

1,300,441.

M. MARSA.  
CORK FEEDING MECHANISM.  
APPLICATION FILED MAY 10, 1918.

Patented Apr. 15, 1919.  
3 SHEETS—SHEET 1.

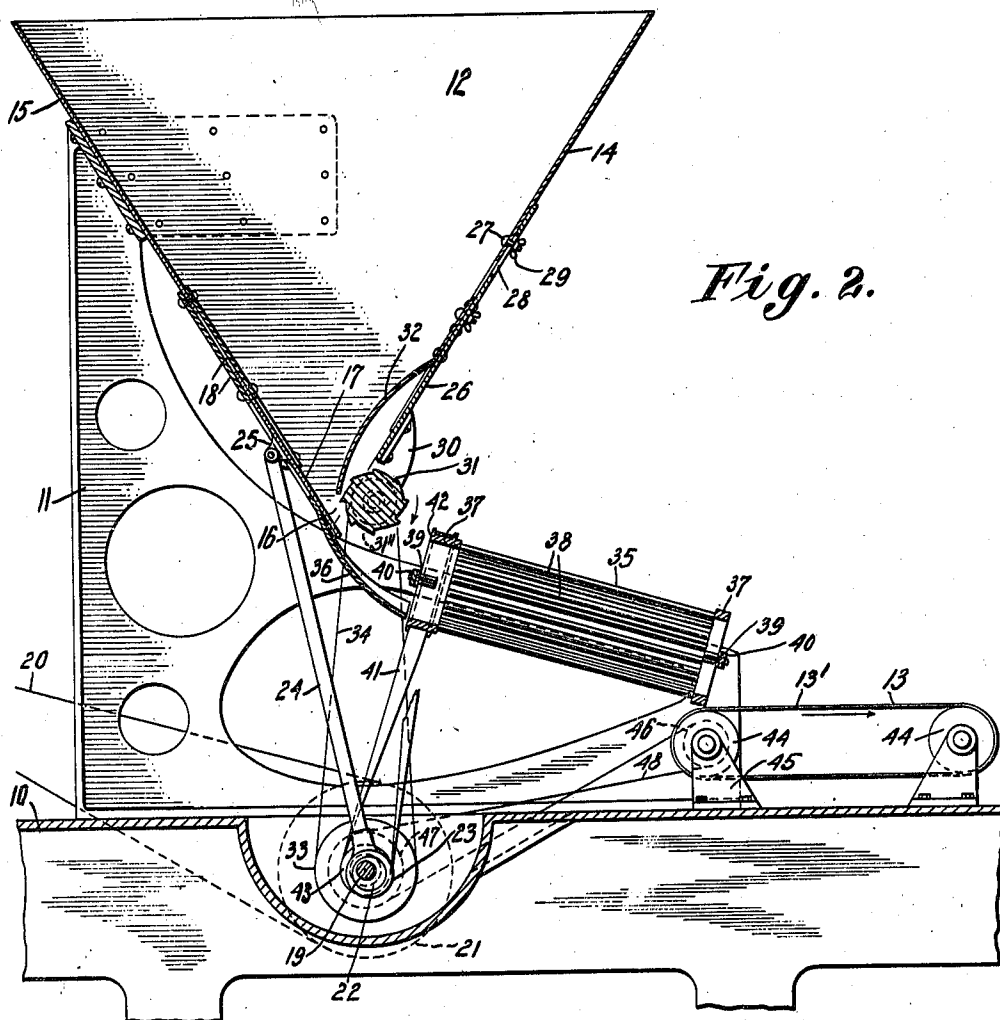


*Fig. 2.*

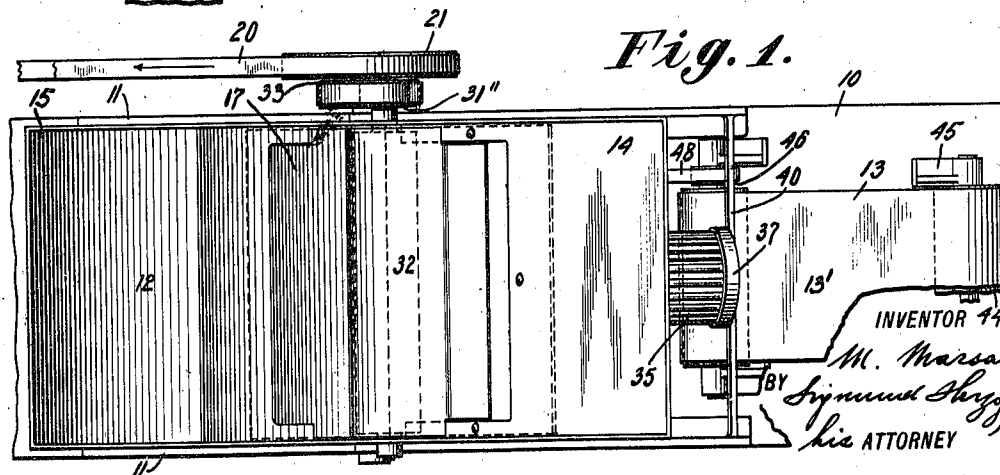


