May 22, 1923. 1,456,216

H. M. BRIGHTMAN

FEEDING AND SORTING DEVICE

Filed Oct. 28, 1921

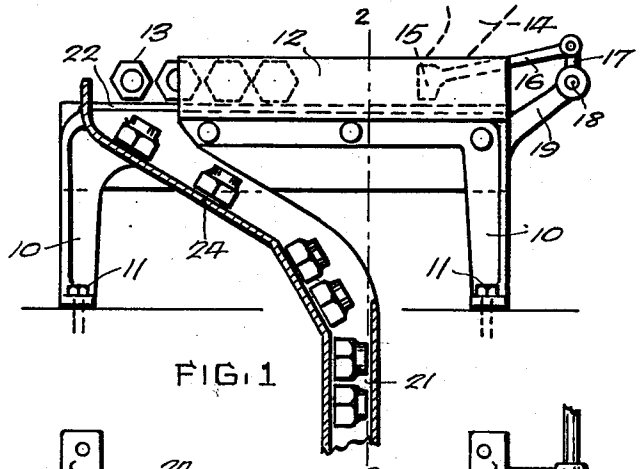


FIG. 1

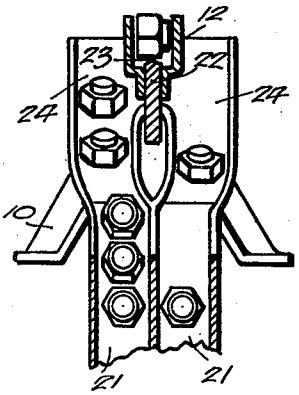


FIG. 2

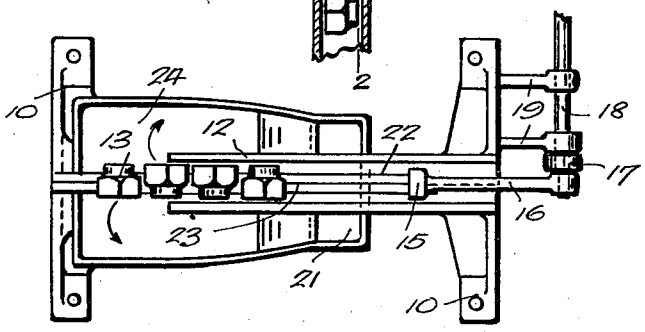


FIG. 3

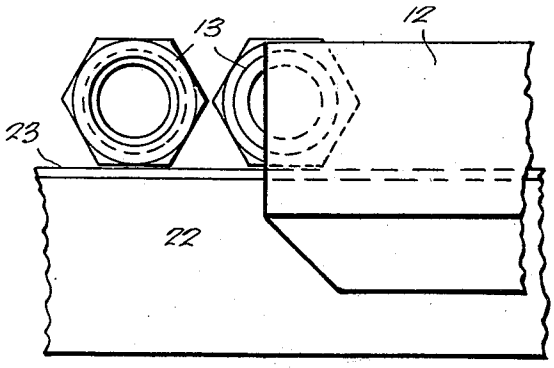


FIG. 4

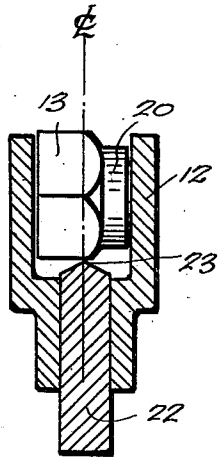


FIG. 5

INVENTOR.

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BY

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UNITED STATES PATENT OFFICE.

HARRISON M. BRIGHTMAN, OF COLUMBUS, OHIO, ASSIGNOR OF ONE-FOURTH TO G. F. BRIGHTMAN, ONE-FOURTH TO H. L. BRIGHTMAN, AND ONE-FOURTH TO J. H. BRIGHTMAN, ALL OF COLUMBUS, OHIO.

FEEDING AND SORTING DEVICE.

Application filed October 28, 1921. Serial No. 510,988.

To all whom it may concern:

Be it known that I, HARRISON M. BRIGHTMAN, a citizen of the United States of America, residing at Columbus, in the county of Franklin and State of Ohio, have invented certain new and useful Improvements in Feeding and Sorting Devices, of which the following is a specification.

My present invention relates generally to feeding devices utilized in connection with articles where it is desired to transfer the articles from a mixed condition as for instance in a hopper containing a quantity thereof, into a machine for operating upon the articles, to which the articles must be supplied in a certain definite uniform position, and my object is the provision of a simple inexpensive feeding apparatus in which the articles are automatically sorted during the feeding thereof so as to assume of their own action the desired position at the end of the feeding operation.

