

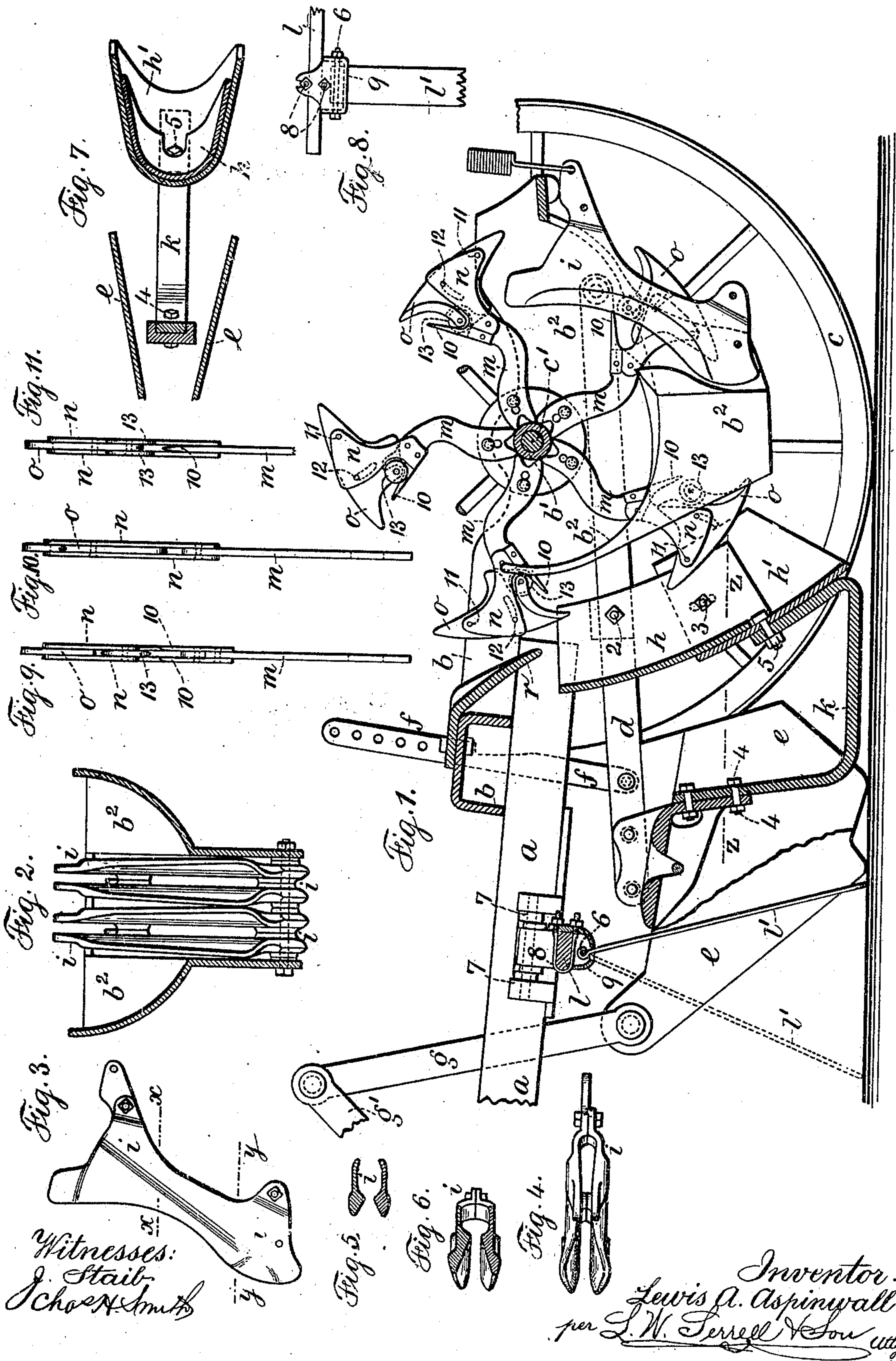
No. 709,660.

Patented Sept. 23, 1902.

L. A. ASPINWALL.
POTATO PLANTER.

(Application filed Feb. 3, 1902.)

(No Model.)



Witnesses:
J. Stait
J. Choate Smith

Inventor:
Lewis A. Aspinwall
per L. W. Ferrell & Son attys

UNITED STATES PATENT OFFICE.