*Fig. 1.*

INVENTOR 44

M. Marsa

BY *Symund Shyoff*

his ATTORNEY

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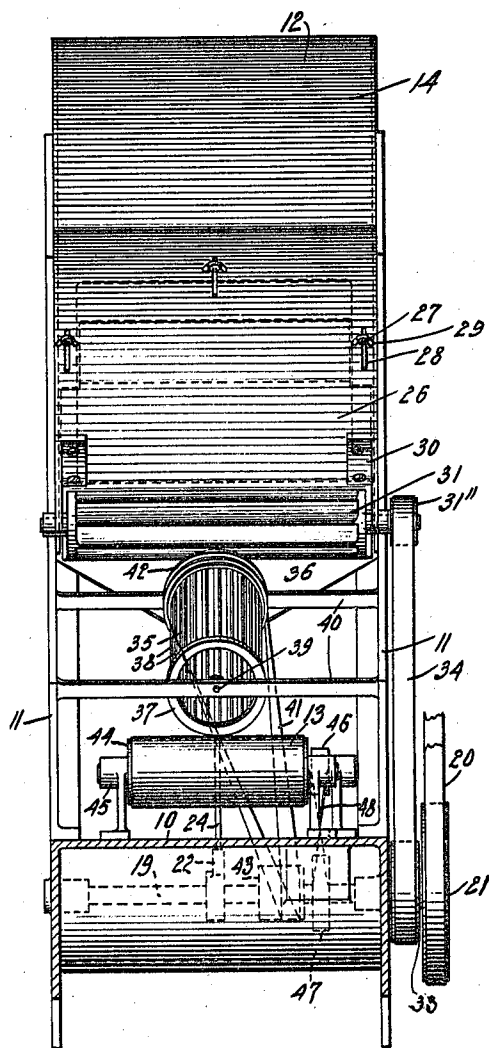


Fig. 3.

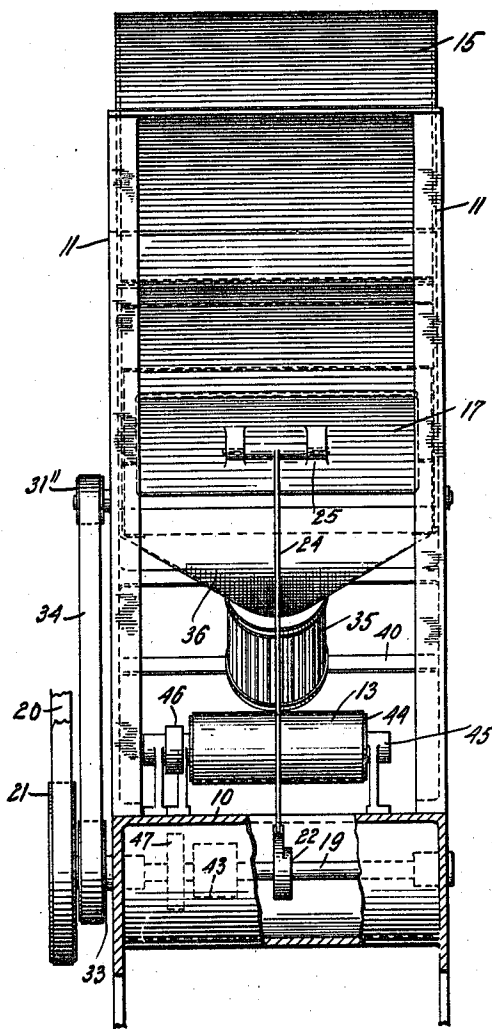


Fig. 4.

