R. J. MANDERFIELD.

DEVICE FOR CUTTING EYES OUT OF LARGE POTATOES FOR SEED.

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1,378,258. Patented May 17, 1921.

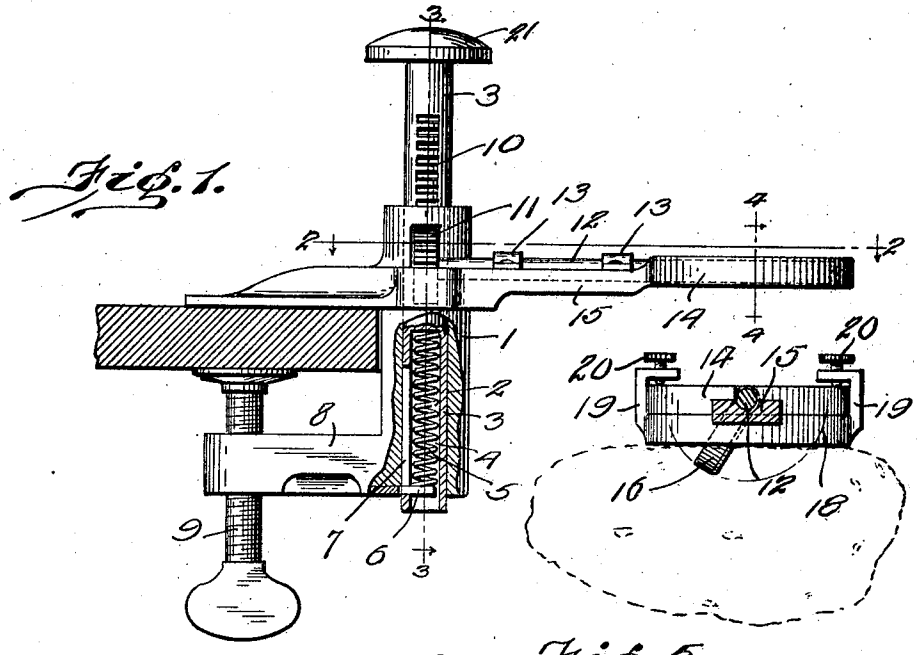


Fig. 1.

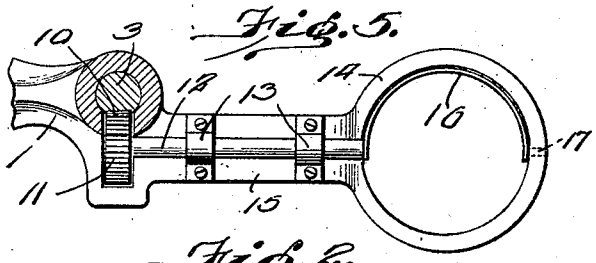


Fig. 5.

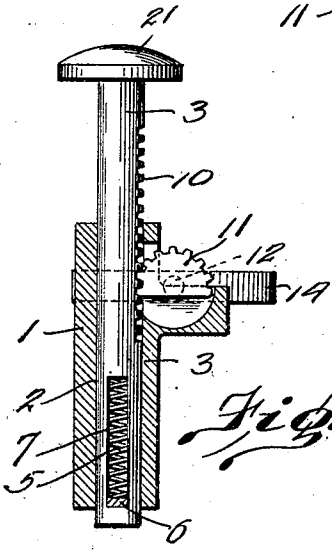


Fig. 3.

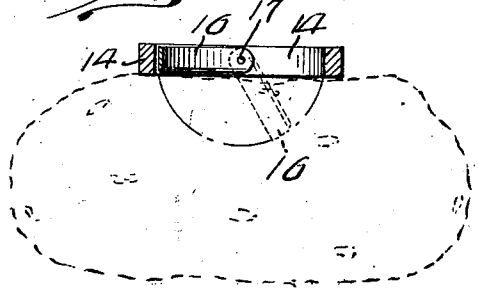


Fig. 2.

Fig. 4.

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DEVICE FOR CUTTING EYES OUT OF LARGE POTATOES FOR SEED.

1,378,258. Specification of Letters Patent. Patented May 17, 1921.

Application filed October 7, 1920. Serial No. 415,319.

To all whom it may concern:

Be it known that I, ROBERT J. MANDERFIELD, a citizen of the United States, residing at Hancock, in the county of Houghton and State of Michigan, have invented a new and useful Device for Cutting Eyes out of Large Potatoes for Seed, of which the following is a specification.

The object of my invention is to provide a device of simple construction for cutting the eyes in the shape of a perfect hemisphere from large potatoes for seed, after which the bulk of the potato may be used for food, and to eliminate the great waste which usually occurs where large and well developed potatoes are planted. It is also my object to provide a device which can be easily operated and which is not liable to get out of order, and which also can be readily attached to any table or shelf conveniently. I attain these and other objects of my invention by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of the invention, partly in section, to show the slot 7;

Fig. 2 is a horizontal section on line 2—2 of Fig. 1;

Fig. 3 is a vertical section, partly in elevation, on line 3—3 of Fig. 1;

Fig. 4 is a vertical section on line 4—4 of Fig. 1; and

Fig. 5 is a view partly in section and partly in elevation of an attachment to be used when it is desired to cut a smaller segment out of the potato.