LEWIS AUGUSTUS ASPINWALL, OF JACKSON, MICHIGAN, ASSIGNOR TO
ASPINWALL MANUFACTURING COMPANY, OF JACKSON, MICHIGAN,
A CORPORATION OF MICHIGAN.

POTATO-PLANTER.

SPECIFICATION forming part of Letters Patent No. 709,660, dated September 23, 1902.

Application filed February 3, 1902. Serial No. 92,240. (No model.)

To all whom it may concern:

Be it known that I, LEWIS AUGUSTUS ASPINWALL, a citizen of the United States, residing at Jackson, in the county of Jackson and State of Michigan, have invented an Improvement in Potato-Planters, of which the following is a specification.

My present invention relates to an improvement upon the devices set forth in Letters Patent granted to me September 25, 1900, No. 658,562, with the object of improving the pickers and concaves, preventing injury to the potatoes, and making more positive the movements of the pickers, and, furthermore, preventing injury to the potato-chute in stony ground.

In carrying out my invention the pickers each comprise pivoted blades upon arms secured to and extending substantially radial from the axle of the machine, and with said blades there are one or more prongs and contacting rollers, said pickers being acted upon by a cam, as in my aforesaid patent, for removing the potatoes therefrom and delivering the same to the chutes. I also employ concaves that are long and smooth and without ribs or corrugations, the picker devices moving in said concaves by the action of the potatoes and against the same as the prongs penetrate the potatoes or pieces thereof, and I connect the aforesaid chute and the plow by a runner in the form of a bent U-bar extending between said parts and having a horizontal portion lying near the ground, said runner being adapted to pass over stones or other obstructions and to lift the parts clear of such obstructions, so that the same do not strike and injure the chute, and this runner also acts as a fertilizer-spreader. In the present machine I also employ a novel construction of marker-bar adapted to yield and alter its position in case the machine is moved backward and also to yield in striking an obstruction.

In the drawings, Figure 1 is a partial side elevation and vertical section of the principal parts of a potato-planter especially representing the features of my present improve-

ment. Fig. 2 is a partial vertical section through the magazine-hopper and an elevation of the concaves. Fig. 3 is a side elevation of the concaves. Fig. 4 is a plan of the same. Fig. 5 is a sectional plan on the line xx of Fig. 3, and Fig. 6 is a sectional plan on the line yy of Fig. 3. Fig. 7 is a sectional plan on the line zz of Fig. 1. Fig. 8 is a rear-wise elevation of part of the marker device. Fig. 9 is a front edge view, and Fig. 10 a rear edge view, of the picker device having one roller and two prongs; and Fig. 11 is a front edge view of the picker device having two rollers and one prong, Figs. 9, 10, and 11 being of larger size than the parts shown in Fig. 1.

The pole a is secured to the frame b and the latter to a sleeve b' , surrounding an axle c' , mounted upon wheels c .

b^2 represents the magazine-holder, and d a plow-frame to which the plow e is connected, and f represents lifter-bars pivoted to the plow-frame and adapted to be employed for raising and lowering the same, and $g g'$ are pairs of links at one end pivoted to the plow and generally constructed and employed as in my aforesaid patent.

$h h'$ are upper and lower parts of the chute for potatoes, the upper part h being connected to the plow-frame d by the bolt 2 and the bolt 3 being employed for securing the parts of the chute together. The parts hereinbefore described are similar in their construction and alike in their functions to similar parts described and illustrated in my aforesaid patent.

i represents the two slotted concaves, the parts of which are secured together and to and between the parts forming the magazine or hopper b^2 . These parts are also similar to those illustrated and described in my aforesaid patent. The slotted concaves as at present constructed are made of greater length than those heretofore employed, and their surfaces are smooth and without ribs or corrugations, and they are inclined about as illustrated to agree substantially with the arc of travel of the pickers. I do not limit

myself to dispensing with ribs or corrugations.

k represents a runner in the form of a bent bar of appropriate **U** form. One end of this bar is connected by a bolt 5 to the lower chute *h'* and the opposite end of the bar by a bolt 4 to a part of the plow device adjacent to the point of connection thereof with the plow-frame *d*. In fact, this runner *k* comes between the inclined sides of the plow and substantially within the plow and extends rearward, the lower horizontal portion of which runner is substantially parallel with the ground when the parts rest upon the ground and are not performing their usual functions, and when the plow is at work and in the furrow the said runner comes near the base of the furrow. This runner forms a rigid connection between the plow and the lower chute, and should there be a stone or other obstruction in the earth which is struck by the plow said runner prevents said stone or obstruction coming up between the plow and the chute in such position that the same would be struck by the chute and the chute injured, as was liable to be the case with the device of the aforesaid patent, this runner performing the function in sliding over said obstruction of maintaining the parts above the level of the said obstruction, so that the potato-chute passes clear and forward of the obstruction before the plow again nears the ground.

