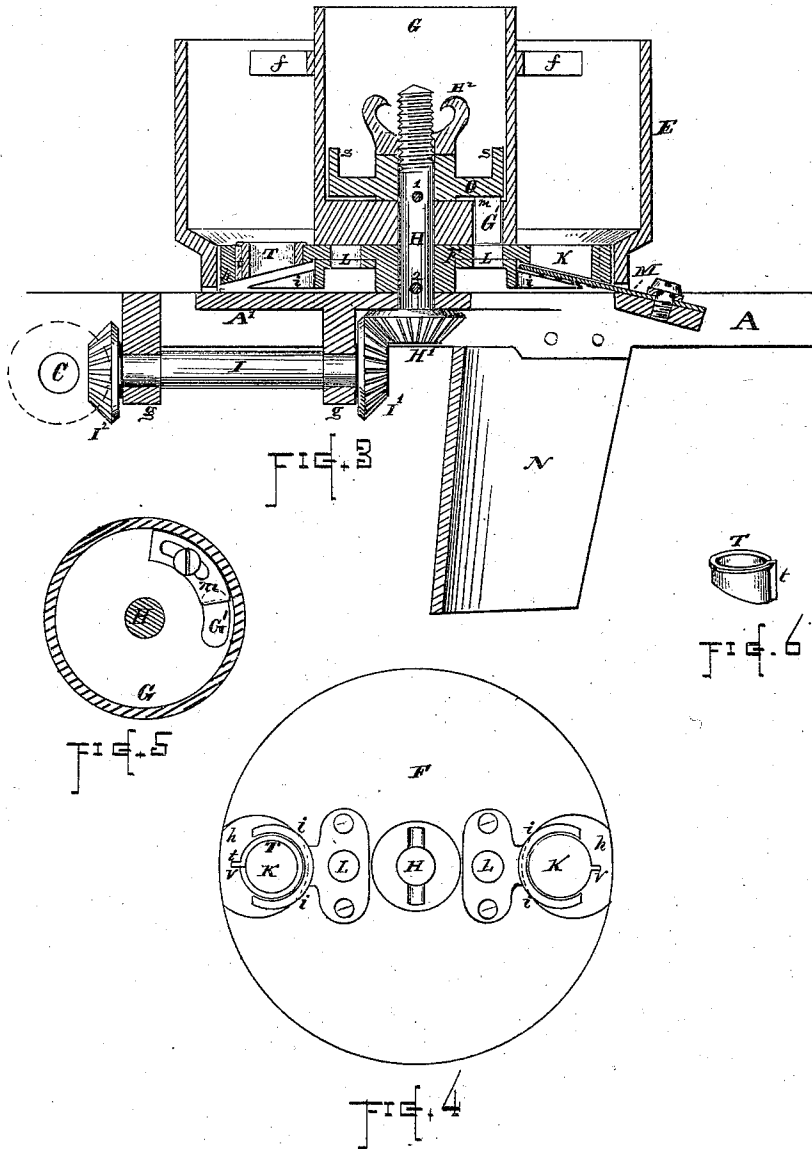


JOSEPH L. TRUE.

Improvement in Potato Planters.

No. 125,705.

Patented April 16, 1872.