Like numerals designate like parts in each of the views.

Referring to the accompanying drawing, I provide a frame 1 having an arm 8 in which is mounted a clamp screw 9 by means of which the device may be attached to a table or shelf. Frame 1 is provided with a horizontally extending arm 15 terminating in a ring 14 within which is mounted a semi-cylindrical knife 16 which is attached at its outer end to ring 14 by the pivot 17 and at its inner end is attached to the rod or knife arm 12 which is held in its bearing on arm 15 by clips 13. Affixed to the inner end of arm 12 I provide a segment pinion 11 which meshes with the rack portion 10 of a plunger 3. Plunger 3 has a suitable knob or handle 21 which may be struck with the hand to press the plunger in the channel 2 of frame 1 in which it is slidably mounted. The lower portion of the plunger 3 is hollow and contains a suitable spiral spring 5 within its hollow or chambered portion 4. The lower end of this spring rests on an arm 6 which is screwed to the frame 1 and projects into the slot 7 of plunger 3, and the channel portion 4 to engage and support the lower end of spring 5, as illustrated in Fig. 1. Arm 6 also functions to limit the downward movement of the plunger 3 to a distance equal to that of the slot 7 into which it projects.

To operate the seed potato cutter the plunger is manually depressed, its rack portion 10 causing segment pinion 11, knife arm 12 and semi-circular knife 16 to rotate a half circle and cut a small segment of the potato out including and surrounding the eye which is to be used in planting as seed. The potato is held under ring 14, so that the position of the eye of the potato may be seen while it is being cut out.

When it is desired to cut out a smaller portion of the potato than with the devices shown in Fig. 4, I apply the attachment shown in Fig. 5, consisting of a ring 18 of similar size to the ring 14 and adapted to seat and aline with ring 14, to which it is attached by means of suitable arms 19 and thumb screws 20, thus giving the knife 16 a smaller arc of operation on the potato and effecting the greatest saving of the bulk of the potato for food without sacrificing the amount of nourishment necessary for the potato seed. The device cuts out the eye of the potato in a portion in the shape of a small hemisphere, as illustrated in Figs. 4 and 5.

What I claim is:

1. In a seed potato cutter, the combination of a frame including means for adjustably clamping same to a table, a plunger slidably mounted in said frame, said plunger having a knob for depressing the plunger conveniently, and having a rack portion, a knife supporting arm extending horizontally from the frame and terminating in a ring, a semi-circular knife pivotally mounted on said ring, a knife arm rotatably mounted on the knife supporting arm and affixed to one end of the knife, a pinion segment mounted on the other end of the knife arm and meshing with the rack portion of the plunger.

2. In combination with the mechanism described in claim 1, resilient means engaging

the plunger and normally holding it in raised position and tending to cause it and the knife to return to original position after the knife and plunger have been operated.

3. In a seed potato cutter, the combination of a frame including means for clamping same to a table, a knife supporting arm integral with the frame and terminating in a ring, a semi-circular knife pivotally mounted at the outer end on the ring, a rod attached to the other end of the knife and a gear element on the other end of said rod in operative engagement with the rack portion of a plunger, a plunger slidably mounted in the frame and having a rack portion in mesh with the aforesaid gear element, the plunger having a chambered lower end and having a slot opening into said chambered portion, an arm attached to the frame and projecting through the slotted portion of the plunger, and a spiral spring having one of its ends bearing on said arm and having its other end bearing on the plunger to resiliently press the plunger to its raised position and normally hold the knife in its seat on the knife supporting member.

4. In combination with the apparatus described in claim 3, a ring adapted to be mounted on the ring of the knife supporting member, and means for clamping said ring on the knife supporting member, whereby the operative arc of the knife will be reduced in size.

5. In a seed potato cutter, the combination of a frame, a plunger slidable in said frame, the plunger having a rack portion, a knife supporting member integral with the frame, a knife mounted on said member, means operatively connecting the knife with the rack portion of the plunger, a ring adapted to be mounted on the knife supporting member, and clamping means for releasably securing said ring on the knife supporting member, whereby the cutting range of the knife will be reduced to cut out a small portion of the potato.

6. In a seed potato cutter, the combination of a frame, adjustable means for clamping same to a shelf or table, a plunger slidable in said frame, the plunger having a rack portion, a knife supporting member integral with the frame, a knife mounted on said member, means operatively connecting the knife with the rack portion of the plunger, resilient means for engaging the plunger and normally holding it in raised position and the knife in non-operating position, a ring adapted to be mounted on the knife supporting member surrounding the knife, and clamping means attached to said ring adapted to releasably secure the ring on the underside of the knife supporting member, whereby to reduce the cutting range of the knife so that a small portion of the potato surrounding the eye will be taken out by the knife.

7. In combination with the mechanism described in claim 1, a ring adapted to be mounted on the ring carried by the knife-supporting arm and alined with said ring, and means for clamping said ring to the annular portion of the knife-supporting arm to limit the operating range of the knife member, whereby to effect a greater saving in the bulk of the potato which is not required for seed.

ROBERT J. MANDERFIELD.