

C. E. WARNER.
FEED REGULATOR.
APPLICATION FILED JULY 12, 1909.

977,148.

Patented Nov. 29, 1910.

2 SHEETS—SHEET 2.

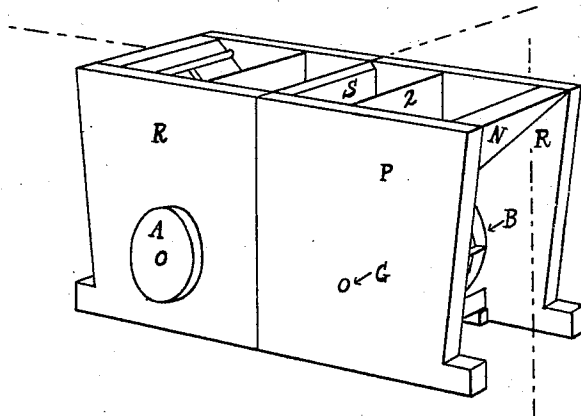


Fig. 5.

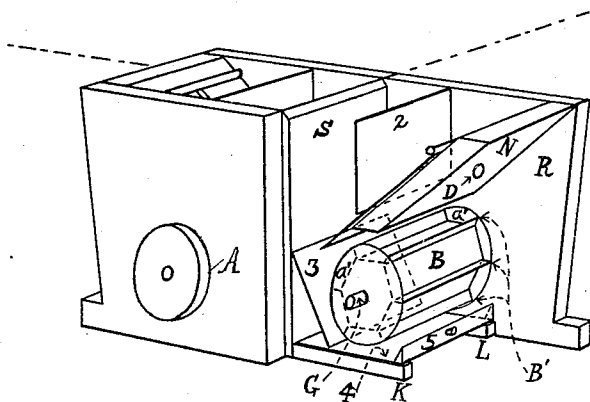


Fig. 6.

Witnesses.

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FEED-REGULATOR.

977,148.

Specification of Letters Patent.

Patented Nov. 29, 1910.

Application filed July 12, 1909. Serial No. 507,212.

To all whom it may concern:

Be it known that I, CHARLES E. WARNER, a citizen of the United States, residing at Batavia, in the county of Genesee and State of New York, have invented a new and useful Improvement in Feed-Regulators, of which the following is a specification.

My invention relates to improvements in a feed regulator for grains and seeds, and more particularly to such mechanism for bean picking machines in which parts operate in a hopper in conjunction with a conveyor belt placed below the hopper; and the objects of my improvement are, first, to provide for the quick and perfect removal of all beans from the hopper; second, to provide an easily regulated device to govern the flow of the beans and thus control the quantity of beans delivered by the distributor to the conveyor belt; third, to afford positive delivery and distribution of the beans to and onto the conveyor belt in its full width. I attain these objects by the mechanism illustrated in the accompanying drawing, in which:—

Figure 1 is a top view of two of the machines placed back to back and united to form a double machine. Fig. 2 is a vertical view of the interior of a double machine with the side of the machine toward the observer removed. Fig. 3 is the end view of a double machine. Fig. 4 is the side view of a double machine. Fig. 5 is a view in perspective of a double machine. Fig. 6 is a view in perspective of a double machine with the side of one machine removed to show the interior of the machine.

Similar characters refer to similar parts throughout the several views.

The side or plate P, the side or plate R, the back or plate S, and the front or plate N, placed substantially as shown in the views constitute the framework of the machine. To the sides P and R is fastened the plate 2 parallel to and at a distance from the back S as shown. The plate 3 is fastened to the back and sides and extends downward from the back S near the lower end thereof toward the front at an angle, as shown. Immediately underneath the lower edge of this plate 3 is placed the movable slide or plate 4 with its front or outer edge turned upwardly to form flange 5. A small knob or pull C is placed on the front side of this upturned flange. This movable plate 4 rests on small tracks K and L projecting in-

ward from the sides of the hopper at the bottom as shown. On the front plate N which is placed at an angle as shown rests a movable plate or slide 6 with a curled lip forming a handle at its upper extremity. This plate has a slot shown at M (Fig. 1) to permit the extension through the plate 6 of the bolt D (Fig. 2) which is secured in the slanting plate N. The upper end of the bolt D is threaded and a lock-nut E is placed thereon above the movable plate 6. This nut E holds the sliding plate in position. When the nut is loosened the slide 6 may be raised or lowered along the upper side of the slanting frame plate to permit of increase or decrease in the size of the opening between the edge of the slide 6 and the plate 3.