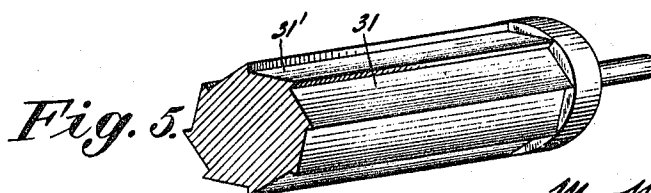


Fig. 5.

INVENTOR  
M. Marsa  
BY  
Sigmund Herzog  
his ATTORNEY

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*Fig. 6.*

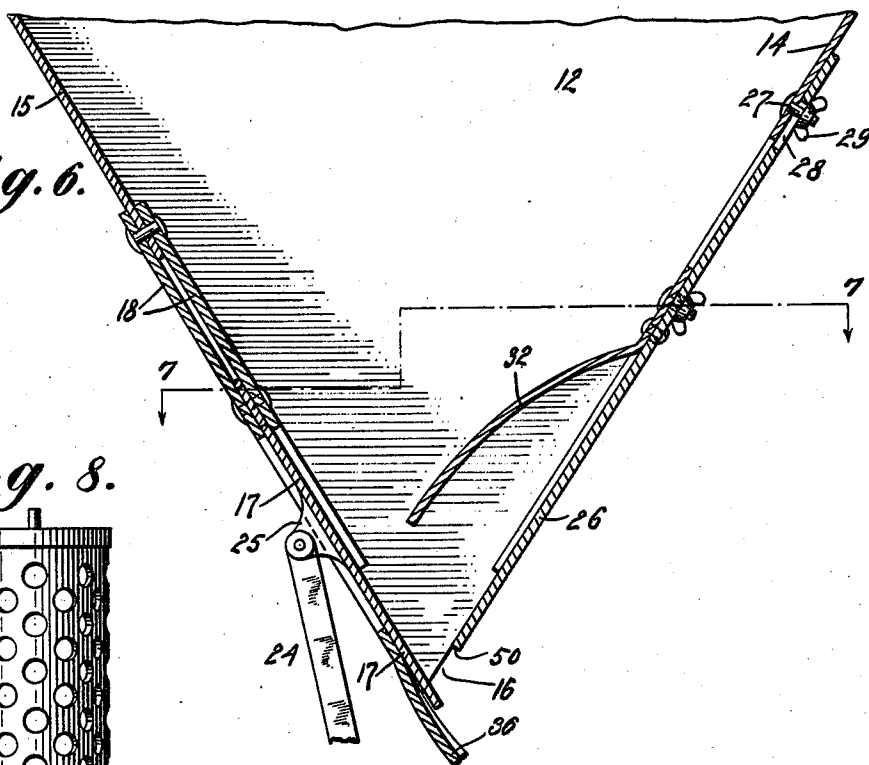


*Fig. 8.*

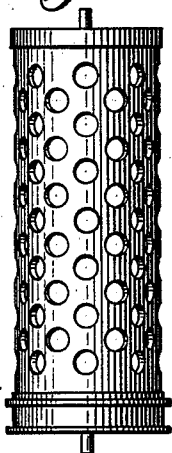
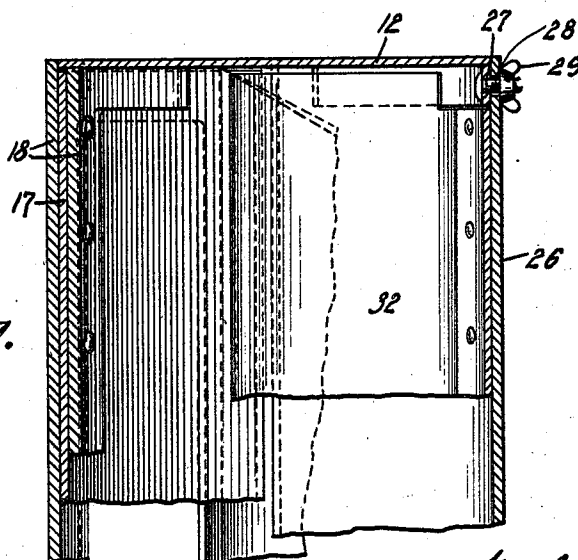


