(No Model.) 2 Sheets—Sheet 1.

A. J. WOOD.

POTATO CUTTER.

No. 552,808. Patented Jan. 7, 1896.

Fig. 1.

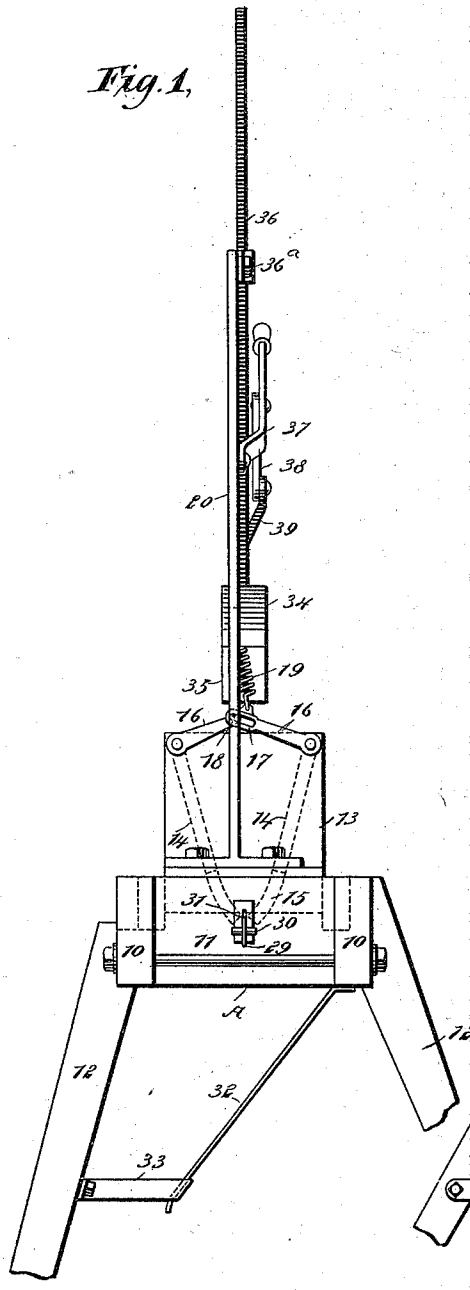
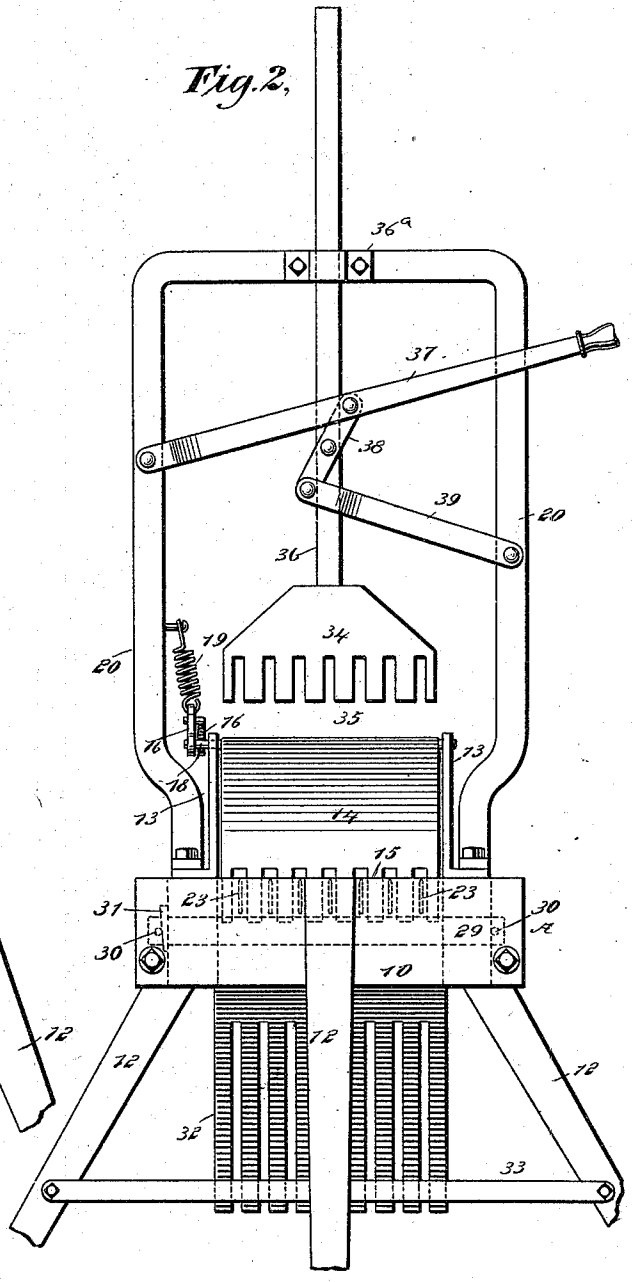


