG. 1

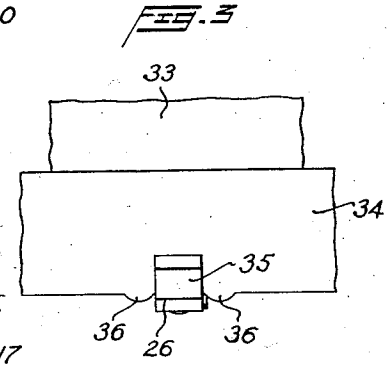

FIG. 3

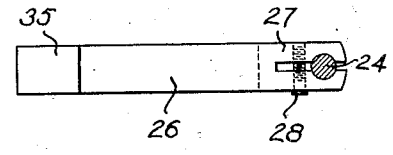

FIG. 4

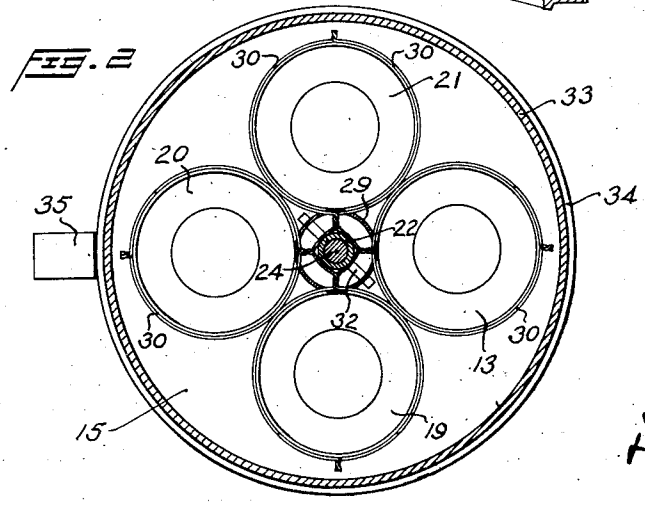

FIG. 2

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UNITED STATES PATENT OFFICE

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DISPENSING DEVICE FOR STACKED ARTICLES

Application filed January 14, 1929. Serial No. 332,386.

This invention relates to improvements in dispensing devices for stacked articles, and to subject matter divided from my copending application filed August 17, 1925, and bearing Serial No. 50,819.

One of the objects of the present invention is to provide improved apparatus of the character described wherein the same has a greater capacity than such apparatus constructed heretofore.

Other objects and advantages will hereinafter appear.

For the purpose of illustrating the invention, one embodiment thereof is shown in the drawings, wherein

Figure 1 is a vertical sectional view, partly broken away, of a dispensing device embodying the present improvements;

Fig. 2 is a sectional view, the section being taken on the line 2—2 in Fig. 1;

Fig. 3 is a fragmentary, elevational view, looking toward the right in Fig. 1; and

Fig. 4 is a detail, sectional view, the section being taken on the line 4—4 in Fig. 1.

Referring more particularly to Fig. 1, an escapement device indicated generally by reference numeral 10, comprises the casing 11 and a manually-operable element 12, and is shown, for the purpose of illustration, as being of the general type used for dispensing a column 13 of nested cups. The construction and manner of operation of the particular escapement device shown are well known to those skilled in the art, reference, in this connection, being made to Patent No. 1,260,432 of March 26, 1918, to Nias. The action, generally, is that upon movement of element 12 to the right, the device operates to release the lowermost cup 14, while, at the same time, supporting the remaining cups for subsequent release individually and in like manner upon repeated actuation of element 12.

A base member 15 is provided with the opening 16 accommodating the column of cups 13 in operative association with escapement device 10, such column passing downwardly through this opening as the cups comprising the same are ejected or released by device 10 and individually from the lower end of the column in a direction axially thereof. The base member 15 is further provided with a sleeve portion 17 concentric with opening 16 and fitting snugly in telescopic relation with casing 11, as shown, whereby the base member and the associated device 10 are connected in cooperative relationship with respect to each other.

Associated with base member 15 is a member, indicated generally by reference numeral 18, and operable to receive and support additional columns of cups 19, 20 and 21. Member 18 is provided at its upper and lower ends with bearings 22 and 23 in the form of hollow rivets or grommets and through which a pivot element or shaft 24 loosely passes. The lower bearing 23 seats upon the enlarged central portion 25 of base member 15 through which the lower end of shaft 24 loosely passes. A manually-operable element 26 is connected to the lower end portion of shaft 24, as more clearly shown in Fig. 4, that is, the end portion 27 of element 26 is split and clamped tightly on the shaft by the set screw 28.

Member 18 is shown as being made of wire pieces shaped and connected to form the various compartments or chambers for receiving the columns of stacked articles or cups, this member including the central tubular part 29 through which shaft 24 passes and which provides with the upright wire portions 30 of member 18 a three-point support for each of the columns of articles 13, 19, 20 and 21. The tubular part 29 is provided at its upper and lower ends with the ears 31 bent inwardly as shown over the central parts of the wire structure at bearings 22 and 23 to hold the same in assembled relation and to connect the wire structure to the tubular part for rotation therewith.

