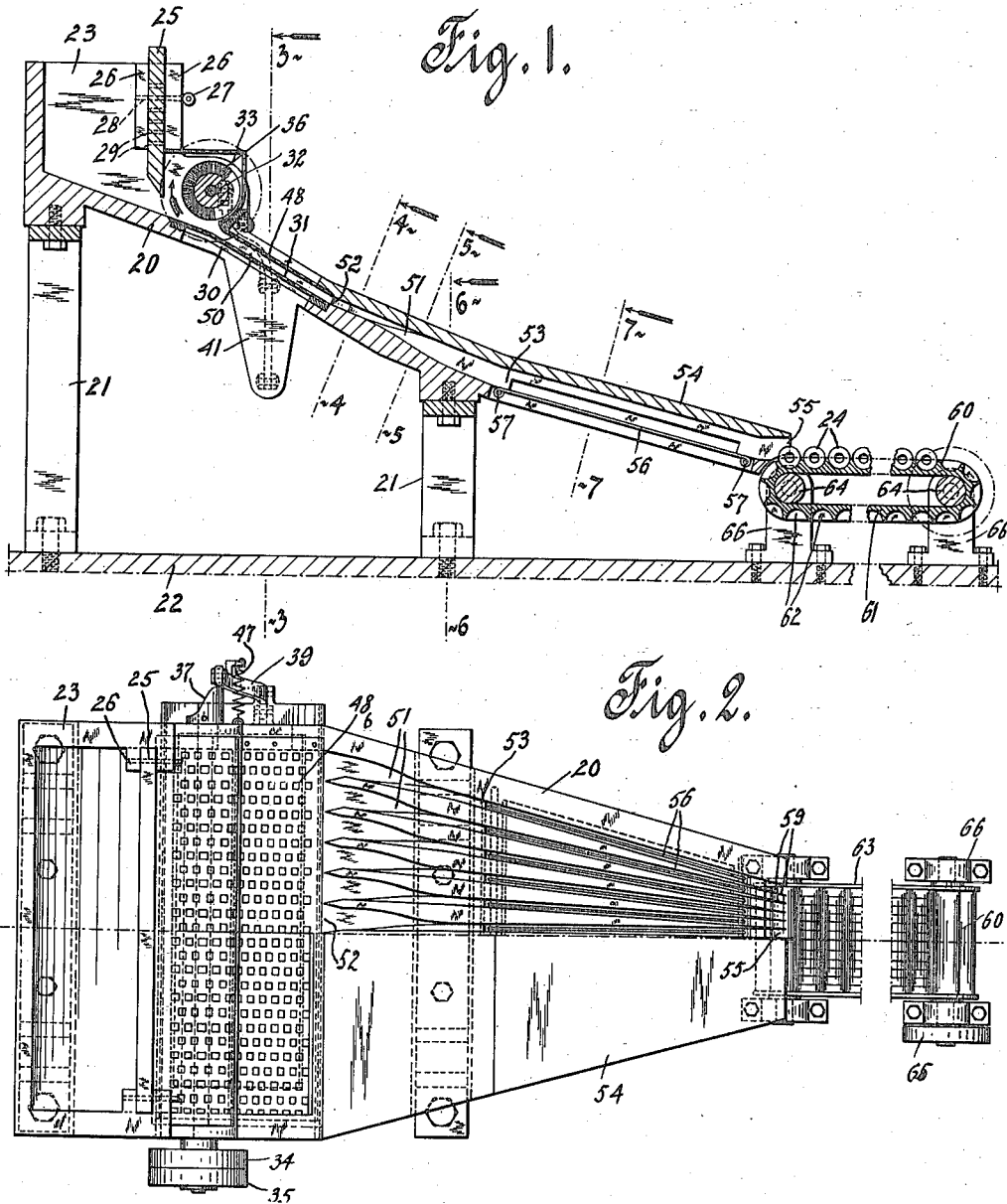


P. VARGA.
 APPARATUS FOR FEEDING ARTICLES TO WRAPPING TABLES OR WRAPPING MACHINES.
 APPLICATION FILED JAN. 13, 1916.

1,220,801.

Patented Mar. 27, 1917.
 3 SHEETS—SHEET 1.



