(No Model.) 2 Sheets—Sheet 1.

# M. F. MYERS.

## POTATO PLANTER.

No. 590,621. Patented Sept. 28, 1897.

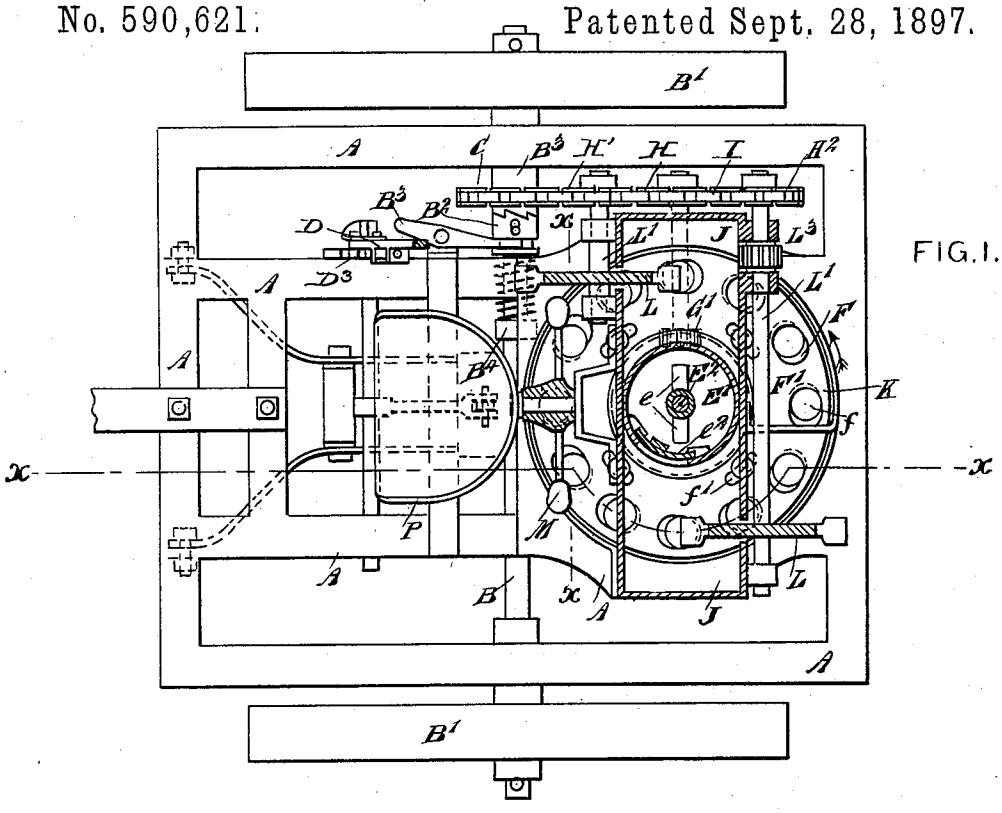


FIG. 1.