Fig. 2.



WITNESSES:

Edward Thorpe.

J. Fred Acker.

INVENTOR

A. J. Wood

BY Munn & Co

ATTORNEYS.

(No Model.) 2 Sheets—Sheet 2.

A. J. WOOD.

POTATO CUTTER.

No. 552,808. Patented Jan. 7, 1896.

Fig. 3.

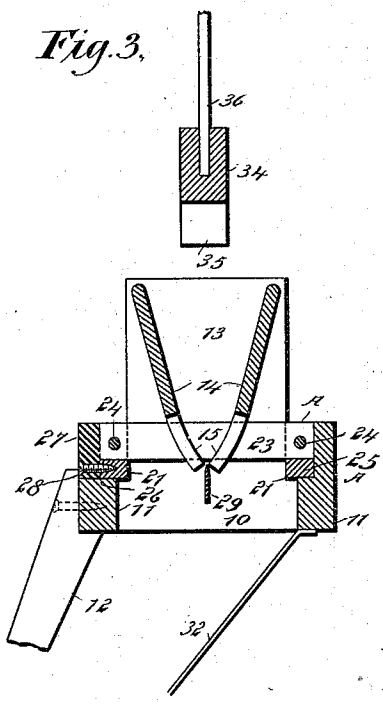


Fig. 4.

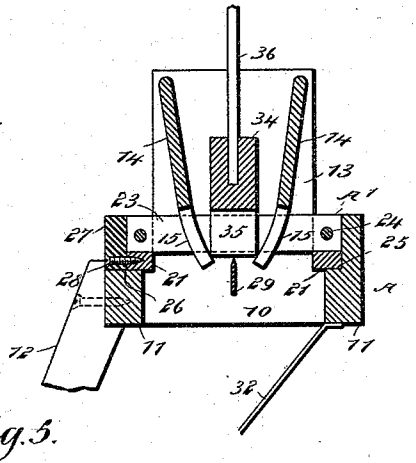


Fig. 5.

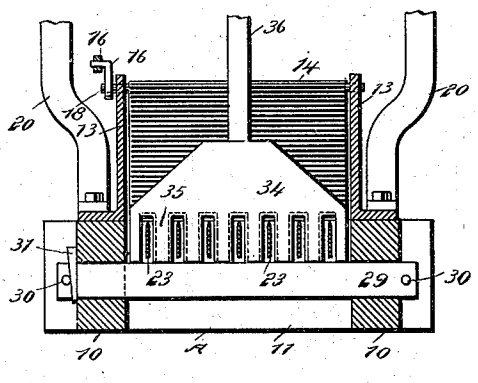
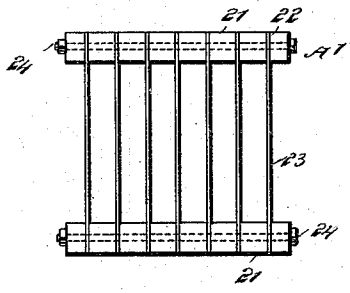


Fig. 6.



