

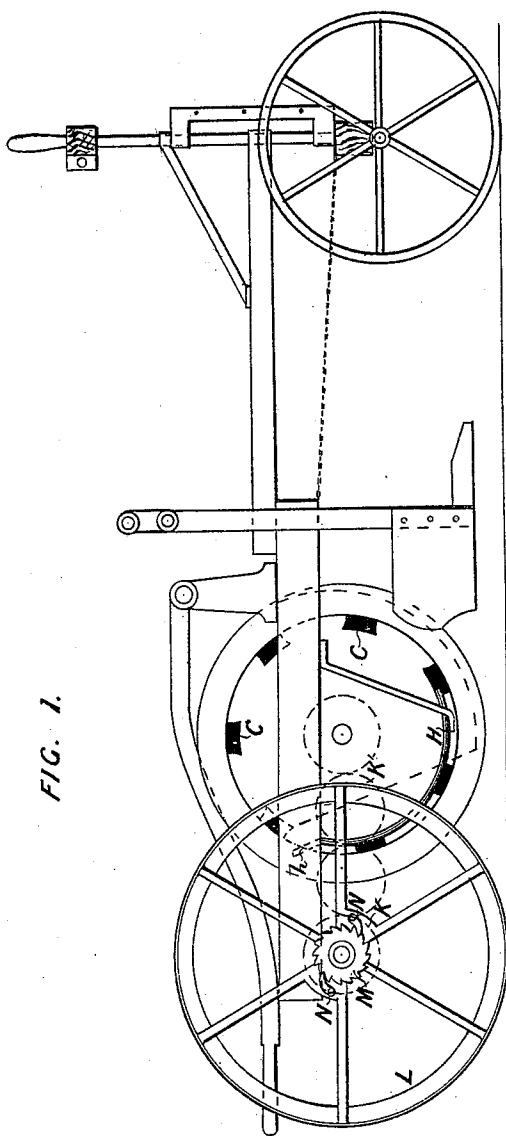
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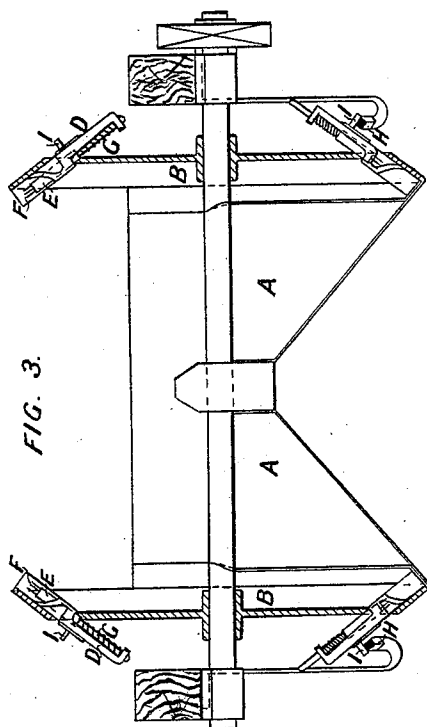
F. A. MILES & A. C. ARTER.
POTATO PLANTER.

No. 459,966.

Patented Sept. 22, 1891.



Witnesses
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Chas. S. Sturtevant



Inventors
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(No Model.)