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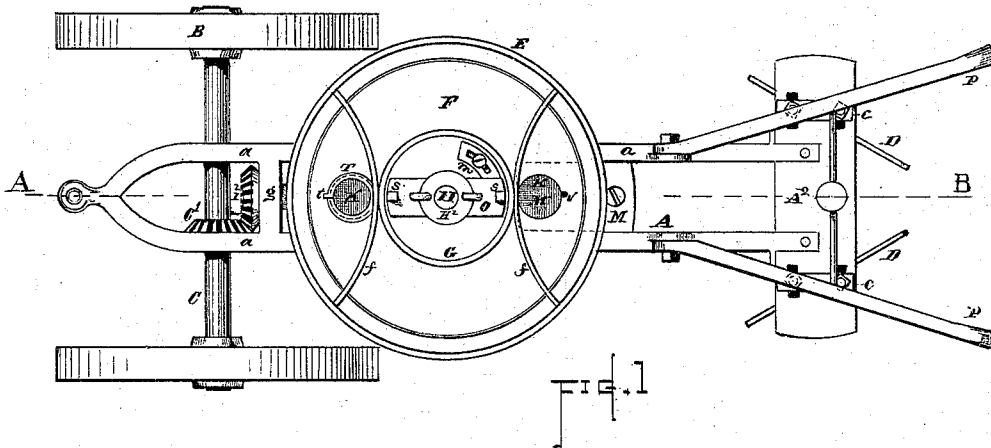


FIG. 1

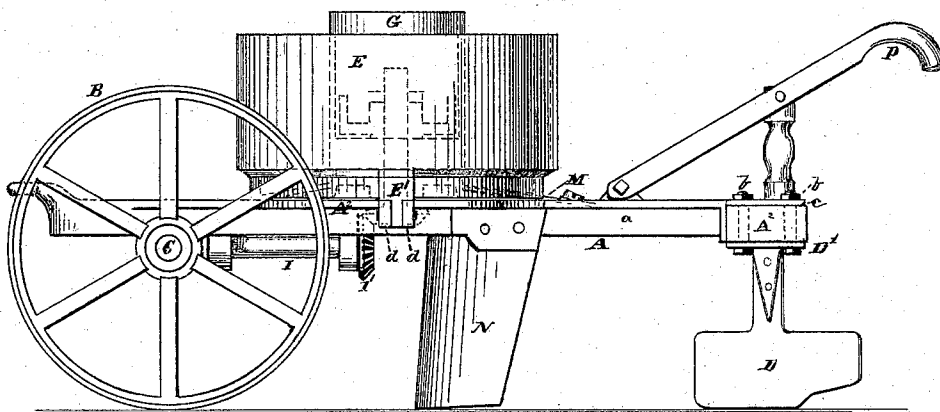


FIG. 2

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JOSEPH L. TRUE, OF BENTON, MAINE.

IMPROVEMENT IN POTATO-PLANTERS.

Specification forming part of Letters Patent No. 125,705, dated April 16, 1872.

To all whom may it concern:

Be it known that I, JOSEPH L. TRUE, of Benton, in the county of Kennebec and State of Maine, have invented certain new and useful Improvements in Potato-Planters; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing which forms a part of this specification, and in which—

Figure 1 represents a plan view of my improved potato-planter. Fig. 2 represents a side view of the same. Fig. 3 represents a central longitudinal section of the hopper and dropping devices on line A B, Fig. 1. Fig. 4 represents a view of the under side of the rotary hopper-bottom or dropping-plate. Fig. 5 represents a plan view of the bottom of the fertilizer-hopper; and Fig. 6 represents a perspective view of the seed-passage bushing.

The nature of my invention relates to certain improvements in machines for planting potatoes, whereby a more efficient and convenient machine than heretofore used is produced—one which is simple, durable, and strong, and which can be manufactured at comparatively small cost; also to the combination, with the potato-planting devices, of an automatic fertilizer-dropper, as herein fully described.

In the drawing, the part marked A represents the frame of the machine. B B indicate the traveling and driving wheels, which are fixed to the ends of the axles C, whereon the forward part of the frame A is mounted in such a manner that said axle C will revolve with the wheels when the machine is moved forward, the axle turning in suitable bearings on the under side of the frame. The frame A is composed, in this instance, of two parallel longitudinal metallic bars or side pieces, *a a*, having their forward ends turned inward and joined to each other, as indicated in Fig. 1, and the point of the frame thus formed is furnished with an eye or ring, to which the team may be attached for drawing the machine.