More particularly my present invention relates to the feeding of nut blanks having extensions at one end and heaviest at their opposite ends, to finishing machines or devices requiring that the blanks be received thereat with the extensions turned in one and the same direction, and my invention proposes an apparatus in which the nut blanks will assume the desired uniform position during the feeding thereof from mixed conditions within a hopper and the like, through the action of gravity alone, so as to minimize moving parts and power requirements.

In the accompanying drawing illustrating my present invention and forming a part of this specification,

Figure 1 is a side view, partly in elevation and partly in section illustrating a feed apparatus embodying my invention,

Figure 2 is a vertical transverse section taken on line 2—2 of Figure 1,

Figure 3 is a top plan view,

Figure 4 is an enlarged side view of one end of the feed trough, and

Figure 5 is an enlarged transverse vertical section through the feed trough.

Referring now to these figures and particularly to Figures 1, 2 and 3 my invention proposes a feed device in the nature of a feed table, supported upon uprights or legs 10 adjacent to its opposite ends, the lower portions of which uprights or legs may be connected as by means of bolts 11 to a suitable support. Lengthwise of the upper portion of the table is a feed trough 12, between th spaced parallel side walls of which the nut blanks 13 are dropped adjacent to the forward end of the trough from any suitable container, as for instance a hopper, a portion of which is indicated at 14 in dotted lines in Figure 1, under control of a plunger 15 which works longitudinally in the forward portion of the trough and serves to intermittently shift the nut blanks 13 rearwardly during operation. This plunger 15 has a stem 16 connected to the crank 17 of a shaft 18 rotating in bearing brackets 19 at the forward end of the feed table, and actuated from any suitable source, its speed of rotation controlling the speed of feeding movement of the nut blanks.

As applied to the nut blanks 13 of the type shown, having extensions 20 at one end which in a subsequent operation are suitably finished my improved feeding apparatus contemplates the sorting of these nut blanks so that they will finally pass into feed chutes 21 with their extensions 20 turned in the same direction as appears in Figures 1 and 2.

To this end a rib 22 traverses the feed trough 12 lengthwise thereof and presents a bearing edge 23 for the support of the nut blanks which edge is disposed centrally between the side walls of the trough and extends beyond the discharge end of the trough so that the nut blanks as they are pushed from the discharge end of the trough will tilt and fall laterally from the rib with their heavier ends foremost during this gravity movement, upon a feed plate 24 having portions disposed at opposite sides of the rib 22 and inclined forwardly and downwardly as clearly seen in Figures 1 and 2 so that the nut blanks caught by the feed plate and falling thereon with their extensions 20 turned uppermost, may slide downwardly to the feed chutes 21 with which the lower forward portion of the feed plate connects.

It will be noted from Figure 5 in particular that the feed trough 12 is of a width

adapting the same to receive the nut blanks with their axes disposed horizontally and transversely of the feed trough only, these blanks being greater in diameter than in length, but in view of their feeding movement from a hopper and the like wherein a quantity of the blanks are disposed in various positions it is quite obvious that the blanks will feed into the trough 12 in endwise reversed relation. In further view however of the fact that the bearing edge presented by the rib 22 is centrally of the base of the feed trough and the nut blanks are heavier at one end than at the other, it is obvious that they will fall to one side or the other of the feed plate 24 with the extension 20 or the lighter end thereof uppermost.

It is possible of course by tilting the trough 12 rearwardly and downwardly to avoid the use of the plunger 15 and thus do away with all moving parts, but the use of the plunger as I have shown, will be the means of bringing about an intermittent feed the speed of which may be governed by the speed of the stroke of the plunger to suit the conditions existing at the finishing machine or other apparatus to which the chutes 21 direct the blanks.

In view of the fact that the action of the apparatus is, in part at least, by gravity, it is contemplated that it will in use be levelled on a support admitting of bolting or otherwise connecting the apparatus so that it cannot shift from a level position.

I claim:

1. A feeding and sorting device including a horizontally disposed feed trough, a plunger working within one end of the feed trough to force articles from the opposite end of the feed trough, a rib extending through the feed trough and beyond the last named discharge end thereof and presenting a bearing edge for the support of the articles centrally between the sides of the feed trough, an inclined feed plate having portions thereof disposed at opposite sides of that portion of the rib beyond the discharge end of the trough, to receive articles falling laterally from both sides of the rib, and a feed chute with which the lower portion of the feed plate connects.

2. A feeding and sorting device including a horizontal feed trough, a rib presenting a bearing edge for the support of articles moving in the trough, said rib extending along the base of the trough and having a portion projecting beyond the delivery end of the trough, means working lengthwise of the feed trough within its opposite end to force articles out of the delivery end of the feed trough, an inclined feed plate having portions at opposite sides of the said projecting portion of the rib to receive articles therefrom, and a feed chute with which the lower portion of the feed plate connects.

In testimony whereof I have affixed my signature.

HARRISON M. BRIGHTMAN.