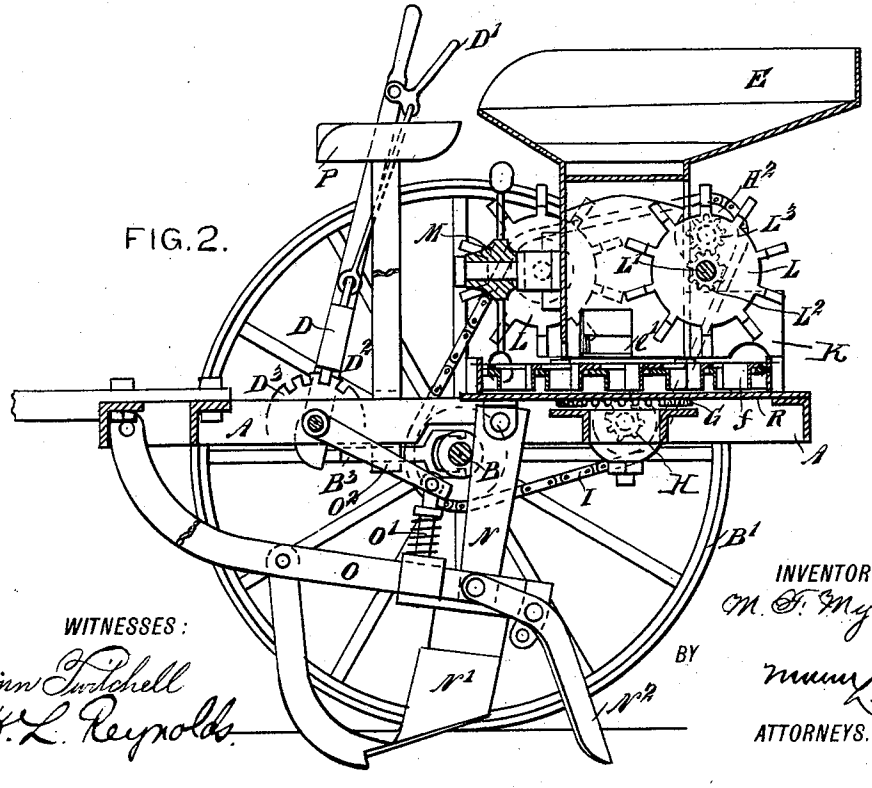


FIG. 2.

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(No Model.) 2 Sheets—Sheet 2.

# M. F. MYERS.

## POTATO PLANTER

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FIG. 3.

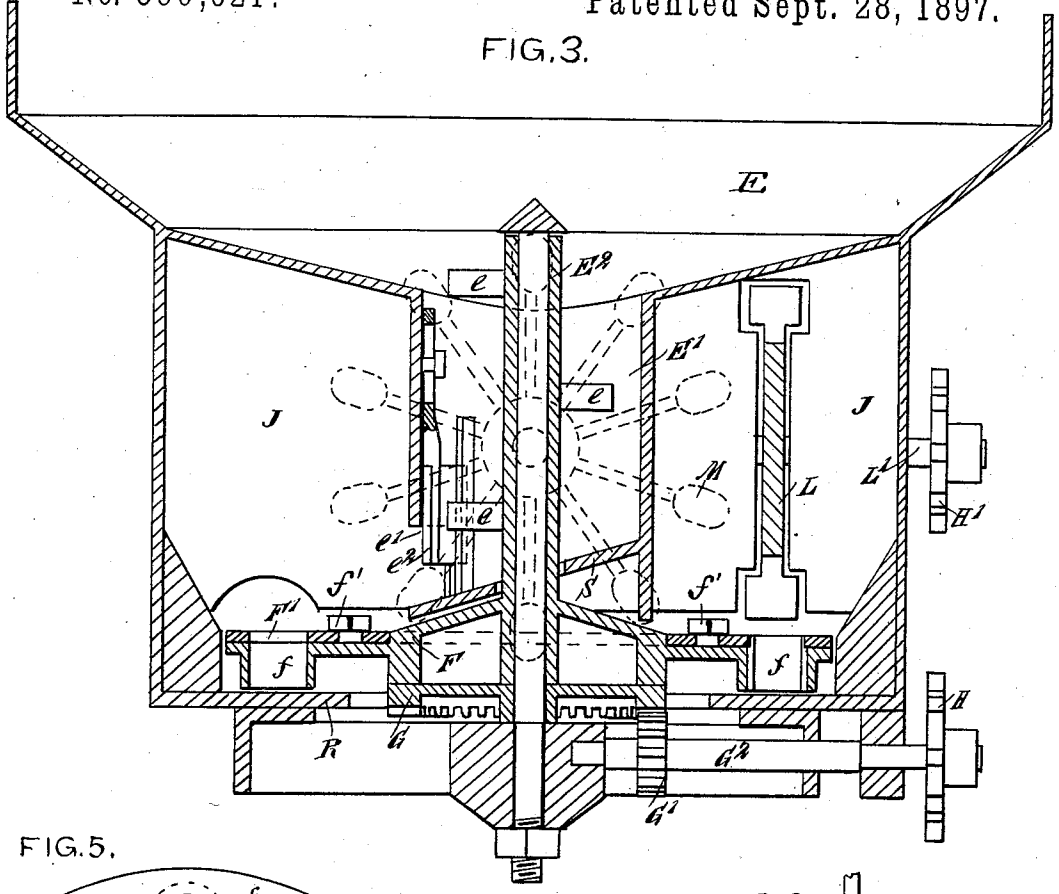



FIG. 5.