*Fig. 7.*



INVENTOR  
*M. Marsa*  
BY *Sigmund Herzog*  
his ATTORNEY

# UNITED STATES PATENT OFFICE.

MELCHOR MARSA, OF NEW YORK, N. Y., ASSIGNOR TO INTERNATIONAL CORK COMPANY,  
OF BROOKLYN, NEW YORK, A CORPORATION OF NEW YORK.

## CORK-FEEDING MECHANISM

1,300,441.

Specification of Letters Patent. Patented Apr. 15, 1919.

Application filed May 10, 1918. Serial No. 233,773.

*To all whom it may concern:*

Be it known that I, MELCHOR MARSA, a citizen of the United States, and a resident of the city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Cork-Feeding Mechanisms, of which the following is a specification.

The present invention relates to improvements in cork feeding mechanisms, designed to feed corks or cork disks to a support, preferably a belt conveyer, on which they are sorted, that is to say on which the imperfect corks or disks are separated from the perfect product.

In devices of this type heretofore in use the mass of corks or disks is placed into a receptacle, from which they are lifted by a bucket conveyer and dropped onto a screen, that forward them to the belt conveyer. The endless chain of buckets travels through the mass of corks or cork disks and has a tendency to injure the corks or break the disks. Another defect of this arrangement consists in that the entire mass of corks or disks cannot be removed from the receptacle by bucket conveyers, no matter how well they be constructed.

The main object of the present invention is to provide a feeding mechanism, which overcomes the defects mentioned, that is to say wherein not only are the corks or disks prevented from being injured or broken, but also the entire mass is conveniently transported to the support or belt conveyer.

With these and other object 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 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.

Two of the many possible embodiments of the invention are illustrated in the accompanying drawings, in which:—

Figure 1 is a top elevation of a feeding mechanism constructed in accordance with the present invention; Fig. 2 is a longitudinal vertical section taken therethrough; Fig.

3 is a front elevation of the same; Fig. 4 is a rear elevation thereof; Fig. 5 is a perspective view of a portion of a feeding roller forming part of the mechanism; Fig. 6 is a vertical section taken through a modified hopper; Fig. 7 is a section taken on line 7—7 of Fig. 6; and Fig. 8 is a plan view of a modified screen adapted for use in connection with both devices.

Referring now first to Figs. 1 to 5, inclusive, the numeral 10 indicates the table portion of the main frame of the machine, from which rise standards 11, supporting a hopper 12, into which are placed the corks or disks to be fed onto a support, for instance a belt conveyer 13. On this conveyer, the attendant separates the imperfect corks or disks from the perfect product, the latter traveling on the conveyer to be dropped into a receptacle, not shown in the drawings. The front wall 14 and the rear wall 15 of the conveyer are slanting, converging toward a discharge opening 16, which extends substantially throughout the width of the hopper and is disposed at its lowermost point. The rear wall 15 of the hopper includes a vibrating or reciprocating section 17, that forms the lower part of the said rear wall and is vibrated or reciprocated in the plane of the said rear wall, moving between guides 18, that are fixedly attached to the stationary section of the said rear wall. Vibrating or reciprocating motion may be imparted to the section 17 by any suitable means, for instance from a driving shaft 19, which is suitably journaled in bearings, formed upon the main frame of the machine. The driving shaft 19 is rotated from any suitable source of power, for instance by a belt 20, running over a pulley 21, that is fixedly attached to the said shaft. On the driving shaft is mounted an eccentric 22, the strap 23 of which is connected by a rod 24 with a lug 25, formed upon the rear face of the hopper section 17. The connection between the lug and rod 24 is pivotal, to permit of a proper operation of the eccentric.