4 Sheets—Sheet 2.

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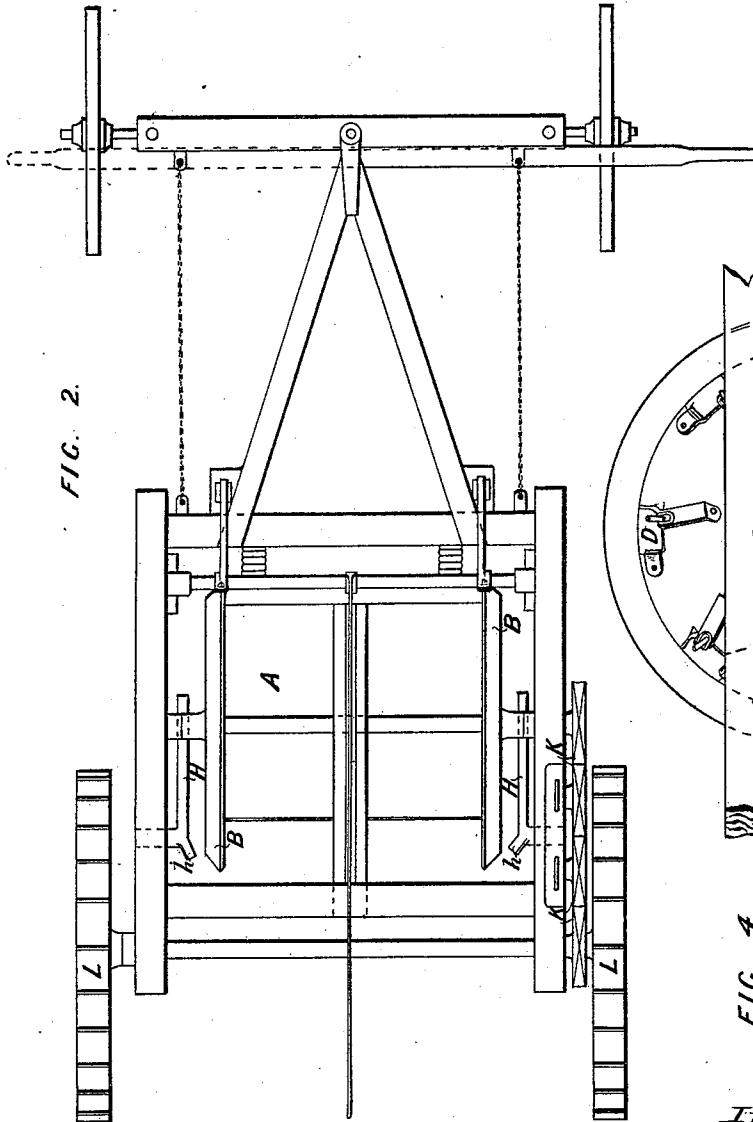


FIG. 2.

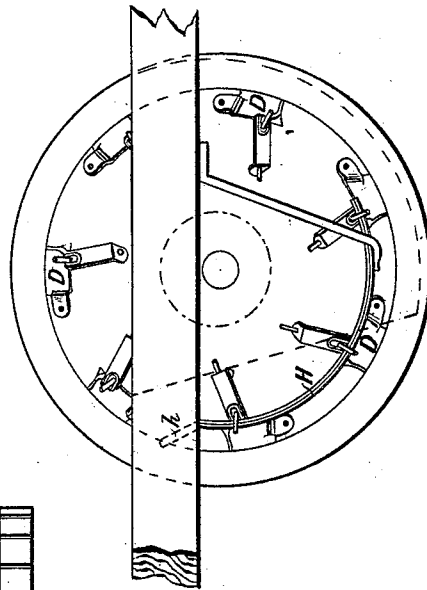


FIG. 4.

