Feb. 26, 1924. 1,485,187

A. Y. HODGDON

SELECTING AND DELIVERING MECHANISM FOR PACKAGING MACHINES, ETC

Filed Aug. 31, 1923

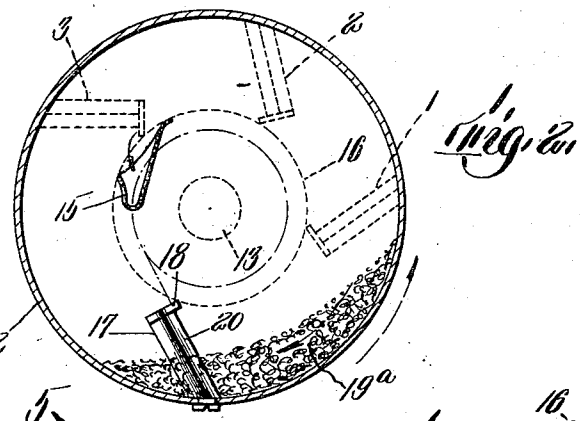


Fig. 2.

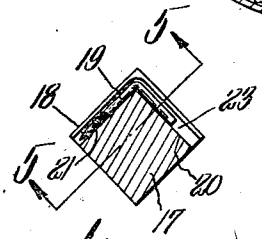


Fig. 4.

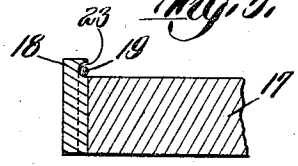


Fig. 5.

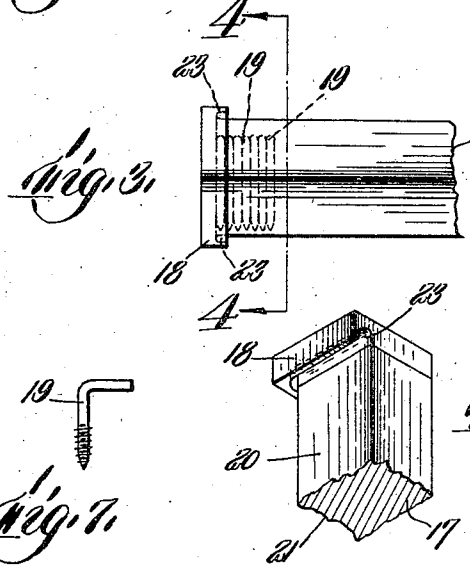


Fig. 3.

Fig. 6.

Fig. 7.

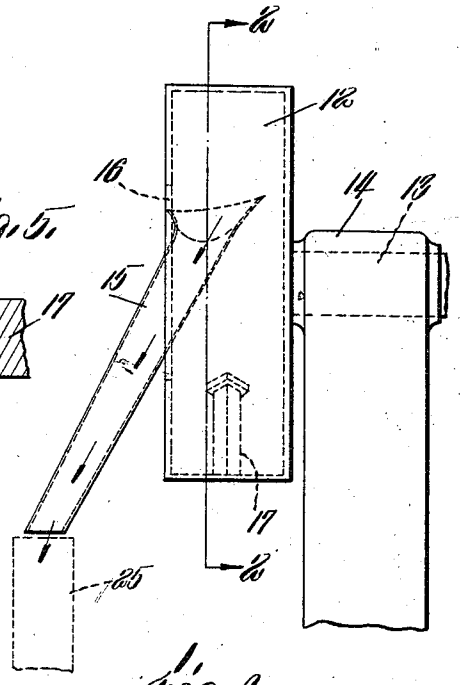


Fig. 1.

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UNITED STATES PATENT OFFICE.

ANDREW Y. HODGDON, OF DEDHAM, MASSACHUSETTS, ASSIGNOR TO GORDAN MACHINE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS.

SELECTING AND DELIVERING MECHANISM FOR PACKAGING MACHINES, ETC.

Application filed August 31, 1923. Serial No. 660,437.

To all whom it may concern:

Be it known that I, ANDREW Y. HODGDON, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented new and useful Improvements in Selecting and Delivering Mechanism for Packaging Machines, Etc., of which the following is a specification.

The object of this invention is to provide a simple and efficient mechanism, particularly for use in a packaging machine, for selecting and separating a single article from a loose mass of articles and delivering the selected article at a predetermined point, such as a station in a packaging machine where a carton or other receptacle is held in position to receive the article.

The invention is embodied in the improvements hereinafter described and claimed, in separating and delivering mechanism for the purpose above mentioned and other purposes.

Of the accompanying drawings forming a part of this specification,—

Figure 1 shows in elevation the elements of a mechanism embodying the invention.

Figure 2 is a section on line 2—2 of Figure 1.

Figure 3 is a side view of a portion of the collecting member shown by Figures 1 and 2, looking toward the rear side.

Figure 4 is a section on line 4—4 of Figure 3.

Figure 5 is a section on line 5—5 of Figure 4.

Figure 6 is a perspective view of a portion of the collecting member.

Figure 7 is a side view of one of the articles which the collecting member shown by the preceding figures is adapted to select from a loose mass of articles.

The same reference characters indicate the same parts in all the figures.

In the drawing, 12 represents a holder which may be a cylindrical drum having a closed end or head, attached to a horizontal driven shaft 13, journaled in a fixed bearing 14, the periphery of the drum being concentric with the shaft. A fixed receiver 15 projects into the holder, the mouth of the receiver being at one side of the axis of the holder, and preferably somewhat higher than said axis. The receiver may extend through a central opening 16 in the opposite end or head of the holder. Within the holder 12 is a collecting member which, in this instance, is an arm fixed to the holder and projecting inward from the margin thereof. Said member includes a collecting and guiding portion 17, adapted to segregate and position slidably side by side, a group of articles of more or less irregular form, such as hooks 19, from a mass 19^a of such articles resting on the lower portion of the holder, and permit the group of articles to slide by gravity in one direction, while the collecting member is moving from the mass. The collecting member also includes an article-retaining portion 18, with which an end article of the group is temporarily engageable by a sliding movement of the group, said article sliding into engagement with the portion 18, and the other articles being left loose on the guiding portion 17.