The central portion of the machine is furnished with a circular platform or bed-piece, *A*¹, above which the hopper and dropping devices are arranged. This bed-piece may be cast with the side pieces *a a*, and is so shown in the present instance; but it may be made separately therefrom when desired. It has an opening at its rear side of proper form and size

to allow of the passage of the seed and fertilizer as they fall from the dropping devices. The rear ends of the side pieces *a a* are secured to a cross-piece or transom, *A*², which carries the covering-blades *D D*, the ends of the bars being furnished with flanges, which fit onto and are bolted to the upper and front sides of the transom-piece, as shown, so as to form a rigid and strong connection. The frame may be made in a somewhat different form, if desired, and the wheels connected to the shaft or axle by ratchet devices to prevent the mechanism from acting when the wheels turn backward. A clutch device may also be arranged for throwing the planting mechanism into and out of gear with the driving-shaft.

The standards of the covering-blades *D*, the upper ends of which are provided with slotted plates *D'*, are secured to the transom *A*² by bolts *b b*, which pass through the slots formed in the plates *D'* and through slots formed in the transom, bearing-plates *c* being arranged at the top to receive the pressure of the nuts. The coverers can be adjusted at different angles, for covering the seed to a greater or less depth, by loosening the nuts upon the bolts *b b* and moving the coverers to the desired position, and then retightening the nuts.

E indicates the hopper for holding the potatoes. It is located above the bed-piece at the central part of the frame; and it is secured in place by means of projections *E'*, which fit between ear-pieces *d* that project from the sides of the bed-plate *A*¹, the parts being retained together by means of pins or bolts, which pass through the ear-pieces and projections *E'*. The hopper *E* is made in cylindrical form, as shown, and may be constructed in sections or hoops set one above another, so that it can be adjusted to contain a greater or less quantity of potatoes. The hopper is set with its lower edge a short distance above the surface of the plate *A*¹ so as to allow any dirt or gravel to drop out from among the potatoes. Small steadying-lugs are formed on the lower edge of the hopper-rim, which project downward and rest upon the bed-plate *A*¹, and assist in supporting the hopper.

A horizontally-rotating turn-table or dropping-plate, *F*, is arranged in the bottom of the hopper, and in the central portion of the hopper a secondary or fertilizer hopper, *G*, the bot-

tom of the latter being above the dropping-plate F, as indicated in Fig. 3. The fertilizer-holder G is cylindrical in form, and is secured to the rim of the potato-hopper F by means of curved braces *f*, as illustrated. A vertical spindle, H, passes up through the center of the hopper G, to which the dropping-plate F and fertilizer cut-off are joined by suitable keys or pins 1 and 2, so that said parts are caused to revolve with the spindle while the hoppers E and G remain stationary. The parts are retained on the spindle H by means of the hand-nut H² screwed upon the upper end of said spindle. The spindle is furnished with a bevel-gear, H¹, at its lower end, which meshes with a similar gear, I¹, at the rear end of a horizontal shaft, I, extending parallel to and supported in bearings *g g* between the side bars *a a* of the frame A, as shown. The forward end of shaft I is connected with the revolving axle C by means of bevel-gears C' and I². The rotary dropping-plate F is provided with openings K for the passage of the potatoes, and with openings L for the passage of the fertilizing material. These passages are arranged as shown in Figs. 1, 3, and 4.

Rims or flanges *h* are formed around the openings K at the underside of the plate F, which extend lower at the outside of the opening than at the side nearest the center of the plate; and a pair of curved and tapering arms, *i*, are arranged below the inner portion of the flanges *h*, sufficient space being allowed between the arms and flanges to permit of the passage of the knife or cutter M. (See Fig. 3.) These arms *i* are for the purpose of forcing the potatoes against the cutter; and they also, in connection with the flanges *h*, form guards to prevent the potatoes from escaping beneath the plate F. A single arm, *i*, may be used at each of the openings, if desired, the one at the front of the opening being dispensed with.