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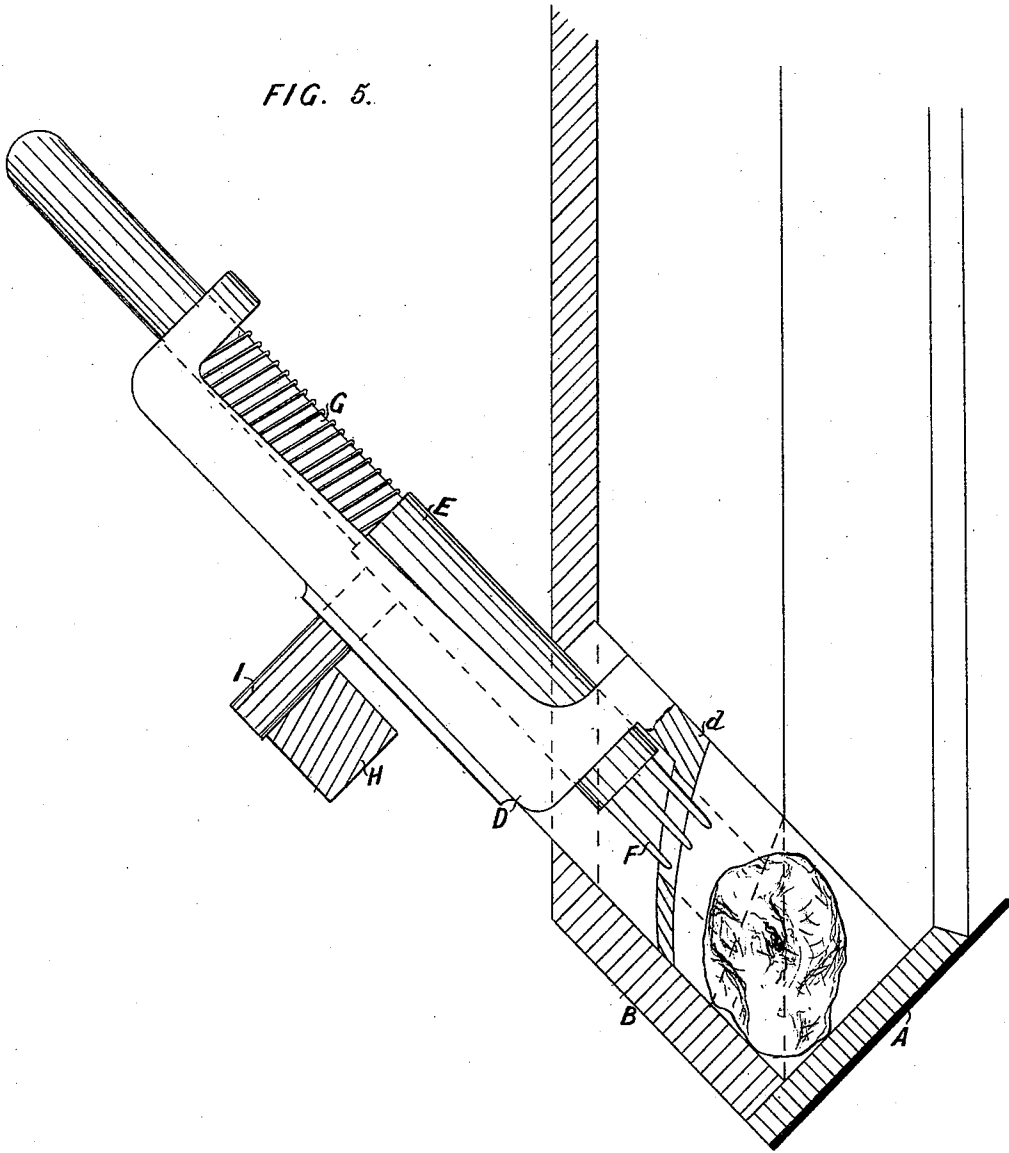
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FIG. 5.