WITNESSES:

Edward Thorpe.

J. Fred. Acker.

INVENTOR

A. J. Wood

BY Munn & Co

ATTORNEYS.

UNITED STATES PATENT OFFICE.

ALBERT J. WOOD, OF WILDER, KANSAS.

POTATO-CUTTER.

SPECIFICATION forming part of Letters Patent No. 552,808, dated January 7, 1896.

Application filed March 8, 1895. Serial No. 541,008. (No model.)

To all whom it may concern:

Be it known that I, ALBERT J. WOOD, of Wilder, in the county of Johnson and State of Kansas, have invented a new and Improved Potato-Cutter, of which the following is a full, clear, and exact description.

My invention relates to an improvement in machines for slicing or cutting vegetables, the especial object of the invention being to cut potatoes for seeding purposes.

The object of the invention is to so construct the machine that the potatoes when cut will not be unnecessarily bruised, or bruised to any appreciable extent, and to provide a means whereby a vertical plunger may be employed to feed the potatoes to the knives, the cradle or hopper of the machine automatically centering the potatoes, yet being capable of yielding to the plunger when forcing the potatoes to the cutters.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

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

Figure 1 is an end view of the machine. Fig. 2 is a side elevation viewed from the rear. Fig. 3 is a sectional view through the hopper and body of the machine, the plunger being shown elevated. Fig. 4 is a view similar to Fig. 3, in which the plunger is shown in its lower position or within the hopper. Fig. 5 is a longitudinal vertical section through the body of the machine with the plunger in its lowest position, and Fig. 6 is a plan view of the knife-frame of the machine.

In carrying out the invention the body of the machine consists of a frame, usually rectangular and comprising parallel end beams 10 and side beams 11, connected by means of bolts or their equivalents, the body A being usually supported upon three legs 12, arranged substantially in tripod order, two of the legs being at what may be termed the "front."

At each end of the frame a vertical plate 13 is secured in any suitable or approved manner, and between these plates at each side of the machine a gate or swinging plate 14 is fulcrumed, the said plates being curved inward or in direction of each other at their lower ends, and they are provided at that point with fingers 15 arranged at predetermined distances apart. The end plates and gates jointly constitute a hopper for the reception of the potatoes. The two gates at their lower or finger ends are normally held substantially in contact, as shown in Fig. 3, through the medium of two links 16, secured to the trunnions of the gates at one end of the hopper, as illustrated in Fig. 1, and one link is provided with an elongated opening 17, receiving a pin 18 attached to the opposing link, and the pin-carrying link has usually attached to it a spring 19, which is ordinarily secured to a yoke-frame 20, bolted or otherwise attached at its bottom to the main frame A.

A knife-frame A′ is located in the main frame A of the machine. This knife-frame, as shown in Fig. 6, comprises two end bars 21, each having series of transverse slots or openings produced in its upper face, the openings in each bar being similarly arranged, and these slots in the end bars receive the ends of knives 23, and the said knives are provided with apertures in their ends and bolts 24 are passed through the said end bars and through the apertures in the bars of the frame, the bolts being provided with suitable heads and lock-nuts, whereby the knives may be tightened in the frame, or removed from the frame by the removal of the bolts. Under this construction it is obvious that exceedingly thin knives may be employed, and the knives may likewise be kept sharpened for a great length of time, and will be more efficient in work than ordinary.

The knife-frame A′ is made to enter a recess 25 produced in the inner face of one of the side beams of the main frame A, and at the opposite side of the said main frame a recess 26 is made, which extends from front to rear of the side beam, receiving not only the knife-frame but also a tie-strip 27, the said tie-strip being secured to the knife-frame by a screw 28 or its equivalent, and the tie-strip may be held in position by being passed back of the forward legs, as shown in Figs. 3 and 4, or it may be held in any other approved

manner, provided it is detachably secured to the plates.

