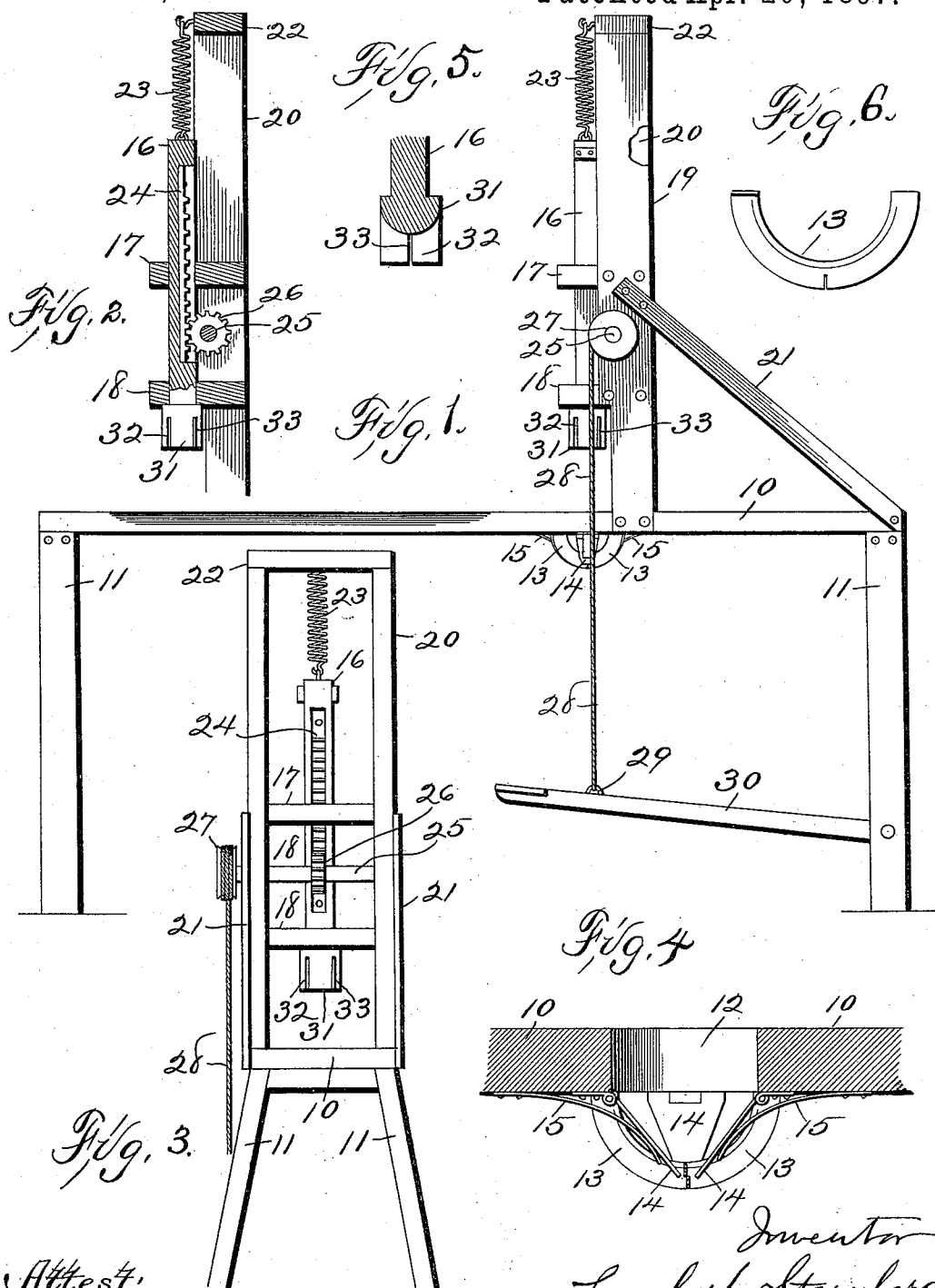


(No Model.)

L. STERNBERG.
POTATO CUTTER.

No. 580,962.

Patented Apr. 20, 1897.



Attest:
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UNITED STATES PATENT OFFICE.