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3 SHEETS—SHEET 2.

Fig. 3.

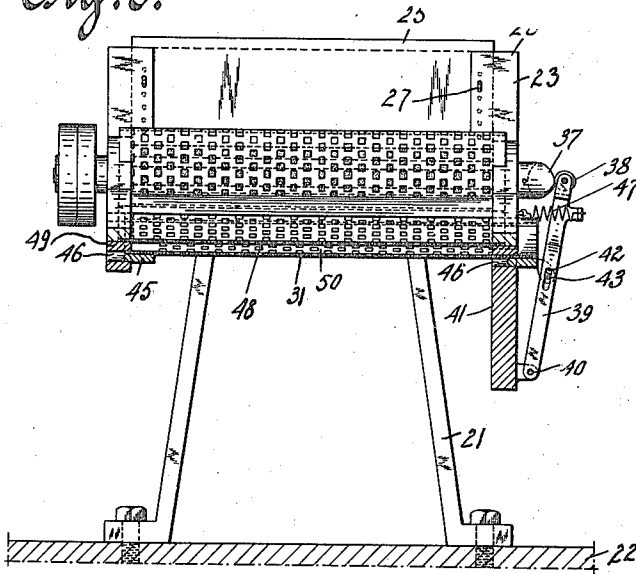


Fig. 7.

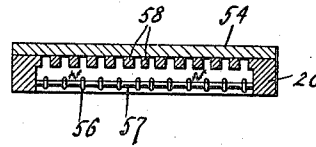


Fig. 6.

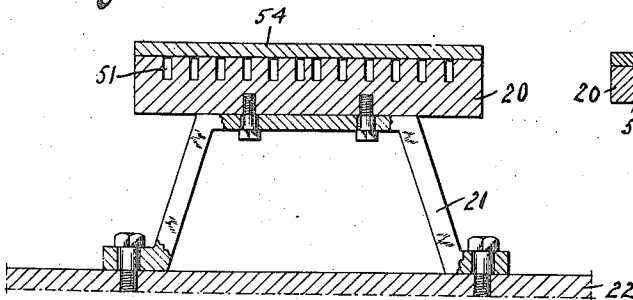


Fig. 5.

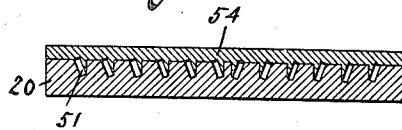
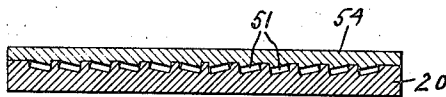


Fig. 4.



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Fig. 13.

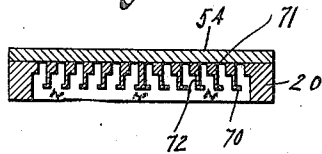


Fig. 14.

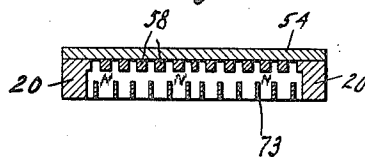


Fig. 8.

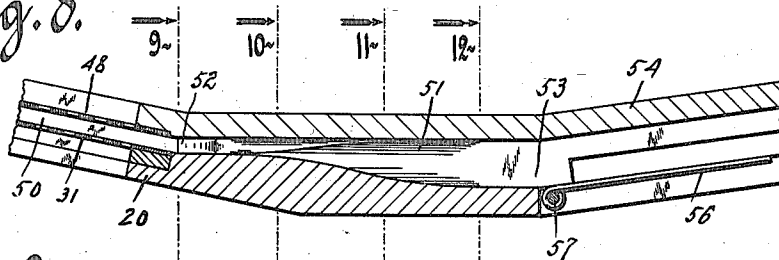


Fig. 9.

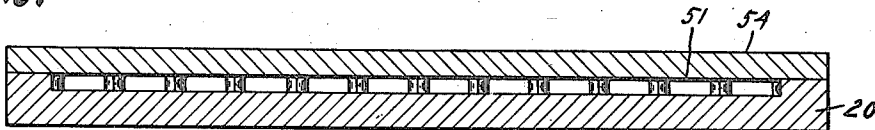


Fig. 10.