Through the bearings Y and H on the sides P and R (Fig. 1) extends a shaft G; to this shaft is fastened a prismatic shaped polyhedron (preferably one with six lateral faces), the shaft extends laterally through the center of the prism. In the views herewith B represents this prism. At adjacent edges of the prism are placed metal strips or cleats which extend the length of the prism and outwardly to form narrow projections B'. At the ends of the prism are placed circular plates a' the edges of which extend as far as the outside edges of the projections B'. The said plates are placed at right angles to the axis of the prism with their centers at the end of said axis. The shaft G and the prism B fastened thereto rotate by means of a belt running to a small pulley wheel A placed on the end of the shaft G which extends outside the frame of the machine as shown.

From a chute J over the machine the beans enter the hopper formed by the machine and pass downwardly as indicated by the arrows (Fig. 2) between the back S and the plate 2. The passage of the beans is regulated by the position of the slide 6 which is raised, lowered or held in place as hereinbefore described. The beans descend and rest upon the plate or slide 4 and are between the plate 3 and the rotating prism B. The rotation of this prism B in the direction shown by the arrows around B (Fig. 2) causes each projection B' to pick up the beans and carry them over B to a point where they successively fall from each projection B' to the conveyer or picking belt F (Fig. 2) which travels below the ma-

chine in the direction from the back toward the front of the machine as shown by the arrow over the belt F.

Removal of the slide or plate 4 outwardly upon the tracks K and L allows the beans in the hopper to fall directly to the conveyer belt F. Thus is afforded means for the quick removal of all beans from the machine. I find this especially of advantage in changing from one variety of beans to another.

The adjustment accomplished as hereinbefore mentioned, of the size of the opening between the lower edge of the slide 6 and the plate 3 permits the control of the quantity of beans descending to the lower part of the hopper and affords means to regulate the quantity of beans picked up and delivered by the projections B', while in rotation, to the conveyer belt F.

The plate 2 keeps the beans from contact with the upper part of slide 6 and lock-nut E. The plate 3 deflects the beans toward the prism B and prevents beans from crowding to the back edge of slide 4 when the latter is in place.

The rotation of the prism B causes the projections B' thereon to successively travel upwardly through the mass of beans between B and the plate 3. As the projections leave the mass, beans in some quantity will remain on these projections B' in their entire length. The further rotation of the prism causes the projections B' to successively reach a point, as hereinbefore mentioned, where the beans fall therefrom along their entire length on the conveyer belt F which is of a width as great as the length of the prism B. The projections B' are preferably made of metal so as to prevent these projections from becoming so worn as not to retain beans thereon. These projections instead of being placed as shown may be placed at an angle which will cause them to have a slight slant forward in the direction in which the prism rotates. In this

manner a means is afforded for a positive delivery and distribution of the beans to the conveyer belt F.

The cover V, I of the machine is hinged at W so as to permit of it being raised to allow access to the part of the hopper wherein is contained the lock-nut E and the upper part of the slide 6. This cover when closed is locked in place by a lock placed at U and prevents access to the interior of the hopper.

The frame P, R, S of the machine is fastened at the bottom of P and R to the lower part of the bean picking machine in which operates the belt F. This lower part of the machine is not shown with the exception of the conveyer belt F which is shown in Fig. 2.

I claim:

1. A feed regulator consisting of a hopper having a slanting front plate, a slotted slide adjustable on said plate and adapted to close the discharge opening in said hopper, a prismatic discharge roller mounted below said slide, a deflector plate secured in said hopper opposite said slide and adjacent said roller, a track below said discharge roll, and a slide on said track having an upturned flange at its end.

2. A feed regulator consisting of a hopper having a slanting front plate, a slotted slide adjustable on said plate and adapted to close the discharge opening in said hopper, a retainer plate secured in said hopper transversely thereof over said slide, a prismatic discharge roller mounted below said slide, a deflector plate secured in said hopper opposite said slide and adjacent said roller, a track below said discharge roll, and a slide on said track having an upturned flange at its end.

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Witnesses:

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