The retaining portion 18 is formed to select and confine an end article of the group until the collecting member reaches a predetermined point, and to then release the article and permit it to drop into the receiver 15. The arrangement is such that the loose articles on the guiding portion 17 drop back to the mass before the member reaches said predetermined point.

The form of the collecting member corresponds to the form of the article 19. In this instance said article is an angular hook, adapted to be screwed into a wall as a support for a tooth brush, the handle of which has an orifice to receive the projecting portion of the hook. For use with articles thus formed, the forward or advancing side of the collecting and guiding portion 17 is provided with faces 20 and 21, substantially at right angles with each other. When the member is passing through the mass 19^a several articles are accumulated on said faces, as indicated by Figure 3. The inclination of the member is progressively varied, as indicated by the dotted representations of the member in Figure 2. After the member rises from the mass the articles on the faces 20 and 21 slide along said faces toward the retaining portion 18. Said portion is provided with an angular groove 23, merging into said faces, the depth of the groove being such that it is adapted to receive one of the articles, as shown by Figure 5. When the member 17 is in approximately the dotted line position shown at 1, the articles

slide thereon toward the retaining portion 18, one of the articles being engaged with said portion, and thereby selected for separate delivery. When the member reaches approximately the dotted line position shown at 2, the loose articles on the guiding portion 17 drop upon the mass 19a. When the member reaches the dotted line position shown at 3, the selected article drops from the retaining portion 18 into the receiver.

It is obvious that the holder may be provided with a plurality of collecting members 17, and that the groove 23 may be of sufficient depth to receive more than one article. The receiver 15 may be arranged to deliver the article 19 to a container 25 (Figure 1) which may be one of a series of containers held by an endless carrier to which a step-by-step movement is imparted, as in a well known type of packaging machine. Said machine may include means for inserting a tooth brush in the container.

The collecting member is preferably tangentially arranged, that is to say, the forward edge of the portion 17 formed by the intersection of the faces 20 and 21 is tangential to an imaginary circle, such as that indicated by the circular dot and dash line in Figure 2. This arrangement ensures the release of the loose articles when the member reaches position 2, the selected article being retained by the retaining portion 18 until the member reaches position 3. It is obvious that two or more collecting members may be employed, arranged abreast of each other or side by side, to release the selected articles simultaneously, also that a plurality of members may be arranged in tandem order to release the selected articles successively.

The collecting and guiding portion of the collecting member adapted to collect a group of articles from a mass and permit the articles to slide by gravity after leaving the mass, enables the collecting member to be successfully used with articles of irregular shape, said portion ensuring the retention on the collecting member of a group of articles which are correctly positioned to slide toward the retaining portion, and thus ensure the engagement of one article with the retaining portion.

As implied in the foregoing description and in the following claims, I am not limited to the specific mechanism of the preferred embodiment of my invention shown by the drawings, except as otherwise required in certain of the more limited claims.

I claim:

1. A selecting and delivering mechanism comprising a loose article holder, a selected article receiver located outside a mass of loose articles in the holder, and a collecting member movable successively through said mass and to a delivering position relative to said receiver, and provided with means for retaining and thereby selecting an article from the mass and delivering only the selected article to the receiver, the said collecting member including a collecting and guiding portion adapted to segregate and position slidably side by side a group of loose articles from the mass, and permit the group to slide by gravity, and an article-retaining portion with which an end article of the group is temporarily engageable by a sliding movement of the group, the other articles being left loose on the guiding portion, the arrangement being such that the loose articles and the temporarily engaged article are successively released by the collecting member, the loose articles being released first and allowed to drop upon the mass, and the temporarily engaged article being subsequently released and allowed to drop into the receiver.

2. A selecting and delivering mechanism, comprising a rotary holder having a substantially horizontal axle, a collecting member fixed to and projecting inward from the margin of the holder, and revolved by the latter in a circular path, said member having a recessed confining portion at its inner end, and a receiver located adjacent to the path of the collecting member, and above the lower portion of the holder, the said member being formed to segregate and raise a plurality of articles from a loose mass resting on the lower portion of the holder and permit said articles to slide toward the confining portions while the member is moving upward from the mass, the confining portions being formed to engage and select one of said articles until the member reaches an elevated point above the receiver, and to then release the selected article, the arrangement being such that the selected article drops into the receiver, and the other articles drop back upon the mass.

3. A segregating and delivering mechanism substantially as specified by claim 2, the advancing side of said member having faces arranged to support and guide an angular article, the said confining portion projecting outward from said faces at the inner end of the member, and having an angular groove.

4. A segregating and delivering mechanism, comprising a rotary holder having a substantially horizontal axis, a collecting member fixed to and projecting inward from the margin of the holder, and revolved by the latter in a circular path, said member having a recessed confining portion at its inner end, and a receiver located adjacent to the path of the collecting member, and above the lower portion of the holder, the said member being formed to segregate and raise articles from a loose mass resting on the lower portion of the holder and permit said articles to slide toward the confining

portion while the member is moving upward from the mass, the confining portion being formed to engage and select one of said articles on the arm until it reaches a point above the receiver, and to then release the selected article, the said member being tangentially arranged so that in rising from said mass, it releases surplus articles before the confining portion reaches a delivering position above the receiver.

In testimony whereof I have affixed my signature.

ANDREW Y. HODGDON.