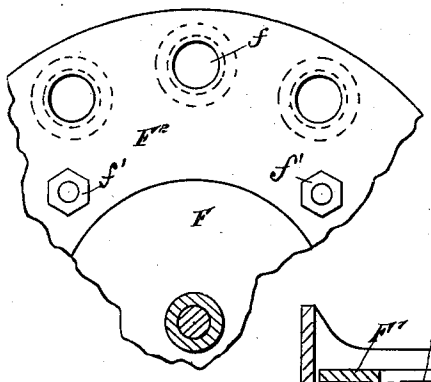



FIG. 4.

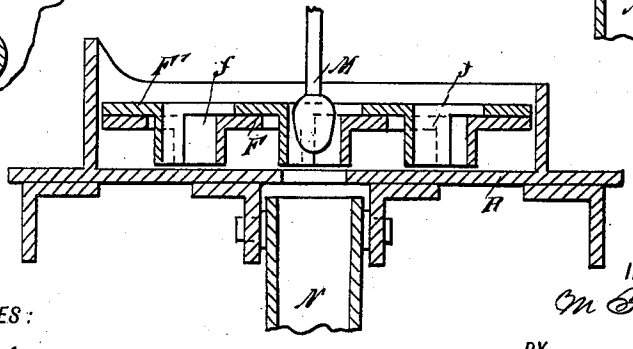
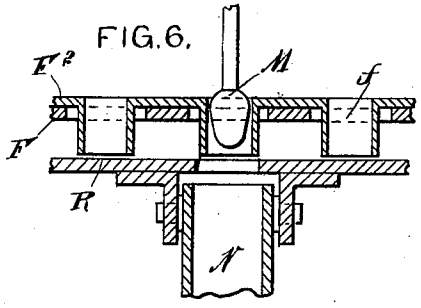



FIG. 6.




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# UNITED STATES PATENT OFFICE.

MILLARD F. MYERS, OF GREENVILLE, OHIO.

## POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 590,621, dated September 28, 1897.

Application filed September 30, 1896. Serial No. 607,432. (No model.)

*To all whom it may concern:*

Be it known that I, MILLARD F. MYERS, of Greenville, in the county of Darke and State of Ohio, have invented a new and Improved Potato-Planter, of which the following is a full, clear, and exact description.

My invention relates to a new and improved potato-planter adapted to make the even and regular planting of potatoes more certain than by the previous machines used.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a plan view of my machine, having the hopper portion in section. Fig. 2 is an elevation with the hopper and dropping mechanism in section. Fig. 3 is an enlarged section through the hopper and dropping mechanism, taken from the rear. Fig. 4 is a section taken on the line *x x* of Fig. 1 and showing the dropping-disk and the plunger or ejector wheel, and Figs. 5 and 6 are fragmentary plan and sectional views of removable dropping-plates.

The object of my invention is to produce a potato-planter which shall be entirely automatic in its operation and more certain and efficient than previous machines.

The framework upon which the machine is built consists of bars A, securely braced to each other and mounted upon the axle B, which in turn is carried by the wheels B′. This axle is made fast to one of the wheels B′, that upon the upper side of Fig. 1, and is loose upon the other wheel.

The power for operating the mechanism of the machine is derived from a sprocket-wheel C, mounted upon a sleeve on this axle. This sprocket-wheel is engaged by the clutch $B^2$ to turn the same. The clutch $B^2$ is fixed to rotate with the shaft B and is movable endwise thereon to engage or disengage the wheel C by means of a lever $B^3$. This lever $B^3$ is engaged by the lower end of the controlling-lever D. The lever D is controlled by the usual spring-held disengaging-lever D′ and latch $D^2$, which engages a notched segment-disk $D^3$.

Upon the rear portion of the frame of the machine is supported a hopper E. This hopper has a central circular chute E′. Within this chute is placed a shaft $E^2$, which has fixed to its lower end the seed-dropping disk F. The central shaft $E^2$ has a series of pins *e*, disposed about the same from the top to the bottom and adapted to keep the potatoes in the chute stirred up and prevent their bridging or wedging together in the chute. This chute at its bottom has a discharge-opening *e′*, which is closed by a sliding gate $e^3$, so that the discharge of the potatoes from the bottom of the chute may be stopped at will.