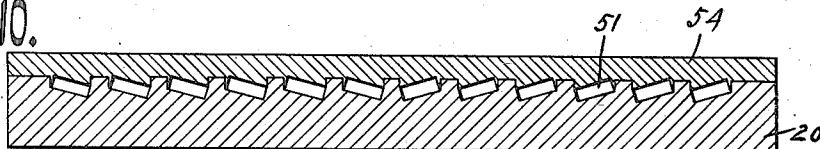


Fig. 11.

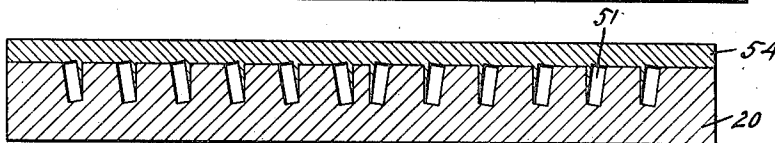
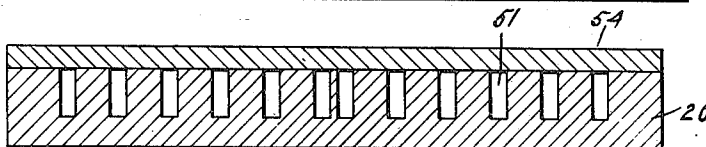


Fig. 12.



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UNITED STATES PATENT OFFICE.

PAUL VARGA, OF NEW YORK, N. Y.

APPARATUS FOR FEEDING ARTICLES TO WRAPPING-TABLES OR WRAPPING-MACHINES.

1,220,801.

Specification of Letters Patent.

Patented Mar. 27, 1917.

Application filed January 13, 1916. Serial No. 71,864.

To all whom it may concern:

Be it known that I, PAUL VARGA, a subject of the King of Hungary, and a resident of the city of New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Apparatus for Feeding Articles to Wrapping-Tables or Wrapping-Machines, of which the following is a specification.

The present invention relates to an apparatus for feeding articles, such as candy, to wrapping-tables or wrapping-machines. The invention relates more particularly to a device of this type which is adapted to handle disk-shaped or ring-shaped articles.

The main object of the invention is to provide a device of this character which is simple in construction, efficient in operation, and which can be manufactured on a commercial scale, or in other words one which is not so difficult to produce as to be beyond the reasonable cost of such a contrivance.

Another object of the invention is to so construct the feeding mechanism that it acts at the same time as a sorting device, that is to say as an apparatus which sifts and removes from the mass the broken articles, chips and pulverized matter.

A further object of the invention is to so devise the feeding apparatus that it constitutes at the same time a counting device which delivers the articles in stacks or columns of predetermined numbers to the wrapping-tables or wrapping-machines, as the case may be.

With these and other objects in view, which will more fully appear as the nature of the invention is better understood, the same consists in the combination, arrangement and construction of parts hereinafter fully described, pointed out in the appended claims and illustrated in the accompanying drawings, it being understood that many changes may be made in the size and proportion of the several parts and details of construction within the scope of the appended claims without departing from the spirit or sacrificing any of the advantages of the invention.

One of the many possible embodiments of the invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a vertical longitudinal section taken through a feeding apparatus constructed in accordance with the present invention; Fig. 2 is a top plan view thereof,

part of its cover being removed to more clearly show the interior construction; Fig. 3 is a section taken on line 3—3 of Fig. 1; Fig. 4 is a section taken on line 4—4 of Fig. 1; Fig. 5 is a section taken on line 5—5 of Fig. 1; Fig. 6 is a section taken on line 6—6 of Fig. 1; Fig. 7 is a section taken on line 7—7 of Fig. 1; Fig. 8 is a vertical longitudinal section taken through a portion of the machine on a larger scale; Fig. 9 is a section taken on line 9—9 of Fig. 8; Fig. 10 is a section taken on line 10—10 of Fig. 8; Fig. 11 is a section taken on line 11—11 of Fig. 8; Fig. 12 is a section taken on line 12—12 of Fig. 8; Fig. 13 is a section similar to the one shown in Fig. 7 of a modified apparatus; and Fig. 14 is also a section similar to the one shown in Fig. 7 taken through a further modification of the invention.

