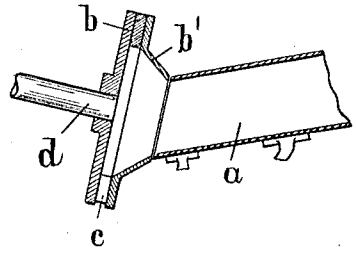
W. BRÜCKMANN.

FEEDING APPARATUS.

APPLICATION FILED NOV. 23, 1912.

1,066,992. Patented July 8, 1913.

Fig. 1.



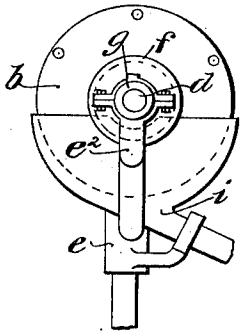
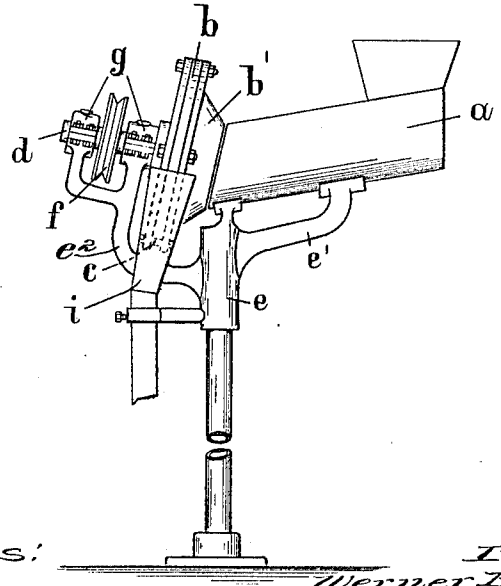


Fig. 3.

Fig. 2.



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FEEDING APPARATUS.

1,066,992. Specification of Letters Patent. Patented July 8, 1913.

Application filed November 23, 1912. Serial No. 733,144.

To all whom it may concern:

Be it known that I, WERNER BRÜCKMANN, a citizen of the Duchy of Brunswick, Empire of Germany, residing at Brunswick, Germany, have invented certain new and useful Improvements in Feeding Apparatus, of which the following is a specification.

My invention relates to improvements in feeding apparatus used for example in machines for applying closures such as caps to bottles. In feeding apparatus of this class the cap or other article must be fed in a determined position, and for this purpose the apparatus consists of an inclined feeding gutter and a rotary drum located at the end of the gutter and adapted to receive the articles, the circumference of this drum being provided with one or more openings of a determined form, so that the articles discharged into said drum from the gutter can pass through the said openings if they are in the proper position. Those articles which are not in the proper position and do not pass through the openings remain on the circumferential wall of the drum and are carried upwardly during the rotation of the drum until they reach the top thereof, whereupon they fall to the bottom of said drum, and this operation is repeated, until the articles are in proper position to pass through the openings. In apparatus of this class much inconvenience results from the fact, that the articles falling from the top to the bottom of the drum drop over the aforesaid openings, whereby the proper function of the apparatus is impaired.

The object of the present improvements is to provide an apparatus of this class in which the articles which are elevated by the rotary drum do not interfere with the feeding of the articles entering the drum from the gutter. With this object in view my invention consists in constructing the drum in such a way that the falling articles do not drop over the openings, but on a suitable ledge located in front of the openings, on which ledge articles mingle with the incoming articles and are fed in proper order to the rotary drum. In the preferred form of the invention the axis of the drum is inclined in such a way that the top of its circumferential wall overhangs the aforesaid ledge, so that at the moment the articles are dropped from said wall they will fall upon the ledge.

In order that my invention be more clearly understood an embodiment of the same has been shown in the accompanying drawing, in which the same letters of reference have been used in all the views to indicate corresponding parts.