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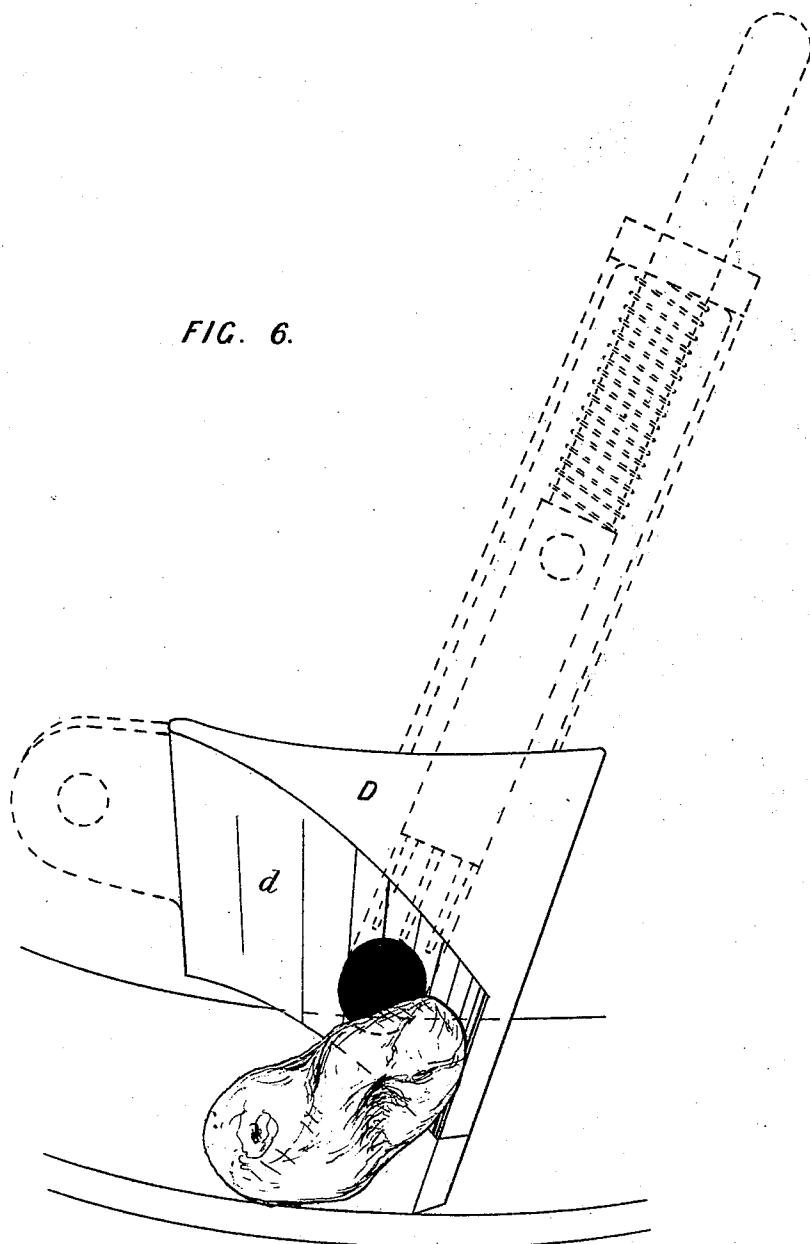
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FIG. 6.



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UNITED STATES PATENT OFFICE.

FRANCIS ADRIAN MILES, OF WYMINSWOLD, AND AUGUSTUS CLIFFORD ARTER, OF BARHAM, ENGLAND.

POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 459,966, dated September 22, 1891.

Application filed September 9, 1890. Serial No. 364,495. (No model.) Patented in England March 20, 1890, No. 4,380; in France July 25, 1890, No. 207,212; in Belgium July 25, 1890, No. 91,384; in Germany July 25, 1890, and in New Zealand October 20, 1890, No. 4,666.

To all whom it may concern:

Be it known that we, FRANCIS ADRIAN MILES, a subject of the Queen of England, residing at Wyminswold, in the county of Kent and Kingdom of England, and AUGUSTUS CLIFFORD ARTER, a subject of the Queen of England, residing at Barham, in the county of Kent and Kingdom of England, have invented certain new and useful Improvements in Potato-Planting Machines, (for which we have obtained English Patent No. 4,380, dated March 20, 1890; French Patent No. 207,212, dated July 25, 1890; Belgian Patent No. 91,384, dated July 25, 1890; New Zealand Patent No. 4,666, dated October 20, 1890, and German Patent dated July 25, 1890) of which the following is a specification.

This invention relates to improvements in potato-planting machines, with the object of simplifying the construction of the machine while making the working more certain and efficient.

Our machine is composed of a hopper mounted on a frame carried by two or more wheels with suitable gear for horse or other traction. At one or both sides of the hopper, accordingly as the machine is intended to plant one or two rows simultaneously, is a revolving cone having within it or projecting from it a series of pockets or recesses, into which the potatoes fall in the revolution of the cone, these pockets being so formed that they present a potato or a portion of a potato to a needle furnished with, say, three points or spears, there being a needle to each pocket, which needle may be forced forward into the potato by the pressure of a spiral or other suitable spring on the needle-bar, and withdrawn by a cam fixed on the framing or by other suitable means. The cone or cones may revolve on the main axle of the machine; but in order to regulate the distances at which the potatoes are planted we may disconnect the cone or cones from the main axle and drive it or them by cog-wheels or any suitable gearing.