Referring now more particularly to Figs. 1 to 12, inclusive, the numeral 20 indicates the base plate of the apparatus, mounted upon legs 21, the latter being attached in any suitable manner to a support 22. The base plate 20 is inclined, and carries at its upper end a hopper 23, into which is placed a mass of articles indiscriminately. The apparatus herein illustrated is described as used for feeding ring-shaped candy to wrapping-tables or wrapping-machines, but it is to be understood that the machine can just as well be used for feeding disk-shaped articles, such as candy, coins, etc., to wrapping-apparatuses. The work, or in other words the candy, is denoted in the drawings by the numeral 24, and is ring-shaped, as clearly appears from Fig. 1 of the drawings. The front wall 25 of the hopper is made in the form of a gate, that is slidably disposed between guides 26 on the side walls of the hopper, pins 27, extending through apertures 28 in the guides and through apertures 29 in the front wall 25, serving to hold the said front wall in fixed relation to the bottom of the hopper, and to vary the height of the outlet of said hopper. This outlet is elongated and extends throughout the width of the hopper. In front of the hopper is provided in the base plate 20 an opening 30, that is covered by a foraminated plate 31, the foramina of which are considerably smaller than the candy pieces 24. The plate 31 is reciprocated transversely of the base plate by a mechanism hereinafter to be described, and serves mainly as a sifting device that separates pulverized matter and broken

parts from the mass traveling over the same. A shaft 32 is rotatably mounted in extensions 33 upon the sides of the hopper, said shaft being disposed transversely of the base plate, and provided with a fixed pulley 34 and a loose pulley 35, which receive motion, for instance by the intermediary of a belt from any suitable source of power. To this shaft is fixed a cylindrical brush 36, which extends throughout the width of the apparatus, and is rotated in the direction of the arrow shown in Fig. 1 of the drawings. The brush is disposed outside of the hopper in operative relation to the outlet thereof, and at a distance above the foraminated plate 31, which will permit the candy pieces to pass side by side, but never one on top of another, onto the said foraminated plate, lying or resting upon one of their plane faces. Upon the brush shaft is formed a cam 37, which coacts with an anti-friction roller 38 upon a lever 39, the latter being fulcrumed at 40 to a downwardly extending bracket 41 upon the base plate 20. The lever is provided intermediate its ends with a longitudinal slot 42, in which is seated a pin 43, that is carried by a lug 44, the latter being formed upon a frame 45, which is slidable transversely in guides 46 upon the base plate 20 of the apparatus. The foraminated sheet 31 is fixedly attached to the frame 45. A spring 47, fastened to the lever 39 and to the frame of the apparatus, serves to keep the anti-friction roller continuously in contact with the cam 37. As the brush shaft and the cam 37 are rotated, the lever is oscillated about its fulcrum 40, thereby reciprocating the foraminated plate 31.

In parallel relation to the foraminated plate 31 and at a distance above the same, which is slightly greater than the thickness of a candy piece, is fixedly attached to the base plate 20 a foraminated sheet 48, forming with the plate 31 and sides 49 upon the base plate a passage 50 for the candy pieces. With this passage communicate chutes 51, in the case illustrated twelve. These chutes are each of a cross section which accommodates a candy piece, their mouths 52 being so disposed that they receive the candy pieces sliding upon one of their respective plane faces, and are each twisted 90° so that at the points indicated by the numerals 53 the candy pieces stand upright, that is to say on their cylindrical faces. The chutes 51 are formed in the base plate 20 and a cover plate 54, that is attached to the said base plate. From the points 53 the candy pieces roll in the chutes toward the discharge openings 55 thereof. In these sections of the chutes the bottoms are formed each by a wire piece 56, the ends of which are attached to transverse bars 57. The sides 58 of the chutes throughout the lengths of the wire pieces 56 do not extend down to the said wire pieces, as clearly

shown in Fig. 7 of the drawings, whereby broken candy pieces, as they slide along the wire pieces 56, are adapted to fall off the apparatus, to be collected in a receptacle (not shown in the drawings). The chutes 51 converge toward the longitudinal center line of the apparatus, the sides 58 thereof decreasing in width and terminating in sharp edges, as shown at 59.