LAMBERT STERNBERG, OF MITCHELLVILLE, IOWA.

POTATO-CUTTER.

SPECIFICATION forming part of Letters Patent No. 580,962, dated April 20, 1897.

Application filed March 20, 1896. Serial No. 584,198. (No model.)

To all whom it may concern:

Be it known that I, LAMBERT STERNBERG, a citizen of the United States of America, and a resident of Mitchellville, in the county of Polk and State of Iowa, have invented new and useful Improvements in Potato-Cutters, of which the following is a specification.

The object of this invention is to provide improved means for cutting potatoes preparatory to planting the same.

My invention consists in the peculiar construction of the cutting-knives and the spring-pressed hinges acting in conjunction with the knives to center the potatoes, in combination with pedally-operated mechanism for pressing the potatoes against said knives and between said spring-pressed hinges.

My invention consists, further, in the construction, arrangement, and combination of elements hereinafter set forth, pointed out in my claims, and illustrated by the accompanying drawings, in which—

Figure 1 is a side elevation of the complete machine. Fig. 2 is a sectional elevation illustrating the manner of and means employed to feed the potatoes to and through the knives. Fig. 3 is an end elevation of the complete machine. Fig. 4 is a detail sectional elevation illustrating the application of the knives and spring-pressed hinges to the machine. Fig. 5 is a sectional elevation of the lower end portion of the plunger. Fig. 6 is an elevation of one of the semiannular cutting-blades or knives detached from the machine and showing the oppositely-extended end portions or flanges of the blades.

In the construction of the machine as shown I employ a bench 10, provided with four or any suitable number of legs 11, whereby said bench is supported at a distance above the floor or ground. In one end portion of the bench 10 I form a circular aperture 12, which aperture is of such size as to admit the passage therethrough of potatoes of ordinary size.

My cutting mechanism is mounted below and on the under side of the bench 10, and consists of a pair of knives or cutting-blades 13 13, crossing each other at right angles and provided with flanged end portions, whereby they may be bolted to the bench outside the circumference of the aperture 12.

Each of the knives 13 is crescent-shaped or semicircular or semiannular in form as contradistinguished from plane, V-shaped, or other common constructions. The radius of the inner circle of each knife is substantially coincident with the radius of the aperture 12, and the point of crossing of the knives is in the vertical plane of the axis of said aperture. The knives are notched and crossed in a common manner so as to position their margin in coincident planes. The upper margins of the knives are attenuated or sharpened. Also included in the cutting mechanism is the means for centering the potatoes relative to the knives, which comprises four hinges 14, having pointed lower end portions pending between and below the plane of the cutting edges of the knives, the upper portions or wings of the hinges being secured by screws or bolts to the lower surface of the bench 10 outside of the circumference of the aperture 12. Four leaf-springs 15 are fixed to the bench 10 immediately in the rear of the hinges 14 and converge toward each other and are turned downwardly to engage beneath and against the rear face of the pending wings of the hinges and retain said wings normally in contact with the sides of the knives 13. The knives and pending wings of the hinges form a pot or receptacle into which a potato may be deposited and which will hold a potato deposited therein until such time as pressure is brought to bear thereon to push the potato past the knives and hinges.

The means employed to press the potatoes beyond the knives comprises a plunger 16, mounted for vertical longitudinal reciprocation in a vertical plane above the cutting mechanism, which plunger is in its major portion angular in cross-section and confined in angular slide-bearings formed in cross-bars 17 18, supported by standards 19 20, fixed to and rising from the bench 10. The standards are braced by rods 21 to one end of the bench. A plate 22 is extended across and connects the upper ends of the standards 19 20, and a retractile coil-spring 23 connects said plate to the upper end of the plunger 16. A rack 24 is countersunk in one side of the plunger 16 and extends nearly the entire length of the body of said plunger. A shaft 25 is horizontally positioned for rotation in