The seed-dropping disk F is composed of two parts. One of these, F′, consists of an annular ring or disk placed on top of the other disk F, and having holes *f* therein corresponding with the holes in the lower disk and with them forming the seed-pockets. About half of the walls of these seed-pockets are attached to each of the disks. The lower disk contains that portion of the wall of the seed-pocket upon one side of the center, while the upper disk F′ has the other portion. If now the two disks be adjusted upon each other, the size of the seed-pockets may be varied, being made either smaller or larger, depending upon the direction of the adjustment. The two disks are secured together by set-screws *f′*. In Fig. 1 it will be seen that the sizes of the seed-pockets have been decreased by this adjustment, the edge of the pocket in the lower disk being shown through the hole in the upper disk.

Upon the bottom of the dropping-disk F is fixed a gear-wheel G. This should be a bevel-gear. Meshing with this is a pinion G′ upon a horizontal shaft $G^2$. This shaft $G^2$ at its outer end carries the sprocket-wheel H. The sprocket-wheel H and other sprocket-wheels, hereinafter described, are engaged by a sprocket-chain I, which is turned by passing over the sprocket-wheel C upon the main axle of the machine.

Upon each side of the circular chute E′ and below the body of the hopper are two filling-chambers J. The discharge from the bottom of the circular chute is into one of these chambers, and may be, if desired, into both. The dropping-disk F, with the seed-pockets therein, is rotated beneath these chambers J. The seed-pockets will thus be filled with the pieces of potatoes.

Mounted upon the side of the chambers J are two paddle or brush wheels L. One of these is placed on the front edge and the other upon the rear. The wheels L are placed so that they are immediately over the point where the pockets in the dropping-disk pass from under the walls of the chamber J. The wheels L are mounted upon shafts L′, which extend across the machine. The forward one of these shafts has a sprocket H′ upon its outer end. The rear one of these shafts has a small pinion $L^2$ upon its outer end which meshes with another pinion $L^3$ upon a short auxiliary shaft. This short auxiliary shaft carries a sprocket-wheel $H^2$ upon its outer end.

The sprocket-chain I, heretofore described, passes about the sprocket-wheels H, H′, $H^2$, and C. It will thus be seen that the paddle-wheels L are rotated in opposite directions and so that the lower edge of the wheel is being rotated within the pocket-filling chambers J. These wheels will prevent any portion of the potatoes within these hoppers from passing out except what is within the seed-pockets *f*. They will also by their constant motion keep the potatoes within this chamber well stirred up and prevent clogging.

To make the filling of the seed-pockets *f* more certain, I have placed a small hopper K outside the main hopper. This is placed between the point where the potatoes are first presented to the dropping-disk and the point of discharge. The seed-pockets *f* will be mainly filled before reaching this hopper K, but in passing through the same those which are not entirely full will be filled.

Upon the forward side of the hopper is pivoted a plunger or discharge-wheel M. This wheel is rimless, consisting of a hub with a number of radial arms, each arm having upon its outer end a plunger adapted to enter one of the seed-pockets. It is turned by the engagement of these plungers or spoke ends with the said seed-pockets. As these plungers or spoke ends enter the pocket they will force the potatoes therefrom into the discharge-pipe N. They will be conveyed thereby to the rear of the furrowing-shovel N′. The shovels $N^2$ consist of flat curved metal plates placed behind the shovel N′ and on each side thereof and serve to draw the soil inward to cover the potatoes after they are dropped. The shovels N′ and $N^2$ are supported upon drag-bars O. These bars are pivoted at their forward end to the framework of the machine and at their rear end are connected by a link O′ to an arm $O^2$, which is fixed to the shaft carrying the controlling-lever D. By these means the shovels may be raised or lowered, as desired. When the shovels are raised, the lower end of the lever D will engage one end of the clutch-lever $B^3$, forcing it to one side and releasing the clutch $B^2$ from the sprocket-wheel C, which communicates the power to the entire mechanism. The dropping mechanism will then stop. A seat P for the driver is placed just in front of the hopper. The controlling-lever D is placed conveniently alongside.

The manner in which the plungers on the wheel M enter the seed-pockets is clearly shown in Fig. 4. The disk and wheel M act together as a face and pin wheel. The manner of adjusting the size of the seed-pockets is also clearly shown in Fig. 4. The adjustment of the sizes of the seed-pockets is done at one operation for all the pockets. The direction of the rotation of the dropping-disk F is shown by the arrow in Fig. 1. The seed-pockets in this disk, instead of being round, as shown in the drawings, may be made rectangular, if desired. This is, however, an obvious change and is not herein illustrated.