A suitable pin 32 passing through shaft 24 and tubular part 29 operates to connect the latter for rotation with the shaft.

The member 18 is shown and described in detail in my copending application above referred to.

A protective casing 33, which may be made of transparent glass, is disposed over the columns of articles, as shown, and fits snugly at its lower end portion in telescopic relation

with the upwardly directed flange or rim portion 34 of base member 15.

In the operation of the present improved dispensing device, the manually-operable element 12 may be actuated to dispense or eject the articles or cups of column 13 individually and in a direction axially of the column until the entire number of cups have been removed, after which the outer end portion 35 of element 26 is grasped by the operator and moved laterally in the desired direction to impart rotary movement to shaft 24 and member 18 connected thereto, thereby causing rotary movement of columns 19, 20 and 21 over base 15 by such amount as to effect movement of the next succeeding column 19 over opening 16 to permit the same to drop into operative association with escapement device 10. In like manner, movement of columns 20 and 21 into operative association with device 10 is effected upon removal by the latter of the entire or substantially the entire number of articles or cups of the respective preceding column.

It is proposed to provide base member 15 with pairs of spaced lugs 36 depending from the outer edge portion thereof and arranged so that lever 26 will be in position between the lugs comprising the respective pairs, as more clearly shown in Fig. 3, when the corresponding column of articles is concentrically disposed with respect to opening 16 and in operative association with escapement device 10, the lever being made of material sufficiently resilient to permit the same to spring and ride over the lugs upon lateral or pivotal movement of the lever for the purpose of effecting rotary movement of member 18.

While the escapement device 10 has been shown as being of the specific construction disclosed in the Nias patent above referred to, it will be appreciated that any other device of this general type may be employed, that is, a device operable to permit or provide for removal of articles, stacked to form a column, from one end of the column individually and in a direction axially thereof.

The member 18, also, may be of any suitable construction other than that shown.

Furthermore, it will be understood that various changes may be made such as in the size, shape and arrangement of the parts without departing from the spirit of the invention or the scope of the claims.

The invention claimed is:

1. A device of the character described comprising a base adapted to support a plurality of columns of stacked articles and provided with an opening through which said columns may pass, means associated with said base for rotation with respect thereto and adapted and arranged to effect movement of said columns into alignment successively with said opening for movement therethrough, said means being provided with a pivot passing loosely through said base, and manually-operable means connected to said pivot and adapted and arranged for cooperation therewith to effect rotation of said means with respect to said base and movement of said columns into alignment successively with said opening for movement therethrough.

2. A device of the character described comprising a base adapted to support a plurality of columns of stacked articles and provided with an opening through which said columns may pass, means associated with said base for rotation with respect thereto and adapted and arranged to effect movement of said columns into alignment successively with said opening for movement therethrough, said means being provided with a pivot passing loosely through said base, and a lever connected to said pivot and adapted and arranged for cooperation therewith to effect rotation of said means with respect to said base and movement of said columns into alignment successively with said opening for movement therethrough.

3. In dispensing apparatus, a device operable to support a column of stacked articles and to permit of removal axially of said column of the article at one end thereof while supporting the remaining articles for subsequent removal in like manner upon repeated operation of said device, a base, and means for receiving a second column and providing for movement thereof over said base into operative association successively with said device, said means including a pivot element having a loose fit in said base and provided with a manually-operable member disposed intermediate said base and said device and operable to provide for operation of said means independently of operating action of said device.

4. In apparatus of the character described, escapement means operable to support a column of nested cups and to permit of removal of the latter individually from one end of said column, and means operable to support a second column and to provide for operative association of the same successively with said escapement means; said means including a base, and a pivot element having a loose fit in said base and provided with a manually-operable member disposed intermediate said base and said device and operable to provide for operation of said means independently of operating action of said device.

5. A dispensing device including a support for a plurality of stacks of the articles to be dispensed, dispensing mechanism positioned relative to the support for dispensing the articles from a stack in alignment therewith, manual operating means for successively aligning the stacks with the dispensing mechanism, and means engageable with the man-

ual operating means for arresting movement thereof and holding a stack of articles in alignment with the dispensing mechanism.

6. A dispensing device including a support for a plurality of stacks of the articles to be dispensed, dispensing mechanism positioned relative to the support for dispensing the articles from a stack in alignment therewith, manual operating means for successively aligning the stacks with the dispensing mechanism, and circumferentially spaced members on the support adapted to engage the manual operating means for arresting movement thereof and holding a stack of articles in alignment with the dispensing mechanism.

7. A dispensing device including a support for a plurality of stacks of the articles to be dispensed, dispensing mechanism positioned relative to the support for dispensing the articles from a stack in alignment therewith, manual operating means for successively aligning the stacks with the dispensing mechanism, and circumferentially spaced pairs of projections on the support to arrest the movement of the manual operating means and hold a stack of articles in alignment with the dispensing mechanism, the manual operating member being positioned between the projections of each pair.

In witness whereof I hereto affix my signature.

HAROLD D. GREGORY.