J. L. MORRIS.

AGITATING FEEDER.

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1,413,345. **Patented Apr. 18, 1922.**

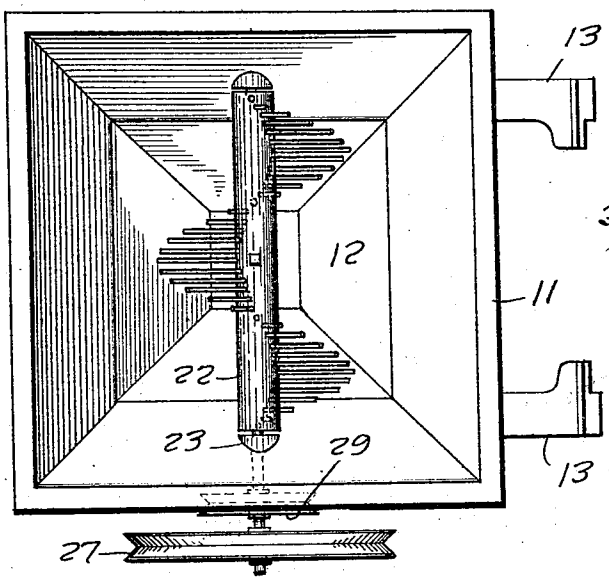


Fig. 1.

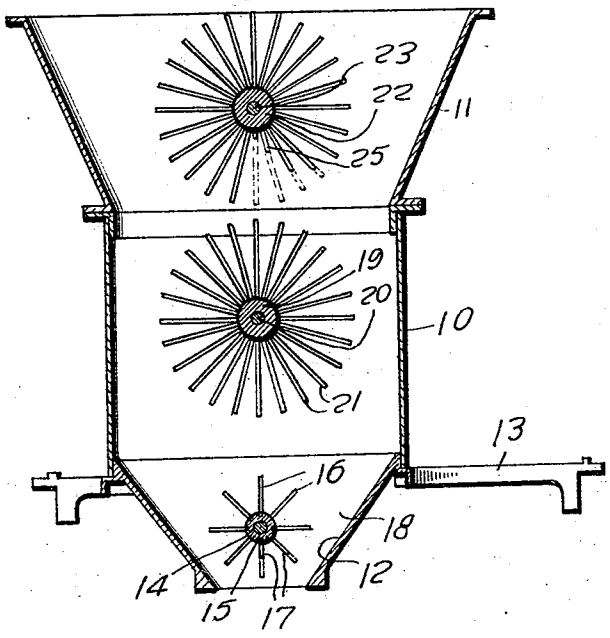


Fig. 2.

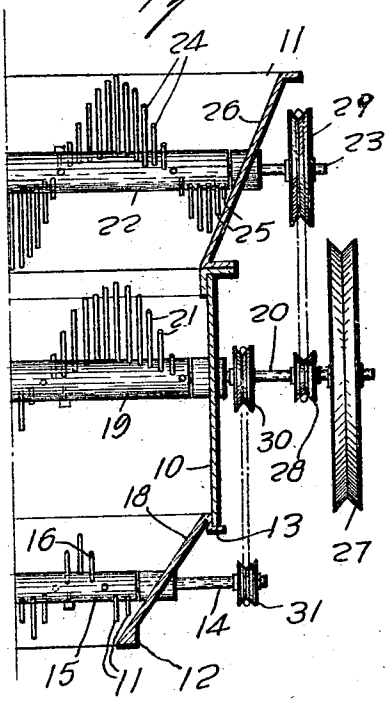


Fig. 3.

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AGITATING FEEDER.

1,413,345. Specification of Letters Patent. Patented Apr. 18, 1922.

Application filed June 4, 1921. Serial No. 475,057.

To all whom it may concern:

Be it known that I, JOLLY L. MORRIS, a citizen of the United States, residing at Crafton, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Agitating Feeders, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to agitating feeders and has for an object to provide a device embodying new and improved features of agitation and feeding combined, whereby the agitation not only agitates and beats up the material but conveys it from remote to central points.