A transporting mechanism 60 receives the candy pieces from the chutes 51. This transporting mechanism may be made in the form of a belt conveyer 61, the apron of which is provided with transverse recesses 62, each of which is adapted to receive a plurality of candy pieces. This apron is provided with sideguards 63, and runs over two rollers 64, to one of which is keyed a pulley 65. The rollers are journaled in bearings 66, that are mounted upon the support 22. It is preferable to actuate the transporting mechanism intermittently. The means for effecting such movement has not been shown as it does not form part of the invention.

The operation of this device is as follows: Before starting the operation of the apparatus, the outlet of the hopper is adjusted to prevent a too quick passing of the candy pieces to the brush 36, as such feeding would result in a clogging of the outlet. The brush is rotated in the direction of the arrow shown in Fig. 1 of the drawings and being, as above described, disposed at a distance from the foraminated plate 31, which is slightly greater than the thickness of an individual candy piece, it prevents candy pieces from passing one on top of another into the passage 50. As the bottom of this passage is reciprocated or vibrated, it causes the candy pieces to slide on one of their respective plane faces toward the chutes 51, sifting out at the same time pulverized matter and broken pieces. The candy pieces enter then one after the other the chutes 51, and are therein turned 90° so that they move rolling beyond the points 53. Beyond these points again broken pieces are sorted out, while salable pieces enter the recesses 62 in the belt of the conveying apparatus. Into each of the recesses 12 candy pieces enter, there being twelve chutes 51 provided, as above described. These pieces form in each recess a horizontal column, that is carried to the wrapping-machine, to be wrapped automatically, into a cylindrical package or to a wrapping-table where each column is removed individually by the operator and wrapped up.

In the modification shown in Fig. 13 of the drawings the construction of the portions of the chutes 51 beyond the points 53 differs somewhat from the one described. The bottoms 70 of these portions of the chutes are made integral with the sides

thereof. One side, denoted by the numeral 71, of each of these chutes is, however, recessed, as shown at 72, whereby broken pieces tilt over and drop out of the chutes.

The modification shown in Fig. 14 differs from the one described in connection with Fig. 7 in that, instead of the wire pieces 56, longitudinal rails 73 are used as bottoms of the chutes.

What I claim is:—

1. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an individual article to be fed, and a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, parts of the sides of said chutes being cut away, whereby broken articles are tilted by gravity and fall off said chutes.

2. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an article to be fed, a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, the bottom of said passage being constituted by a foraminated plate, and means for reciprocating said plate.

3. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an individual article to be fed, a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, the bottom of said passage being constituted by a

foraminated plate, means for reciprocating said plate, and a rotary brush disposed above said plate at a distance that is approximately of the thickness of an article, said brush being located near the outlet of said hopper.

4. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an individual article to be fed, a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, and an endless conveyer having transverse recesses adapted to receive the articles from said chutes.

5. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an individual article to be fed, a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, the sides of said chutes at their discharge ends being wedge-shaped, whereby the articles issue from said chutes in the form of a horizontal column, and an endless conveyer having transverse recesses adapted to receive the articles from said chutes.

6. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, said passage being of a height that is substantially that of the thickness of an individual article to be fed, and a plurality of chutes leading from said passage, each chute being of a cross section corresponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces, parts of the sides of said chutes near their discharge ends being cut away, whereby

broken articles are tilted by gravity and fall off said chutes.

7. An apparatus of the character described, comprising a hopper adapted to receive disk-shaped articles and having an elongated outlet communicating with a passage throughout its width, the passage being of a height that is substantially that of the thickness of an individual article to be fed, and a plurality of chutes leading from said passage, each chute being provided with a cover and of a cross-section corre-

sponding substantially to that of a disk-shaped article, said chutes being twisted and their mouths being adapted to receive the articles resting on their plane surfaces and the discharge openings thereof being disposed so as to release the articles standing upon their cylindrical surfaces.

Signed at New York, in the county of New York, and State of New York this 29th day of Dec., A. D. 1915.

PAUL VARGA.