The marker-arm *l* is pivotally connected to a head device 7 upon the side of the pole *a*. This device is similar to that shown in my aforesaid patent. Upon the marker-arm I employ a yoke 8, which surrounds the arm and is adjustably held thereto by two nuts at the back and which yoke at the same time holds to the marker-arm a mortised approximately **U**-shaped plate 9, the same passing below the yoke and marker-arm to the forward edge thereof and forming underneath the arm a cavity.

A blade *l'*, which is preferably of spring metal, is formed into an eye at the upper end, and the same passes through the mortise of the plate 9, and a bolt 6 passes through the eye and through the sides of the said plate 9 to pivotally connect the said blade *l'* in place. This blade is adapted to swing upon the bolt 6, and its motion is limited by the mortise in the plate 9. In Fig. 1 I have represented the extreme positions of the said blade *l'* by full and dotted lines, the full lines representing the position of the blade when the potato-planter is in operation and the dotted lines the position in case the planter should be moved backward.

Arms *m* are secured to and extend practically radially from a disk on the sleeve *b'*, and the picker devices each comprise plates *n*, that are riveted upon opposite sides of the arms *m* at their respective ends, and between these plates *n* there is a blade *o*, pivoted at 11 to the plates *n* and slotted for the guide-

pin 12. The blade *o* carries one or more rollers 13, and the arms *m* carry one or more prongs 10. In the uppermost of the picker devices shown in Fig. 1 I have illustrated two rollers and one prong, Fig. 11 being an edge view of the same, the other picker devices illustrated in Fig. 1 containing one roller and two prongs, the same being further shown by the edge views, Figs. 9 and 10. It is entirely optional with me whether I employ two rollers and one prong or one roller and two prongs, as either construction operates satisfactorily.

The cam-plate *r*, secured to the frame *b* and employed to act against the back end of the picker-blades adjacent to the chute for actuating the same, removing the potatoes progressively from the prongs and dropping the same in the chute, is similar to the device shown in my aforesaid patent.

I claim as my invention—

1. In a potato-planter, the combination with the plow and the chute for delivering the potatoes, of a device rigidly and immovably connected respectively to said parts, extending between the same, and having a horizontal portion lying near the ground and adapted to move with the plow and to come in contact with an obstruction to prevent injury to the chute, substantially as set forth.

2. In a potato-planter, the combination with the plow and the two-part chute and support, of a runner in the form of a bent bar having one end rigidly and immovably connected to the lower part of the chute and the opposite end rigidly and immovably connected to the plow devices, and having a horizontal portion lying near the ground and approximately on the plane of the lower edge of the plow, and adapted to come in contact with an obstruction passed by the plow so as to raise the chute and carry the same over the obstruction and prevent injury thereto, substantially as set forth.

3. In a potato-planter, the combination with the axle and a disk and arms mounted thereon, of picker devices secured to the respective ends of said arms and each comprising plates secured upon opposite sides thereof, a blade between the same and pivoted thereto and having a mortise receiving a pin passing through the same and the outer plates, and a prong and coacting roller secured to said parts and acting to engage or pick up the potatoes and to remove the same, substantially as set forth.

4. In a potato-planter, the combination with the axle and a disk and arms mounted thereon, of picker devices secured to the respective ends of said arms and each comprising plates secured upon opposite sides thereof, a blade between the same and pivoted thereto and having a mortise receiving a pin passing through the same and the outer plates, prongs extending out from the arms and a roller secured to the central blade and moving between said prongs, the prongs passing into

the potatoes and said movement swinging the
central blades and intermediate roller so as
to bring the advancing point of the central
blade adjacent to the prongs and the roller
5 acting in the reverse movement of the central
blade against the potatoes to remove the same
from the prongs, substantially as set forth.

Signed by me this 18th day of December,
1901.

LEWIS AUGUSTUS ASPINWALL.

Witnesses:

W. C. SHANAFELT,
GEO. N. WHITNEY.