A further object of the invention is to provide, in combination with a chamber having an outlet opening, of a plurality of agitators spaced one above the other, each having means for commingling or agitating the material, consisting of a series of pins or fingers set about a central roller in a line spiraled oppositely from opposite directions, whereby the material is moved by the agitator from the edges to the central part of the chamber.

With these and other objects in view the invention comprises certain novel features, elements, parts, combinations and functions, as disclosed in the drawing, together with mechanical equivalents thereof, as will be hereinafter more fully described and claimed.

It is well known that in the feeding of many materials, it is necessary to maintain agitation to prevent caking or other adhesions of the material, whereby the material ceases to flow freely through the outlet. While it is true to a certain extent that different materials will require different types of agitation, it is also true that with a feeding chamber having an outlet disposed centrally thereof, it is necessary to properly position the material centrally of the chamber so that it may be discharged through such outlet.

In the drawings:

Figure 1 is a top plan view of the agitating feeder;

Figure 2 is a sectional view taken on a vertical plane longitudinally of the superposed rollers, and

Figure 3 is a sectional view of a vertical plane taken transverse to the several rollers.

Like characters of reference indicate corresponding parts throughout the several views.

A chamber 10 is shown in the drawings having for convenience a hopper top 11 and a tapered outlet opening 12.

The specific type of agitating feeder disclosed in the drawings is intended for use in conjunction with automatic scales wherein the material is fed to a package or carton until a predetermined amount of material has been introduced, whereupon mechanism is provided for cutting off the further flow of material. It is obvious, however, that the feeder is not confined in its utility to such combination, but may be employed for any purpose and at any location where such a device is desirable. In conjunction with the scale, however, a supporting frame 13 is provided. Through the inclined hopper opening 12 a shaft 14 is journaled, preferably with a roller 15 rigidly mounted upon the shaft within this discharge chute. The roller 15 is provided with a plurality of fingers 16 preferably by being inserted into the material of the roller 15 and extending radially therefrom. Some of the fingers, as 17, are made shorter than the fingers 16 so that they will operate in conjunction with the inclined side 18 of the discharge chute.

In the chamber 10 a roller 19 is mounted upon a shaft 20 journaled in the sides of said chamber and provided with fingers 21. In the hopper 11 above the chamber 10 a roller 22 is mounted upon the shaft 23 with fingers 24 extending radially therefrom and with shorter fingers 25 at the ends to pass over the inclined surface 26 of the hopper structure.

Means is provided for rotating the several rollers 15, 19 and 22, as for instance by mounting a pulley 27 upon the shaft 20 with a second pulley 28 alined with the pulley 29 of the shaft 23 for a band or belt, and a pulley 30 alined with the pulley 31 upon the shaft 14 for a second band or belt, as indicated in dotted lines in Figure 3.

All of the fingers 16, 21 and 24 are arranged upon their respective rollers spirally on reverse spirals from the opposite ends, as indicated more particularly at Figure 1, so that with the shafts and rollers rotated, as indicated by the arrows at Figure 2, the

inclined relation or spirality of the row of fingers will tend to move the material from the ends to the center of the respective chamber. With the several agitators acting in unison it will be apparent that material will be agitated in the hopper 11 and moved toward the middle where it will drop to the chamber 10, again being agitated therein and moved to the middle to drop into the discharge chute 12, wherein the last agitator acts upon the material to move it toward the center and discharge it through a discharge opening.

What I claim to be new is:

1. An agitating feeder comprising a hopper having all of its sides inclined, an outlet chamber smaller than the hopper and having all of its sides inclined and beneath the hopper, shafts journaled in the hopper and in the outlet chamber in parallelism, means to drive the shafts, and fingers extending radially from the shafts following similar reversely spiralled lines about the shafts tending to move the material from the ends toward the middles of the shafts.

2. An agitating feeder comprising a hopper having all of its sides inclined, an outlet chamber smaller than the hopper and having all of its sides inclined and beneath the hopper, shafts journaled in the hopper and in the outlet chamber in parallelism, means to drive the shafts, and fingers extending radially from the shafts following similar reversely spiralled lines about the shafts tending to move the material from the ends toward the middles of the shafts, the fingers approaching the ends of the said shafts decreasing in length.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

JOLLY L. MORRIS.

Witnesses:

FRANKLIN H. HOUGH,

CARL R. HERMAN.