

(No Model.)

4 Sheets—Sheet 1.

J. E. McCREEDY.
POTATO DIGGER.

No. 466,699.

Patented Jan. 5, 1892.

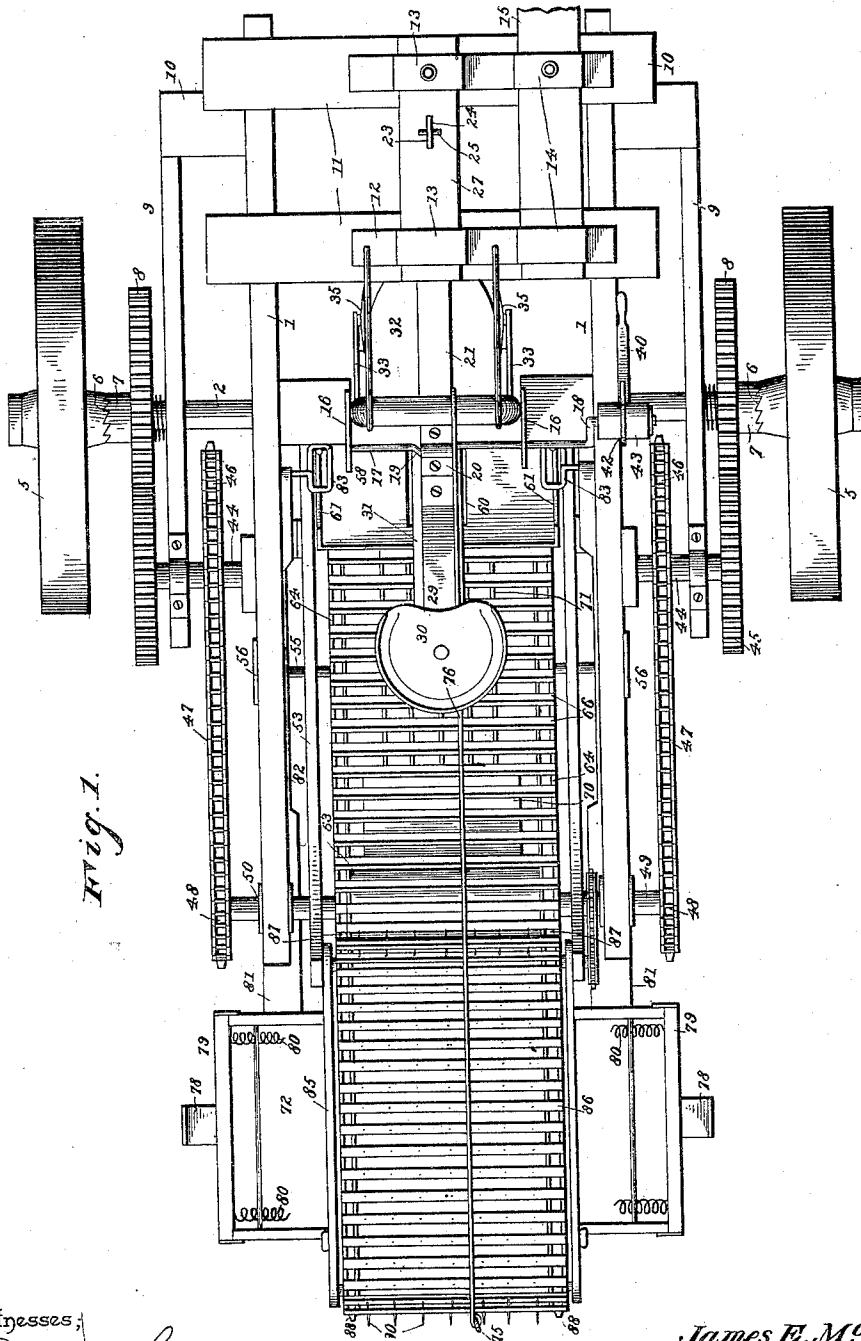


Fig. 1.

Witnesses,

Wm. Withers.
Wm. Bagger.

By his Attorneys,

C. A. Snow & Co.

Inventor,
James E. McCreedy.

(No Model.)

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Fig. 2.