For the better comprehension of our invention we will describe its operation by ref-

erence to the accompanying sheet of drawings, upon which—

Figure 1 represents a side elevation of a potato-planter embodying our invention, the details of the pocket not being shown in this figure to avoid complication and to better display the openings in the cones; Fig. 2, a plan of same; Fig. 3, a transverse section through the hopper and cones enlarged; Fig. 4, a side elevation of one of the cones. Fig. 5 illustrates the general construction of one of the pockets as fitted to the cone, and Fig. 6 an interior view of same.

A indicates the hopper; B B, the revolving cones; C C, opening in cones; D D, the pockets; *d*, curve for guiding potato into position to be acted upon by the prongs F; E E, the needle-bars; F, prongs or spears; G, spiral spring for operating needle-bar; H, cam for operating upon stud I to withdraw needle-bar; *h*, inclined portion of cam H; I, stud or projection attached to needle-bar E; K, gear-wheels for rotating cones B; L, driving-wheels; M, ratchet-wheel; N, pawl engaging with same.

The hopper A having been charged with potatoes and the machine being set in motion by horse or other power, the rotation of the wheel L imparts a relative rotation to the cones B B, dependent upon the respective diameters of the gear-wheels K. These cones in revolving carry around with them the pockets D, having the needle-bars E, together with the prongs or spears F, which are pressed forward by the action of the spiral springs G. As soon as the stud or projection I, which is attached to the needle-bar E, is brought into contact with the inclined face *h* of the cam-bar H it is driven back, compressing the spring G until the prongs F are drawn within the inner curved face *d* of the pocket, in which position they are retained until the stud I travels beyond the end of the cam-bar H, when the spring is released. As soon as this occurs the pressure of the spring G drives forward the prongs or spears F into the hopper A, the action being repeated as each pocket D arrives in its turn at the point *h* of the cam H. This being so, it will readily be

seen that upon the hopper A being charged with potatoes the prongs or spears F of each needle-bar E will in turn be driven forward and into one of the potatoes contained within the hopper A, which have passed into a pocket, directly the stud I travels beyond the lower end of the cam H. The potato, being thus securely fixed upon the prongs or spears F, is carried around and over the hopper A until the stud I arrives at the inclined portion $\frac{1}{2}$ of the cam H, which at once forces it back and releases the potato from the prongs or spears F, so that it falls into the furrow. Thus it will be seen that the potato is seized by the needle within the hopper, but in the revolution passes outside the hopper, so that on the needle being withdrawn by the cam the potato falls into the furrow, another succeeds it at the desired interval, and so on as the machine is moved forward.

Upon reference to *d*, Figs. 5 and 6, it will be seen that we have given a curve to the inner face of the pocket, this curve being in such relation to the revolving cone and to the incline of the hopper that the potatoes are thereby singly guided or forced up to the part of the pocket immediately beneath the needle-bar, the cone also insuring that the potatoes are kept in constant agitation within the hopper while the planter is at work.

In order to permit of the potatoes being planted at any desired regulated distance apart, we connect the cones C to the driving-wheel L by the gear-wheels K, as shown, or in any equivalent manner.

The hopper may be formed concave on one side and partly rectangular on the other, as shown on the drawings, or of any suitable shape.

We have shown a machine planting on both sides; but we might use a single cone of any

desired section and plant from one side of the machine only, thereby reducing the bulk and cost of the machine.

Having fully described our invention, what we desire to claim, and secure by Letters Patent, is—

1. In a potato-planting machine, a suitable hopper, a revolving cone provided with pockets adapted in its revolution to receive potatoes from the hopper, a needle-bar reciprocating in said pockets, prongs carried by the end of said needle-bar, a spring for keeping the same normally pressed forward into engagement with the potatoes in the hopper, a stud on the needle-bar, and a cam adapted in the revolution of the cone to bear against the stud and elevate the needle-bar against the pressure of the spring.

2. In a potato-planting-machine, a suitable hopper, a revolving cone provided with pockets adapted in its revolution to receive potatoes from the hopper, a needle-bar reciprocating in said pockets, prongs carried in the end of said needle-bar, a spring for keeping the same normally pressed forward into engagement with the potatoes in the hopper, a stud on the needle-bar, and a bar depending from the machine-frame and having cam-shaped upturned lower end adapted in the revolution of the cone to bear against the stud and elevate the needle-bar against the pressure of the spring.

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