the standards 19 20 and is provided with a pinion 26, which meshes with the rack 24 on the plunger. A drum 27 is mounted on one outer end portion of the shaft 25 and has secured thereto one end of a rope 28, a portion of which rope is wound about said drum, the remainder of said rope depending from said drum to a point of attachment at 29 to a pedal or foot-lever 30. The pedal 30 is fulcrumed at one end to one of the legs 11 and extends longitudinally of and beneath the bench 10 to a point adjacent to the vertical plane of the cutting mechanism in order that the operator may stand or sit adjacent to the cutting mechanism, operate the pedal with his foot, and feed the potatoes with his hands to the cutting mechanism. The plunger 16 is provided with a head 31, preferably cylindrical in form, and the said head is slotted with crossed slots 32 33, the point of crossing of the slots being in the vertical plane of the axis of the aperture 12 and the crossing of the knives 13. The upper portions of the slots 32 33 are semicircular in form, Fig. 5, as required, to permit the descent of the lower end of the plunger beyond the knives and the engagement of the knife edges into the upper portions of said slots.

The mechanism for pushing the potatoes against and beyond the knives is in this instance practically identical with the construction shown and described in my application for a similar invention filed July 26, 1895, and serially numbered 557,278; but the cutting mechanism materially differs therefrom and is the essence of this invention.

By locating the knives entirely beneath the bench and providing the diameters of the knives and aperture in the bench of the same length I avoid the packing and accumulating of mashed potato upon the wall of the aperture between the knives, which feature is of material advantage in the use of my device.

I claim as my invention—

1. In a potato-cutter a bench having an aperture 12, a plurality of cutting-blades located entirely beneath and fixed at their ends to said bench, each of which blades is semiannular and extends uninterruptedly entirely across the aperture, the diameters of the aperture and blades being coincident.

2. In a potato-cutter, a pair of crossed knives, each of which knives is semiannular in form and provided with flanged ends, in combination with a bench provided with an aperture through which potatoes may be fed to the knives, to which bench said knives are so fixed as to extend uninterruptedly entirely across the aperture, the flanges on the ends of the knives being extended horizontally laterally in opposite directions and fixed to the lower surface of the bench on opposite sides of the aperture, spring-pressed hinges fixed to said bench and depending between the knives, a plunger mounted for vertical longitudinal reciprocation in a path above or par-

allel with said knives, pedally-operated mechanism for depressing said plunger to and beyond said knives and a retractile coil-spring fixed to said plunger and arranged to withdraw the same from the said knives.

3. In a potato-cutter, the combination of a bench having an opening therethrough, semiannular knives mounted entirely below the bench with their cutting edges concaved and uppermost concentric with said opening, hinges having their upper wings fixed to the lower surface of the bench and projecting radially from the apertures therethrough and their lower wings extending in convergent planes downwardly and inwardly toward the axial plane of the aperture in the bench and normally engaging below and against said knives, the lower ends of the lower wings of the hinges being attenuated or pointed, and leaf-springs fixed to the bench by one of each of their ends and having their other ends engaging below and against the rear faces of the depending portions of said hinges.

4. A potato-cutter comprising the following elements: a bench having an aperture; a pair of crossed knives located beneath the bench and secured thereto concentric with the aperture therein, each of which knives is semiannular in form; spring-pressed hinges located beneath the bench, fixed thereto and depending between and normally in engagement with the knives; a plunger, having slots in its lower end at right angles to each other and curved in their upper portions and intersecting each other at their centers as required to overlap and pass the crossed cutting-blades, which plunger is positioned for vertical rectilinear reciprocation to and from the knives; pedally-operated mechanism for depressing said plunger to and beyond the knives; and a retractile coil-spring fixed to said plunger and arranged to withdraw the same from the said knives.

5. A potato-cutter comprising a knife formed of a continuous piece of bar metal bent into crescent or semiannular form and having a cutting edge formed on the inside or concaved margin of said bar, a similar bar or knife having a convexed margin and a notch centrally located therein, which knives are positioned at right angles to each other having their notches traversing each other and overlapping the uncut central portion of the bars, and flanges formed on said bars at right angles thereto and extending in opposite directions, in combination with an apertured bench to which the knives are fixed by securance of the flanges on opposite sides of the aperture, the knives being located entirely beneath the bench, and means for engaging objects to be cut with said knives.

LAMBERT STERNBERG.

Witnesses:

J. S. DEAN,
S. A. DILLON.