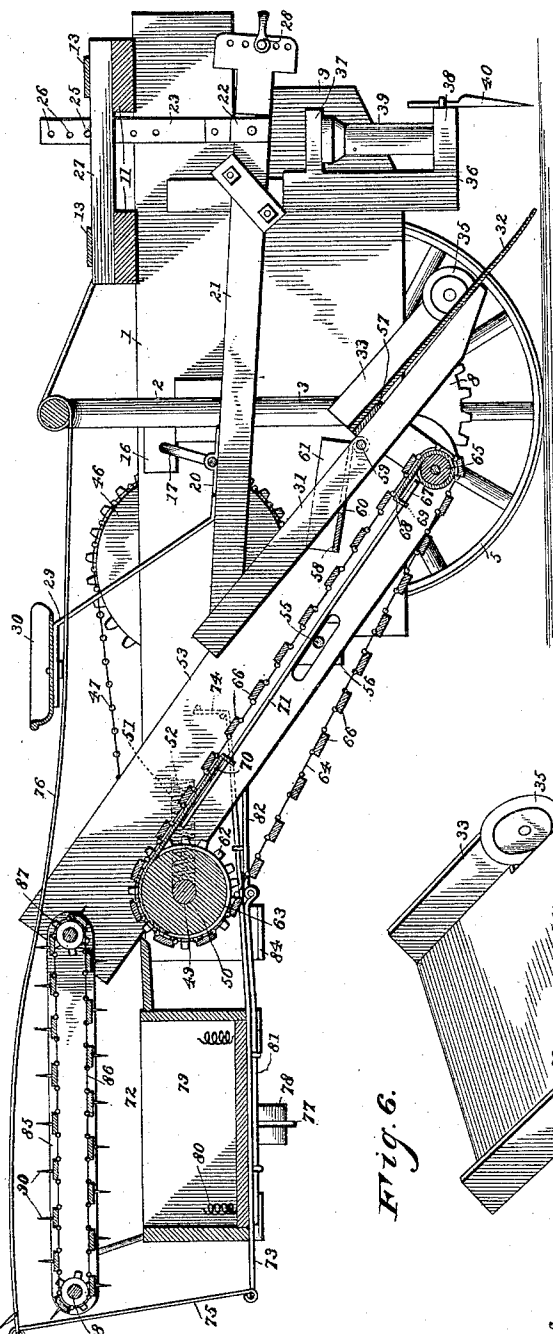
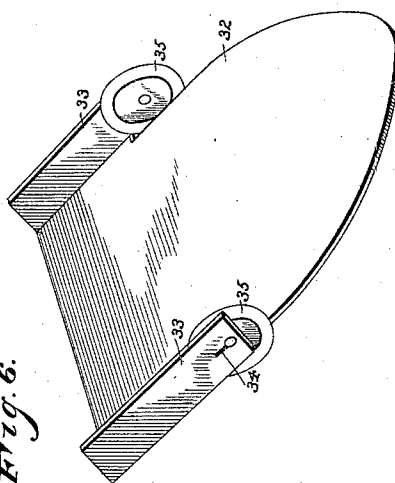


Fig. 6.



Witnesses:

Wm. Baggett

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James E. McCreedy

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Fig. 3.

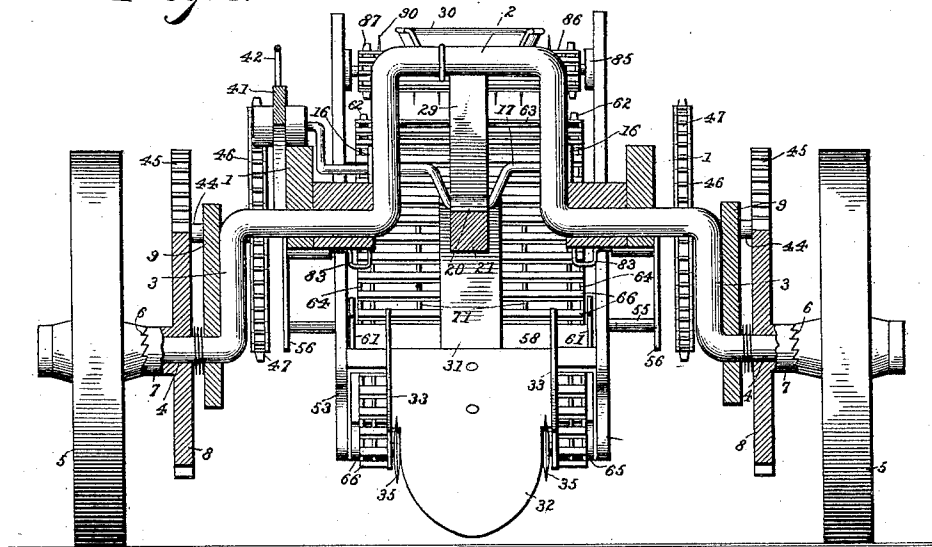
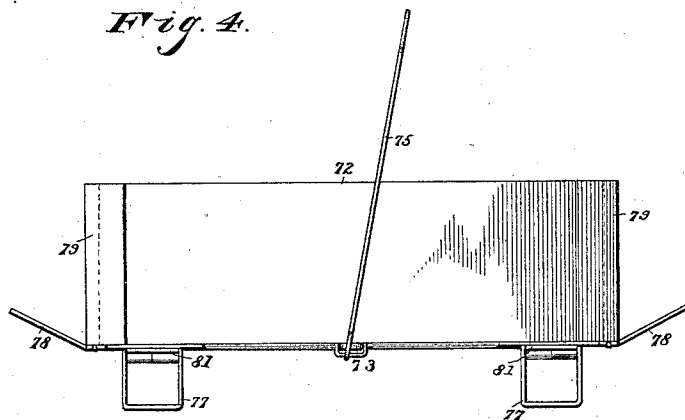


