(No Model.)

M. M. NYE.

BEAN PICKER.

No. 529,687. Patented Nov. 20, 1894.

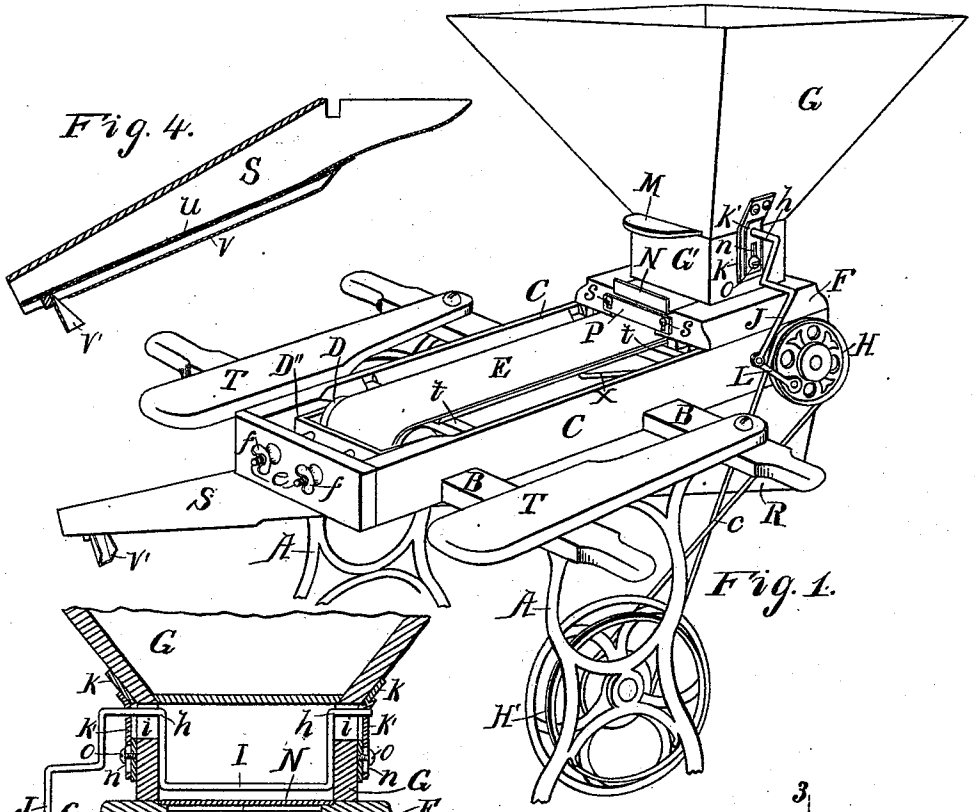

Fig. 1.

Fig. 4.

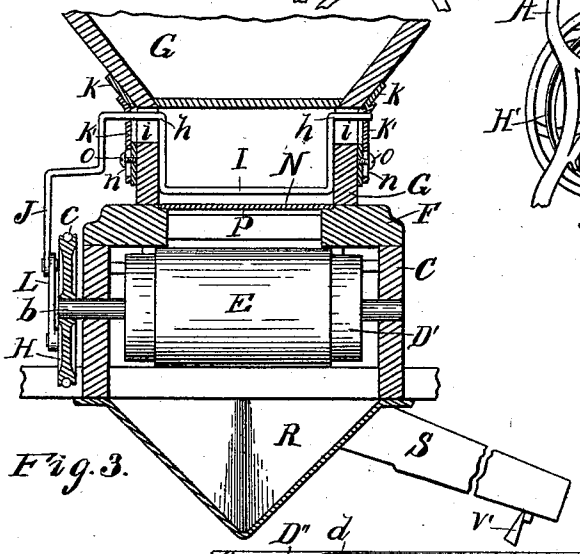

Fig. 3.