The knife or cutter M is secured to a cross-bar of the frame A, and projects obliquely upward and forward, as shown in Fig. 3. The blade is made with projections upon its under side to prevent the cut potatoes from adhering thereto. These projections may be formed by forcing out a portion of the metal of the cutter before tempering, or by welding on or otherwise fastening inclined projections to the under side of the blade.

The fertilizer box or hopper G is provided with an opening, G', through its bottom for the passage of the fertilizing material, and an adjustable gauge-plate, *m*, is arranged within said opening, whereby the amount of material dropped at each time can be regulated. The openings L in the plate F pass beneath the openings G' as the plate revolves, and thus permit the fertilizing material to drop into the furrow with the potatoes. The furrow is formed by the curved metallic plow N, which is secured to and extends downward from the frame A, just beneath the rear part of the hopper E, as shown in the drawing.

The machine is provided with a pair of han-

dles, P P, by means of which it may be conveniently guided by the operator. The cut-off O is arranged to correspond in position with the openings L, so that the upper part of the opening G' will be closed at the same time that the lower portion thereof is opened by the passage beneath it of the opening L in the plate F. The ends of the cut-off piece O are furnished with upward-projecting fingers *s*, so that the fertilizing material is constantly agitated when the machine is in motion.

The operation of my improved potato-planting machine is as follows: The potatoes to be planted are placed within the hopper E, and any desired fertilizing material—such as guano, superphosphate of lime, or ground plaster—is placed in the hopper G, the guard *m* having been previously set at the proper position, so that the opening G' will contain just the amount required for each hill. The machine then being drawn forward, the potatoes fall into the openings K in the dropping-plate F, and as said plate revolves the potatoes are cut through as the opening K passes the cutter M, and the portion of the potatoes below the cutter M drop into the furrow formed by the plow N. The cut-off O at the same time passes over and closes the top end of the passage G', and the opening L is brought beneath said passage, and the fertilizing material contained in the passage G' falls into the furrow with the pieces of potatoes, the whole being covered by the blades D D as the machine moves forward. After the openings K have passed the cutter the potatoes therein drop down upon the bed-plate, and are carried around by the curved arms *i* and again brought into contact with the knife; and should the potatoes be quite large they will be cut into several pieces, and it will be observed that, when so cut, the pieces will not be shaved off in slices of a uniform thickness, but will be cut irregularly, owing to the knife being arranged in an oblique position and the bed-plate being horizontal. When the potatoes fall upon the plate after passing the cutter, a partial revolution is required in their position in order that the flat-cut side may lie upon the bed as they naturally arrange themselves, so that the second cut takes off an inclined slice, and the third cut is made at still another angle. In this way potatoes are cut so as to leave them in the most approved form for planting.

The opening K may be reduced in size by the use of a gauge or bushing, T, (see Fig. 6,) which is made to fit within the said opening, and is supported by a flange around its upper end, while it is prevented from turning around in the opening by means of a small fin, *t*, formed at one side, which fits into a corresponding depression, *v*, at one side of the opening.

The bushing-rings T may be made in series of different thicknesses so as to reduce the openings K to a greater or less extent by using the different rings, thus adapting the machine to different sizes of potatoes, or for dropping a greater or less number of pieces at a time.

Having described my improvements in potato-planters, what I claim therein as new and of my invention, and desire to secure by Letters Patent, is—

1. The combination of the hopper E with the bed-piece A¹ by means of the projections E' and ear-pieces d, substantially as shown and described.

2. The combination, with the rotary dropping-plate F, provided with one or more openings, K, of one or more curved potato-forcing arms, i, and inclined cutter M, substantially as and for the purposes set forth.

3. The inclined cutter, provided with projections upon its under side, as and for the purpose set forth.

4. The bushing-ring T, provided with a top flange, side fin t, and inclined bottom, in combination with the rotating dropping-plate F, substantially as and for the purposes set forth.

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Witnesses:

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WILLIAM K. LUNT.