Fig. 4.



Witnesses;

Wm. Bagger

By *his* Attorneys,

C. Snow & Co.

Inventor
James E. McCreedy

(No Model.)

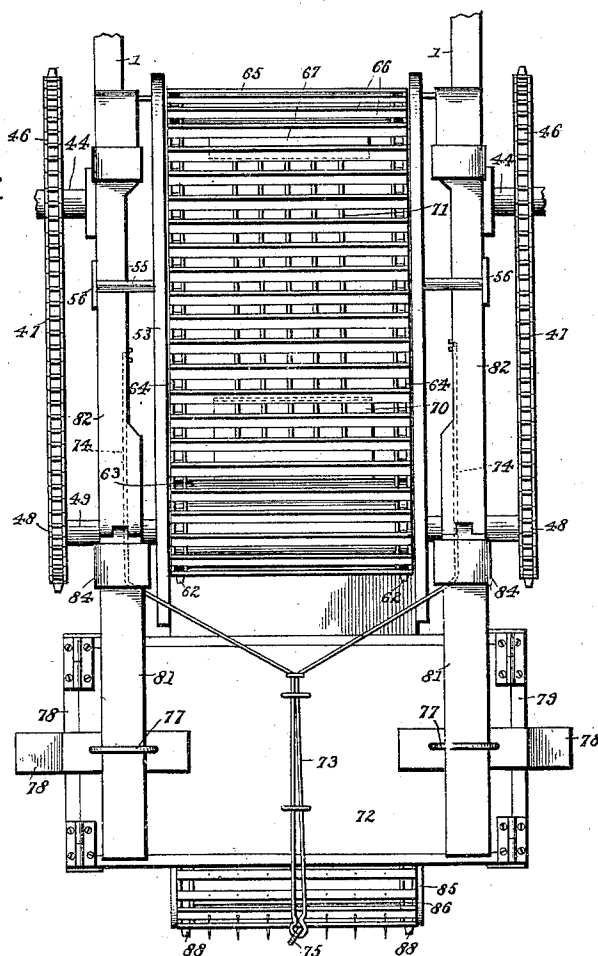
4 Sheets—Sheet 4.

J. E. McCREEDY.
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Fig. 5.



Witnesses;

J. M. Thorne

Wm. Baggett

Inventor

James E. McCreedy

By *his* Attorneys,

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UNITED STATES PATENT OFFICE.

JAMES ELSTON MCCREEDY, OF ARLINGTON, ILLINOIS.

POTATO-DIGGER.

SPECIFICATION forming part of Letters Patent No. 466,699, dated January 5, 1892.

Application filed February 11, 1891. Serial No. 381,063. (No model.)

To all whom it may concern:

Be it known that I, JAMES ELSTON MCCREEDY, a citizen of the United States, residing at Arlington, in the county of Bureau and State of Illinois, have invented a new and useful Potato-Digger, of which the following is a specification.

This invention relates to potato-diggers; and it has for its object to provide a machine of this class which shall be simple, durable, and efficient in operation and which shall serve to disinter the potatoes, to elevate them and separate them from the dirt and vines, and to dump or deposit them apart from the said dirt and vines.