In said drawing Figure 1, is a vertical longitudinal section of the feeding gutter and the rotary drum, Fig. 2, is a side view of the whole apparatus, and Fig. 3 is a fragmental front elevation of the apparatus.

Referring to the embodiment of the invention which has been shown in said drawing, the feeding apparatus consists of an inclined gutter a mounted on one arm e' of a suitable bracket e, which latter is provided at the opposite side from arm e' with a second arm e^2 having bearings g wherein a shaft d is mounted for rotation. This shaft carries a suitable driving member, such for example as a pulley f, and adjacent to the gutter a it carries a drum b. At the side adjacent to the gutter a the said drum is formed with a conical part b' constituting the afore-mentioned ledge, and at one or more parts of its circumferential wall, it is formed with an opening c which corresponds to the shape of the article to be fed by the apparatus, and which is adapted by the rotation of the drum b to be brought into registration with a suitable discharge passage i leading to the place where the article is next needed, the semi-circular upper portion of said passage inclosing the lower portion of the drum, so as to insure the articles falling thereinto. As shown in the drawing the shaft d is inclined downward and toward the gutter a. Therefore the upper part of the circumferential wall of the drum b directly overhangs the bottom part of the conical part or ledge b'.

The operation of the apparatus is as follows: The articles are fed through the gutter a into the rotary drum b. Those articles which arrive above the opening c in the proper position drop through the said opening and into the passage i. The other articles are elevated by the rotary drum b, and are dropped thereby so as to fall on the conical part or ledge b'. While in place thereon, the articles arrange themselves among the in-coming articles, and are again fed to the opening c. This operation is repeated, until each article arrives above the opening c in the proper position.

I claim herein as my invention:

1. In an apparatus of the class specified, the combination, with a feeder for the articles; of a hollow rotary element toward which said feeder extends provided with at least one discharge opening; and an inclined ledge interposed between said feeder and said element and leading into the latter, the said element having its top portion in direct over-hanging relation to the ledge, whereby articles carried upwardly by said element during its rotation will be caused to fall from said element, on reaching the top thereof, directly upon said ledge and will be again delivered therefrom into said element.

2. In an apparatus of the class specified, the combination, with a feeder for the articles; of a hollow rotary element toward which said feeder extends provided with at least one discharge opening in its circumferential wall, and with a hollow conical extension tapering toward said feeder and into which the latter delivers said articles, the said element having the top portion of said wall in direct overhanging relation to the bottom portion of the wall of said extension, whereby articles carried upwardly by said element during its rotation will be caused to fall from said top portion, on reaching the same, directly upon the said bottom portion of said extension and will be again delivered therefrom into said element.

3. In an apparatus of the class specified, the combination of a hollow rotary element having a discharge opening in its circumferential wall; and means for conveying articles into the interior of said element, the latter having the top portion of its aforesaid wall in direct overhanging relation to the delivery end of said conveying means, whereby articles carried upwardly by said element during its rotation will be caused to fall from said top portion, on reaching the same, directly upon said end and will be again delivered therefrom into said element.

4. In an apparatus of the class specified, the combination of a hollow rotary element having a discharge opening in its circumferential wall; a feeder extending toward said element; and a delivery member interposed between said feeder and said element and leading to the latter, said element having the top portion of its aforesaid wall in direct overhanging relation to that member, whereby articles carried upwardly by said element during its rotation will be caused to fall from said top portion, on reaching the same, directly upon said delivery member and will be again delivered therefrom into said element.

5. In an apparatus of the character specified, the combination of a hollow rotary element having its axis inclined downwardly, the circumferential wall of said element being provided with a discharge opening; means for feeding articles to said element; and a member leading into said element and disposed directly beneath the top portion of the aforesaid wall, for catching and delivering into said element the articles carried upwardly by the latter during its rotation and falling from the said top portion of said wall on reaching such portion.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WERNER BRÜCKMANN.

Witnesses:
WILHELM LEHRKE,
KARL MUNDT.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."