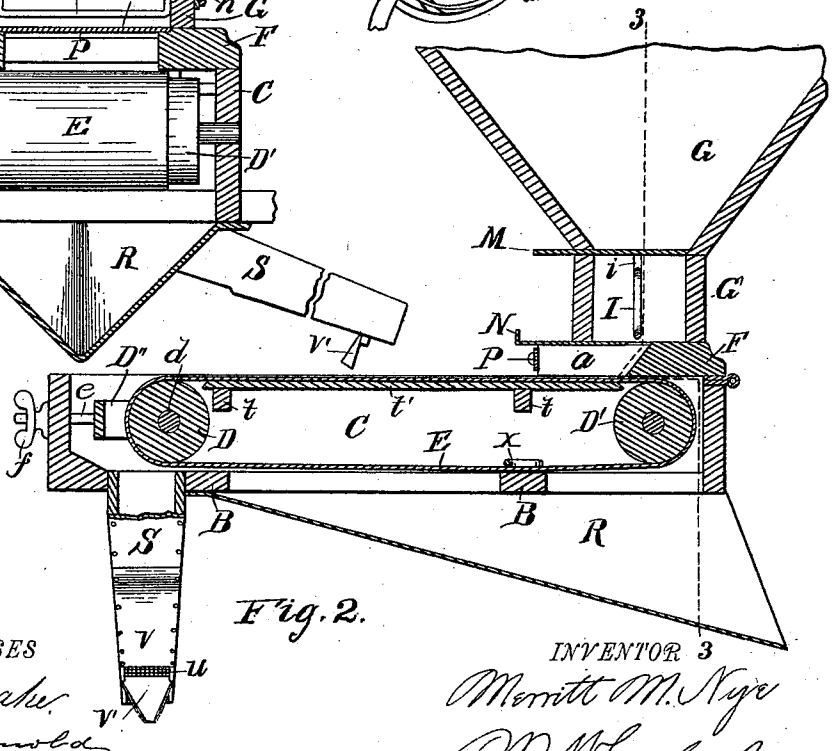

Fig. 2.

WITNESSES

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MERRITT M. NYE, OF ROCHESTER, MICHIGAN.

BEAN-PICKER.

SPECIFICATION forming part of Letters Patent No. 529,687, dated November 20, 1894.

Application filed January 29, 1894. Serial No. 498,373. (No model.)

To all whom it may concern:

Be it known that I, MERRITT M. NYE, a citizen of the United States, residing at Rochester, in the county of Oakland and State of Michigan, have invented certain new and useful Improvements in Bean-Pickers; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form apart of this specification.

This invention relates to new and useful improvements in bean pickers, and consists in a certain construction and arrangement of parts, as hereinafter fully set forth and pointed out particularly in the claims.

The object of the invention is to provide simple and effectual means to facilitate the picking over or assorting of shelled beans or other seeds, whereby the bad beans or seed and refuse matter may be rapidly removed. This object is attained by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a perspective of my improved machine, a portion of the stand being broken away. Fig. 2 is a vertical longitudinal section through the machine. Fig. 3 is a vertical transverse section as on dotted line 3—3 of Fig. 2. Fig. 4 is a longitudinal section through the front end discharge spout.

Referring to the letters of reference, A designates a suitable stand supporting the bed pieces B, upon which is mounted the rectangular frame C. Journaled within said frame at each end are the rollers D, D′, around which travels an endless belt or apron E. The ends of the shaft *d* of the roller D are journaled in a rectangular yoke D″, which is provided with two threaded bolts *e* extending therefrom and passing freely through the front end of the frame, their outer ends receiving the thumb nuts *f*, by which construction any desired tension may be placed upon the belt or apron E, and the ends of said roller may be adjusted horizontally to guide the apron truly thereon and prevent it from running to one side.

F designates a cap which is hinged to the rear end of the frame over the rear roller D′, and is provided with a central opening *a* therein. Mounted on the cap is a hopper G having the rectangular throat G′, that sits upon said cap and is secured thereto over the feed opening *a*.

On the projecting end of the shaft *b* of the rear roller is a grooved pulley H, carrying a belt *c* which leads to the drive wheel H′, which is adapted to be driven by a treadle and pitman, not shown, whereby the roller D′ is caused to revolve and the endless apron E is driven horizontally around said rollers.

Located within the throat of the hopper is an agitator, which consists of a rod bent in such manner as to form a rectangular bail I, which depends within said throat and crosses it transversely, the horizontal ends *h* thereof passing through vertical slots *i* in the sides of said throat and through the slotted plates *k* and being journaled in the vertically movable plates *k′*, which are secured to the plates *k* by means of a screw *o* passing through a slot *n* therein, whereby said bearing plates *k′* may be adjusted vertically, to raise or lower the agitator bail to regulate the space between its under face and the feed opening *a*, according to the size of the beans or other seeds being assorted.