With these ends in view the invention consists in the improved construction, arrangement, and combination of parts which will be hereinafter fully described, and particularly pointed out in the claims.

In the drawings hereto annexed, Figure 1 is a plan view of a potato-digger constructed in accordance with my invention. Fig. 2 is a longitudinal vertical sectional view of the same. Fig. 3 is a vertical transverse section taken through the axle and looking in a rearward direction. Fig. 4 is a rear elevation of the receptacle. Fig. 5 is a bottom plan. Fig. 6 is a perspective detail view of the furrow-opener.

Like numerals of reference indicate like parts in all the figures of the drawings.

The main frame of my machine is composed of the side beams 1 1, the under sides of which have boxes for the passage of the ends of the arched axle 2, the ends of which are provided with downwardly-extending arms or cranks 3, having spindles 4, upon which the transporting-wheels 5 are mounted. The hubs of the latter are provided with clutches 6, engaging clutch members 7 upon the spur-wheels 8, which are journaled upon the spindles adjacent to the transporting-wheels. The clutch mechanism may be of any ordinary well-known construction which shall cause the spur-wheels to rotate with the transporting-wheels when the machine is traveling in a forward direction, while when the machine is being backed the transporting-wheels may rotate independently of the said spur-wheels.

9 9 are frame-pieces which are mounted upon the spindles 4 adjacent to the spur-wheels 8 and the front ends of which are connected with the frame-pieces 1 by means of brackets 10. The frame-pieces 1 are connected near their front ends by cross-pieces 11, having straps 12 upon their upper sides provided with loops or clips 13 and 14, in either of which the tongue 15 may be adjusted. When the said tongue is adjusted in the central loops 13, the machine may be drawn by two horses. When three horses are required, the tongue may be adjusted in the loops 14 at the right-hand side of the frame.

The central arch of the axle is provided with rearwardly-extending brackets 16, in which is journaled a shaft 17, having at one end an upwardly-extending flange 18, and provided also with a central downwardly-extending flange 19. The latter is journaled in a suitable box or bearing 20 upon the upper side of the plow-beam 21 near the rear end of the latter, which is thus supported adjustably by the said crank-shaft. The front end of the plow-beam has an upwardly-extending bracket 22, which is connected pivotally with a link or supporting-rod 23, which extends upwardly through a slot 24 in the rear end of the tongue, where it is secured by means of a transverse pin 25, passing through any one of a series of perforations 26 in the said link or supporting-rod. The front end of the plow-beam may thus be adjusted vertically. When the tongue is arranged in the loops 14, near the right-hand side of the frame, a block 27, having a longitudinal slot for the passage of the supporting-rod 23, may be mounted temporarily in the loops 13, as will be seen in the drawings. The front end of the plow-beam is provided with a suitably-constructed clevis for the attachment of the draft, as shown at 28.

The plow-beam is provided near its rear end with a support 29 for the driver's seat 30. It also has the downwardly-extending standard 31, carrying the furrow-opener 32, which is composed of a suitably tapering or pointed flat plate or mold-board provided at its edges with flanges 33, at the front ends of which are formed slots 34 for the accommodation of the rolling colters or cutters 35, which are jour-

naled near the front ends of said flanges. Said rolling colters serve in practice to cut the vines and to prevent the latter from becoming entangled with the operating mechanism.

The plow-beam is provided near its front end with a downwardly-extending bracket or standard 36, having forwardly-extending arms 37 and 38, between which is journaled a vertical roller 39. To the front end of the lower bracket 38 is secured a downwardly-extending cutter 40, which serves to cut the ground in advance of the blade or mold-board 32.

41 designates a lever which is pivoted to one of the side beams 1 of the frame, and is provided with a loop 42, encircling the roller 43, which is mounted upon the crank-arm 18 at the end of the shaft 17, which may thus be manipulated to lower or raise the plow into or out of the ground, as may be desired, such operation being readily performed by the driver while the machine is in operation.

The frame-pieces 1 and 9 are provided near the rear ends of the latter with bearings for the shafts 44, the outer ends of which carry pinions 45, meshing with the spur-wheels 8 upon the spindles of the axle of the machine. The inner ends of the shafts 44 carry sprocket-wheels 46, which are connected by chains 47 with sprocket-wheels 48 upon the ends of a shaft 49, which is journaled in suitable boxes 50, which are mounted slidingly in longitudinal slots 51 in the rear ends of the frame-pieces 1. Springs 52 are mounted in said slots to force the boxes carrying the shaft 49 automatically in a rearward direction, thus keeping the chains 47 always taut.