The lower portion of the front wall of the hopper, denoted by the numeral 26, is also movable for the purpose of adjusting the size of the outlet of the hopper. To hold this movable section in its adjusted position, any suitable means may be provided, for instance there may be mounted on the stationary portion of the front wall screw bolts 27,

extending through slots 28 in the movable section 26, wing nuts 29, cooperating with the said screws, serving to clamp down the movable section onto the stationary portion 5 of the front wall. To the movable section 26 are attached bearings 30, in which is journaled a roller 31, that extends substantially throughout the width of the front wall of the hopper, and is rotated by any suitable means clockwise. This roller projects 10 through the discharge opening into the hopper, and is provided with longitudinal corrugations 31'. A baffle plate 32 is attached to the movable section 26 of the front wall, said 15 plate extending toward the vibrating or reciprocating section 17 of the rear wall of the hopper, so as to direct the corks or disks onto the said vibrating or reciprocating section, and at the same time, by reason of its pro- 20 jecting over the roller and discharge opening, prevents the whole mass of corks or disks from resting on the roller and from moving too rapidly toward said opening. The roller is actuated from the driving shaft 25 19, and for this purpose there is attached a pulley 31'' to the said roller and a pulley 33 to the said driving shaft. Over these pulleys extends a belt 34.

In front of the hopper is provided an inclined screening device 35, to which leads, 30 from the discharge opening 16, an extension 36 on the rear wall of the hopper. This screening device is interposed between the hopper and the belt conveyer 13, receiving the corks or disks from the hopper and delivering them onto the acting portion 13' of 35 the endless belt of the conveyer. The screen 35 is in the case illustrated in the drawings of the drum type, comprising two rings 37, 40 which are connected by bars 38, spaced apart and constituting the wall of the drum. The distance between adjoining bars is such as to permit broken corks and foreign matter to fall through, but prevents full-sized corks 45 from leaving the drum. The drum is open at both of its ends, and is provided with journals 39, which are rotatably mounted in cross-bars 40, connecting the two standards 11. The screen is rotated from the driving 50 shaft 19 by a belt 41, running over a pulley 42, constituted by one of the rings 37 of the screen, and a pulley 43 on the driving shaft.

The belt of the conveyer 13 runs over rollers 44, journaled in bearings 45, preferably 55 mounted upon the table portion 10 of the main frame. One of these rollers is provided with a pulley 46, in alinement with a pulley 47 upon the driving shaft 19, and in engagement with a belt 48.

60 The operation of this device is as follows: A mass of corks, to be fed onto the support 13, is placed into the hopper 12, the size of the discharge opening 16 having been previously adjusted so that its width, that is to 65 say the distance between the vibrating or

reciprocating section 17 of the rear wall of the hopper and the roller, is slightly larger than the diameter of an individual cork. If rotation is imparted to the driving shaft 19, the vibrating or reciprocating section 17 of 70 the hopper causes corks to move downward toward the discharge opening through which they leave the hopper by gravity. Since the roller rotates clockwise, it prevents a clog- 75 ging of the hopper outlet, in that it continuously agitates the corks near the said outlet, loosening the mass and turning the individual corks over, moving them back and forth until they find their way through the hopper outlet onto the inclined extension 80 36, on which they slide into the screen 35.

On the rotary screen the broken pieces and foreign matter are sifted out from the mass, the full-sized corks passing onto the 85 conveyer 13, where the attendant removes the imperfect ones, allowing the perfect product to travel in the direction of the arrow shown adjacent the belt conveyer in Fig. 2 of the drawings, from which they fall 90 into a receptacle, not shown.

If the device is used for feeding cork disks, such as are employed, for instance, in closures of the crown cork type, to the conveyer 13, a screen is made use of in the form 95 of a drum, having apertures each of which is smaller than the diameter of an individual cork disk (Fig. 8).