Formed integral with one of the journals of the agitator, is a crank J, which extends downward at an angle and is connected, by means of a pitman L, with the wheel H, whereby, by the rotation of said wheel, said crank is actuated so as to cause the agitator bail to reciprocate horizontally within the throat of the hopper over the feed opening *a* in the cap.

As shown in Fig. 3 the agitator bail is rectangular in form and extends entirely across the throat of the hopper its vertical end portions standing close to the sides thereof, so as to prevent a bean or other substance from becoming wedged between said vertical portions and the sides of the throat, and thereby choking the machine.

At the upper end of the throat of the hopper is a slide M, with which the opening from the hopper into the throat may be entirely closed, and which serves to partially close

said opening so as to keep the weight of the beans off of the agitator when the hopper is full.

Let into the upper face of the cap F over the opening *a* therein, is a cut-off slide N, which serves to regulate the size of said feed opening *a* and governs the quantity of beans discharged therethrough by the agitator. Crossing the front of said opening *a* and depending close to the surface of the belt or apron E, is a gate P, which is secured to the face of the cap by means of screws *s* passing through vertical slots therein, whereby said gate may be adjusted vertically so that its lower edge shall stand at such distance from the apron as to permit only one layer to pass thereunder, thereby obviating the piling up of the beans on the apron, and distributing them evenly over the surface thereof. To prevent the sagging of said apron and to form a table over which it shall pass, the cross pieces *t* are employed, which extend between the sides of the frame and support the thin strip *t'* mounted thereon, the width of which is equal to that of the apron which travels over it.

In the operation of the machine, the beams are placed in the hopper, and are fed by the agitator through the feed opening *a* onto the apron E, upon which they are carried toward the operator at the end of the machine, who picks the bad beans therefrom and drops them through the open spaces between the edges of the apron and the sides of the frame, said refuse beans falling into the chute R which is secured to the under side of the frame, and are conveyed away. The good beans are left upon the apron, and, as said apron passes over the roller D are discharged therefrom into the inclined spout S, which is secured to the forward end of the frame and conveys said beans into a suitable receptacle. The bottom of this spout S is composed of a wire screen *u* over which the beans pass in their descent, whereby all dirt and foreign matter is removed therefrom. Secured to said spout some distance below the screen, is an exterior bottom *v*, which extends nearly to the end of the spout. This exterior bottom receives the dirt falling through the screen and carries it downward to the cut-off slide *v'* placed at the open end thereof, which diverts it into a suitable receiver. Upon each side of the frame are pivoted arm-rests T which support the arms of the operator, enabling the employment of both hands and greatly facilitating the work.

Mounted upon the rear bed-piece B and extending across the face of the under portion of the apron so as to lie closely thereto, is a V-shaped guard *x*, the apex of which extends forward and which deflects from the apron any beans or other substances that might fall thereon, thereby preventing them from passing under the roller D' and injuring said apron.

Having thus fully set forth my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. The combination with the frame, of the cap having the feed opening therein, the hopper having the rectangular throat supported on said cap over said opening, the agitator consisting of a rectangular bail depending within said throat and adapted to reciprocate over said feed opening, the journals of said agitator being supported in a vertically adjustable plate.

2. The combination with the frame, the endless apron mounted therein, the cap over a portion of said apron, said cap having a feed opening therethrough, the plate crossing the front of said opening and depending close to the surface of said apron, said plate being secured to the face of said cap by screws passing through vertical slots therein, whereby it is made vertically adjustable.

3. The combination of the frame, the rollers journaled therein carrying the endless apron, the hopper having vertical slots in the sides thereof, the agitator in said hopper having horizontal bearings that pass through said slots and are journaled in vertically adjustable plates secured to the hopper, the crank of said agitator, the puller on the shaft of one of said rollers, and the pitman coupling said crank to said pulley.

4. The combination of the frame, the movable endless apron mounted therein, the table over which the upper portion of said apron passes, and on which said apron lies the cap over a portion of said apron and table, said cap having a feed opening so located therein as to discharge onto said apron at a point where it is supported by said table, the vertically adjustable rigid plate crossing the front of said opening and depending close to the surface of said apron over the supporting table.

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

MERRITT M. NYE.

Witnesses:
HERBERT J. PETERS,
HENRY LEHMAN.