53 designates a frame, the side pieces of which are provided with slots 54, whereby the said frame is mounted slidingly upon a cross bar or shaft 55, which is mounted in brackets 56, depending from the side frame-pieces 1. The lower ends of the side pieces of said frame are connected to the ends of a cross-bar 57, which is secured upon the standard of the plow under the upper end of the blade or mold-board 32.

58 designates a shield which is hinged upon a shaft 59, extending transversely through the plow-standard, said shield being provided with a slot 60 for the accommodation of said standard, the said shield, the edges of which are provided with flanges 61, forms an upward extension of the blade or mold-board 32, the function of which will be hereinafter explained.

The upper ends of the side pieces of the frame 53 are supported upon shaft 49, which latter is provided between the side pieces 60 with sprocket-wheels 62 and an intermediate drum or roller 63. The sprocket-wheels 62 carry the chains 64, the lower ends of which pass over a roller 65, the shaft of which is journaled in the side pieces of the frame 53 near the lower end of the latter. The said

chains are connected by transverse slats or carriers 66, thus constituting an elevator or endless carrier. The roller 63 supports a curved shield 67, the lower edge of which has a flange 68, provided with perforations 69. Upon the roller 65, at the lower end of the frame 53, is mounted a shield 70, from which a series of rods 71 are extended upwardly through the perforations 69, in which they are loosely supported. Said rods constitute a screen or grate, which when the potatoes and vines are being elevated by the endless carrier shall permit the dirt to sift through and fall upon the ground while the potatoes and vines are carried to the upper end of the endless carrier.

It will be observed that the side pieces of the frame 53 constitute the carrier-frame and that the said side pieces are adjustable with the rear end of the plow-beam without interfering with the operation of the endless carrier, the chains of which pass loosely over the shaft or roller 65 at the lower end of the carrier-frame.

72 designates a box or receptacle which is mounted pivotally upon a shaft 73, which extends rearwardly from brackets 74, which are suitably attached to the rear ends of the side beams 1 of the frame. The rear end of the shaft 73 has an upwardly-extending brace-rod 75, which is connected by a longitudinal brace 76 with the arch of the axle of the machine. The bottom of the box or receptacle 72 is provided with downwardly-extending loops 77 and with laterally-extending brackets 78. The said box is also provided at its ends with hinged end gates 79, which are normally held closed by the action of suitably-arranged springs 80. When the said box or receptacle 72 is tilted to either side, the weight of its contents will overcome the tension of the springs 80, causing one of the end gates to swing open and the contents of the box to be dumped or deposited upon the ground or, if preferred, into a suitably-arranged bag or other receptacle. The box 72 is normally supported in a horizontal position by means of brackets 81, hinged to the rear ends of rods 82, which are mounted to slide longitudinally in suitable bearings under the side pieces 1 of the main frame. The front ends of the sliding rods 82 are provided with loops 83, by means of which they may be conveniently manipulated by the feet of the driver. When the said rods are pushed forwardly, the hinged brackets 81 will be supported in a horizontal position by the stirrups 84 at the rear ends of the side pieces 1. When it is desired to tilt the box 72 to either side, one of the rods 82 is slid or moved rearwardly until the hinged bracket 81 drops down to a vertical position, thus permitting the box 72 to swing or tilt upon the shaft 73, thus discharging its contents. The said box may be readily restored to a horizontal position.

tion by pushing the sliding rod 82 in a forward direction.

To the upper end of the carrier-frame 53 is attached the frame 85 of a supplemental or auxiliary endless carrier 86, which is mounted upon sprocket-wheels 87 and 88, arranged, respectively, upon the shaft 49 and upon a shaft 89 at the upper end of the carrier-frame 85. This auxiliary carrier is for the purpose of receiving the vines and carrying them over the box or receptacle 72, in rear of which they are dumped upon the ground. The slats of the endless carrier 86 may be provided with teeth or fingers 90 to readily engage the vines, which are thus carried off apart from the potatoes.

The operation of my invention will be readily understood from the foregoing description, taken in connection with the drawings hereto annexed.

When the machine progresses over the field, the potatoes and vines will pass over the inclined mold-board 32 and shield 58 onto the endless carrier having the screen-bars 71, where the potatoes and vines are separated from the dirt, the potatoes being dumped into the box or receptacle 72, while the vines are caught by the endless carrier 86 and dumped in rear of the said receptacle.