A modification of the hopper is shown in Figs. 6 and 7 of the drawings, differing from 100 the one above described in that it lacks the roller. In adjusting the size of the discharge opening of this hopper, care is to be taken that the lower edge 50 of its adjustable section 26 should be at a distance from its vibrating or reciprocating section 17 that 105 is somewhat greater than the diameter of an individual cork to be fed. This device is especially adapted for feeding cork disks, the motion imparted to the same by the vibrating or reciprocating section 17 of the 110 hopper being sufficient to feed them onto the inclined extension 36 thereon. The baffle plate 32 in this instance serves also to direct the cork disks to the vibrating or reciprocating portion 17, and also to prevent the 115 whole mass from flowing too suddenly toward the discharge opening of the hopper. This device can also be used for feeding corks of any size.

What I claim is:

1. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, 1 and means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section and in the direction of the travel of the mass of material through said opening. 1

2. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section and in the direction of the travel of the mass of material through said opening, and a baffle plate within said hopper projecting over said opening.

3. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section and in the direction of the travel of the mass of material through said opening, and means for adjusting the size of said opening.

4. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, a baffle plate within said hopper projecting over said opening, and means for adjusting the size of said opening.

5. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening and extending substantially throughout the width thereof, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, a baffle plate within said hopper projecting over said opening, and means for adjusting the size of said opening.

6. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, and a roller opposite said movable section and projecting into said opening.

7. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening and extending substantially throughout the width thereof, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary

section, and a roller opposite said movable section and projecting into said opening.

8. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, and a roller opposite said movable section extending throughout the width of and projecting into said opening.

9. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening and extending substantially throughout the width thereof, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, and a roller opposite said movable section extending throughout the width of and projecting into said opening.

10. A feeding device for corks or the like, including a hopper having a discharge opening, two of the walls of said hopper including each a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to one of said movable sections in a plane parallel to its stationary section, and a roller mounted upon the opposite movable section projecting into said opening, said last-named movable section and said roller being shiftable to adjust the size of said opening.

11. A feeding device for corks or the like, including a hopper having a discharge opening, two of the walls of said hopper including each a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to one of said movable sections in a plane parallel to its stationary section, a roller mounted upon the opposite movable section projecting into said opening, said last-named movable section and said roller being shiftable to adjust the size of said opening, and a baffle plate within said hopper projecting over said roller and said opening.

12. A feeding device for corks or the like, including a hopper having a discharge opening, two of the walls of said hopper including each a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to one of said movable sections in a plane parallel to its stationary section, a roller mounted upon the opposite movable section projecting into said opening, said last-named movable section and said roller being shiftable to adjust the size of said opening, and a baffle plate within said hopper pro-

jecting over said roller and said opening, said baffle plate being attached to the roller carrying movable section.

13. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, a roller opposite said movable section and projecting into said opening, and a baffle plate within said hopper projecting over said roller and said opening.

14. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening and extending substantially throughout the width thereof, means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, a roller opposite said movable section and projecting into said opening, and a baffle plate within said hopper projecting over said roller and said opening.

15. A feeding device for corks or the like, including a hopper having a discharge opening, one of the walls of said hopper including a stationary section and a movable section disposed in proximity of said opening.

means for imparting a vibrating motion to said movable section in a plane parallel to its respective stationary section, a roller opposite said stationary section extending throughout the width of and projecting into said opening, and a baffle plate within said hopper projecting over said roller and said opening.

16. A feeding device for corks or the like, including a hopper having a discharge opening, part of the hopper adjacent said opening being movable in relation to the body portion thereof and in the direction of the travel of the mass of material through said opening, means for imparting a vibrating motion to said movable part, and means projecting into said opening for preventing a clogging thereof.

17. A feeding device for corks or the like, including a hopper having a discharge opening, part of the hopper adjacent said opening being movable in relation to the body portion thereof and in the direction of the travel of the mass of material through said opening, means for imparting a vibrating motion to said movable part, and rotary means opposite said movable part and projecting into said opening for preventing a clogging of the latter.

Signed at New York, in the county of Kings, and State of New York, this 8th day of May, A. D. 1918.

MELCHOR MARSA.