The knives in the knife-frame are so arranged that the fingers in the gate-sections 14 of the hopper will enter the spaces between the knives, and immediately below the knife-frame a single longitudinal knife 29 is centrally placed in the main frame, which knife crosses the bottom of all of the transverse knives in the knife-frame. This longitudinal knife is preferably held in place by passing pins 30 through its ends and driving a wedge or key 31 between one side beam of the main frame and one of the aforesaid pins.

It is obvious that the knife-frame may be readily removed from the main frame by simply taking away the tie-strip 27 and drawing the knife-frame outward until its opposite supported end will drop downward and thereby clear the fingers of the hopper.

The potatoes when cut are received upon a preferably slatted chute 32, secured to the rear of the body frame A, being inclined forwardly and downwardly, and is strengthened at its lower end by a brace-bar 33.

A plunger 34 is employed, adapted to enter the hopper of the machine between the gates 14. The bottom of the plunger is formed with a series of teeth 35, which enter the spaces between the transverse knives in the knife-frame, and since the longitudinal knife is below the transverse knives and close thereto, the plunger need not be provided with a longitudinal groove in its bottom to receive the longitudinal knife, since it stops when immediately over the knife. Therefore the plunger is not weakened, and does not require as many grooves as ordinary in its bottom surface.

A stem 36 is secured to the plunger, which is carried vertically upward through a suitable guide 36^a upon the bow portion of the aforesaid yoke-frame 20. The plunger is manipulated preferably through the medium of a lever 37, fulcrumed upon one leg of the yoke-frame, being pivotally connected intermediate of its ends with the end of a link 38 pivoted at its center upon the plunger-stem 36, the opposite end of this plunger-link 38 being pivotally connected with a second and longer link 39, which in its turn is pivoted to the opposing leg of the said yoke-frame. Thus it will be observed that upon operating the lever upward and downward the plunger will be given a direct vertical movement and will be alternately forced into and carried out of the hopper. The gate of the hopper being in its normal position, as shown in Fig. 3, the potatoes will lie in the bottom thereof as in a cradle over the central portion of the transverse knives and likewise over the longitudinal knife, and when the plunger is carried downward it will force the potatoes downward on the transverse knives, the hopper opening at the time for the passage of the plunger, and as the parts of a potato and the fingers of the plunger pass through the spaces intervening the transverse knives the said parts will be forced upon the longitudinal knife and again severed. The device is exceedingly simple, durable and economic, and is capable of being expeditiously and conveniently operated by any person of ordinary intelligence.

When the main frame is made of iron the knife will be held in position by screws entered from the bottom of the main frame.

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

1. In a machine for cutting vegetables for seed or other purposes, a supporting frame, a knife frame removably placed therein, a series of knives located in the said frame, a knife located below the frame knives, crossing the same, a hopper located over all of the knives and provided with spring-controlled gate members, having fingers to enter the spaces between the frame knives, and a plunger likewise adapted to enter the said spaces and held to reciprocate within the said hopper, as and for the purpose set forth.

2. The combination, with a knife frame having series of spaced knives therein, and a hopper provided with spring-controlled gate sections having their lower ends provided with inwardly curved fingers extending downward in the spaces between the knives, of a plunger held to reciprocate between the gate sections and provided with fingers adapted to enter the spaces between the knives, substantially as described.

3. The combination, with a knife frame having series of spaced knives therein, and a hopper provided with spring-controlled gate sections having their lower ends provided with inwardly-curved fingers extending downward in the spaces between the knives, of a plunger held to reciprocate between the gate sections and provided with fingers adapted to enter the spaces between the knives, a longitudinal knife crossing the knives in the frame at the center thereof, the cutting edge of the longitudinal knife being adjacent to the backs of the frame knives, and means, substantially as shown and described, for removing the frame of knives from its support, as and for the purpose specified.

ALBERT J. WOOD.

Witnesses:
LEWIS L. HOARD,
FRED. C. PUTCAMP.