The general construction of my improved potato-digger is very simple, and it may be easily manipulated, the plow-beam being readily adjusted into or out of the ground and the dumping mechanism being also exceedingly simple.

By this machine the potatoes are not only disinterred, but are effectually separated from the dirt and vines in a very thorough and rapid manner.

Having thus described my invention, what I claim is—

1. In a potato-digger, the combination of the frame having an arched axle supported upon suitable transporting-wheels, the cross-bars at the front end of the frame, a tongue supported upon said cross-bars and having a vertical slot, the plow-beam connected pivotally with a crank-shaft journaled in bracket or bearing extending from the arch of the axle, and a rod or link connecting the front end of said plow-beam adjustably with the slotted tongue or with a block occupying the position of the latter, substantially as set forth.

2. In a potato-digger, the combination of the arched axle having rearwardly-extending brackets, a crank-shaft journaled in said brackets and having a roller at one end, an operating-lever pivoted to the frame and having a loop engaging said roller, and the plow connected pivotally with the crank-shaft and having the front end of its beam connected adjustably with the frame, substantially as and for the purpose set forth.

3. In a potato-digger, the herein-described blade or mold-board provided at its sides with

upwardly-extending flanges and with slots at the front ends of the latter, in combination with the revolving colters or cutters journaled to said flanges and revolving in the said slot, substantially as and for the purpose set forth.

4. In a potato-digger, the combination of the frame, the plow mounted adjustably therein, the carrier-frame secured to a bracket attached to the plow-standard, and the shield or apron hinged upon a shaft or bar extending transversely through-said standard, substantially as set forth.

5. In a potato-digger, the combination of the frame, a longitudinally-movable and spring-actuated shaft at the rear end of said frame, means for transmitting motion to said shaft from the transporting-wheels of the machine, the plow mounted adjustably in the frame of the machine, the carrier-frame connected with said plow and having a shaft or roller at its lower end, and the endless carrier passing loosely over said roller and operated by sprocket-wheels upon the longitudinally-movable shaft at the rear end of the machine, substantially as and for the purpose set forth.

6. In a potato-digger, the combination of the frame, the plow mounted adjustably therein, the elevator-frame connected with said plow and having an endless carrier passing loosely over a roller at the lower end of the elevator-frame and over sprocket-wheels upon a shaft at the rear end of the main frame, means for transmitting motion to said shaft from the transporting-wheels, a shield mounted loosely upon said shaft and having a perforated flange at its lower edge, and grate-bars or screen-bars mounted in a shield upon the shaft at the lower end of the elevator-frame and extended loosely through the perforated flange of the shield upon the shaft at the rear end of the main frame, substantially as set forth.

7. In a potato-digger, the elevator or endless carrier having the adjustable frame provided with grate-bars secured in a shield mounted upon a shaft at the lower end of said frame and having their upper ends loosely supported for reciprocation in a stationary support, substantially as and for the purpose set forth.

8. In a potato-digger, the combination, with the frame having the adjustable plow, the endless carrier connected with the latter, and the auxiliary endless carrier, of the pivoted receptacle having hinged end gates, and means for supporting the said receptacle normally in a horizontal position, substantially as set forth.

9. In a potato-digger, the combination, with the frame having the plow and the endless carrier, of the pivoted receptacle having hinged end gates, springs to hold the said end gates normally closed, and brackets to support

the said end gates when open, substantially as set forth.

10. In a potato-digger, the combination, with the frame having the plow and the elevator or endless carrier, of the pivoted receptacle having hinged end gates, and brackets hinged to longitudinally-sliding bars and adapted to support the said receptacle normally in a horizontal position, substantially as and for the purpose set forth.

11. In a potato-digger, the combination of the frame having the adjustable plow and the elevator-frame connected with the latter, the endless carrier, the shield hinged to the plow-standard and forming a continuation of the blade or mold-board, the receptacle mounted

pivotaly in rear of the endless carrier and having hinged spring-actuated end gates and brackets to support the latter when open, and the longitudinally-sliding rods having hinged arms or brackets extended through loops upon the under side of the pivoted receptacle and adapted to sustain the latter in a horizontal position, substantially as and for the purpose herein set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in presence of two witnesses.

JAMES ELSTON MCCREEDY.

Witnesses:

JOSEPH JACKLEY,
GEO. M. MCCREEDY.