The central portion of the upper face of the disk F may be made either flat or conical, as shown in Fig. 3. The advantage of the conical shape is that if used as the bottom of the chute it will more completely discharge the potatoes from the hopper than will a flat surface. The inclined partition S shown in this figure may be entirely omitted.

In Figs. 5 and 6 I have shown another form of dropping-plate. In this form the plate F is a plain disk having a series of holes therein to receive the seed-pockets *f*, which are wholly a part of or attached to the ring $F^2$. This ring $F^2$ is an annular ring, of sheet metal, and has the seed-pockets *f* either formed as a part thereof or made separately and attached thereto. The circle of these pockets is not adjustable, but pockets of different size are provided by having separate rings with different-sized pockets and substituting one ring for another. A series of these different sizes will be provided, and that size will be used which is best adapted to the size of the seed being planted.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. In a seed-planting device, the combination of a hopper, a disk rotated beneath the hopper and having seed-pockets therein, said disk being located so as to carry the seed-pockets outside the hopper before dropping the seed, with a brush-wheel mounted in a slot in the hopper-wall over the exit of the seed-pockets therefrom and so that it will revolve with its lower edge passing inwardly therein, substantially as described.

2. In a seed-planting device, the combination of a hopper, and a seed-delivering device consisting of a series of seed-pockets and means for moving them across the bottom of the hopper and beneath the wall thereof, said hopper having a slot in its side wall above the exit of the seed-pockets therefrom, with a brush-wheel mounted in said slot and revolving so that its under side passes inwardly close to the seed-pockets, substantially as described.

3. In a seed-planting device, the combina-

tion of a hopper, two disks adjustable by rotation on each other and provided with a series of seed-pockets having opposite portions of the walls thereof formed on each disk, said disks forming a portion of the bottom of the hopper and carrying the seed-pockets outside the same before dropping the seed, with a wheel having paddles or brushes on its periphery and mounted on the hopper-wall with its periphery above the point of exit of the seed-pockets therefrom, substantially as described.

4. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom, a central shaft therein carrying stirring-fingers, with a rotary disk having seed-pockets therein and being mounted upon the said shaft, and pocket-filling chambers supplied from said chute, substantially as shown and described.

5. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom and having a discharge-opening at the bottom, a central shaft therein carrying stirring-fingers, and pocket-filling chambers supplied from said chute, with a rotary disk mounted upon said shaft and forming the bottom of said pocket-filling chambers, said disk being composed of two plates adjustable upon each other and having a series of pockets therein having opposite portions of the walls thereof formed on each disk, substantially as shown and described.

6. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom, a discharge-opening at the bottom thereof, and a sliding gate to close the same, a central shaft therein carrying stirring-fingers, with a rotary disk having seed-pockets therein and being mounted upon the said shaft, and pocket-filling chambers supplied from said chute, substantially as shown and described.

7. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom and having a discharge-opening at the bottom, a central shaft therein carrying stirring-fingers, pocket-filling chambers supplied from said chute, with a rotary disk mounted upon said shaft and forming the bottom of said pocket-filling chambers, said disk having seed-pockets therein, and rotating paddle or brush wheels mounted to turn into said pocket-filling chambers and over the said pockets, substantially as shown and described.

8. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom and having a discharge-opening at the bottom, a central shaft therein carrying stirring-fingers, pocket-filling chambers supplied from said chute, with a rotary disk mounted upon said shaft and forming the bottom of said pocket-filling chambers, a bevel-gear upon the said shaft, a bevel-pinion meshing therewith, and a sprocket-wheel upon the same shaft as the bevel-pinion, and a sprocket-chain connecting the same with the machine-supporting axle, substantially as shown and described.

9. In a seed-planter, the combination of a hopper, a circular feed-chute leading therefrom and having a discharge-opening at the bottom, a central shaft therein carrying stirring-fingers, pocket-filling chambers supplied from said chute, with a rotary disk mounted upon said shaft and forming the bottom of said pocket-filling chambers, paddle or brush wheels mounted to rotate inward over the exits of the seed-pockets from the filling-chambers, a bevel-gear connection from the shaft of the seed-dropping disk to a horizontal shaft, sprocket-wheels upon said shaft and upon the paddle-wheel shafts and a chain connecting the same with the machine-supporting axle, substantially as shown and described.

MILLARD F. MYERS.

Witnesses:
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J. J. LITTLE.