Dec. 24, 1940. E. G. OLDENBURG 2,226,071

POTATO SLICING MACHINE

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Fig. 1.

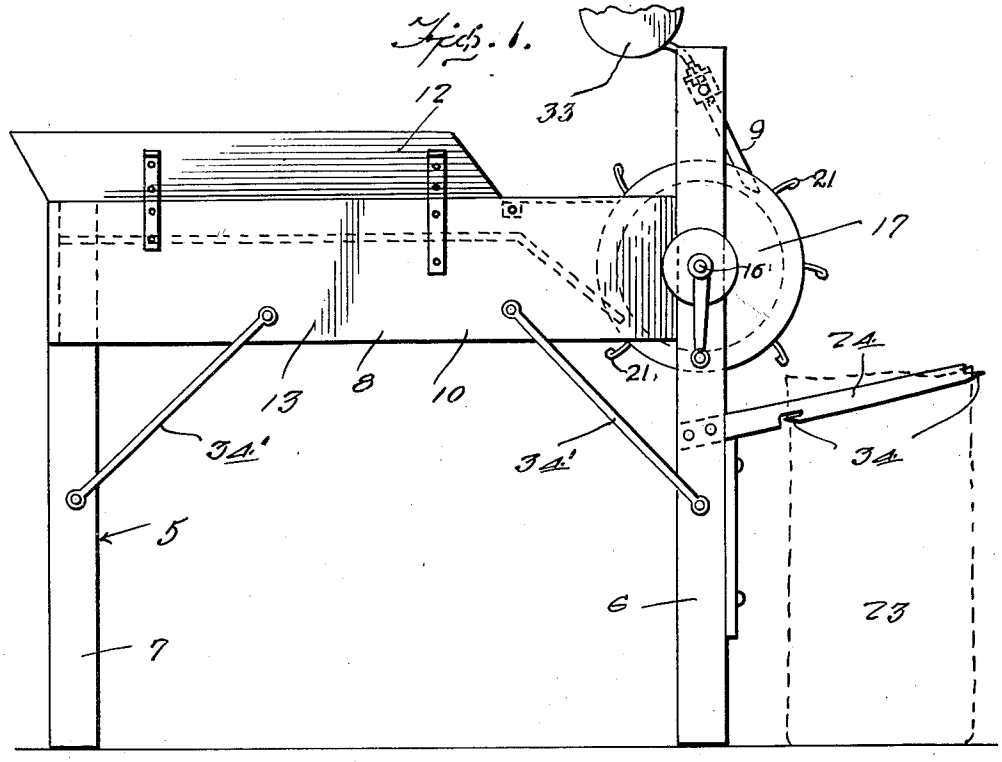
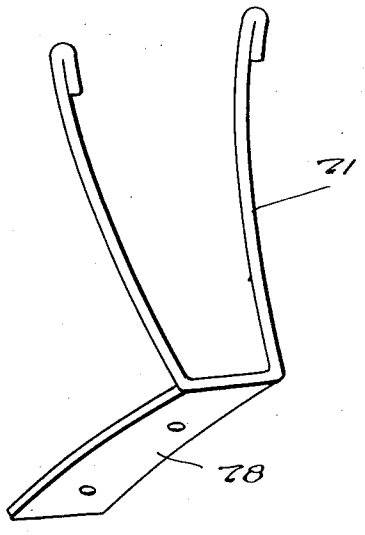


Fig. 5.



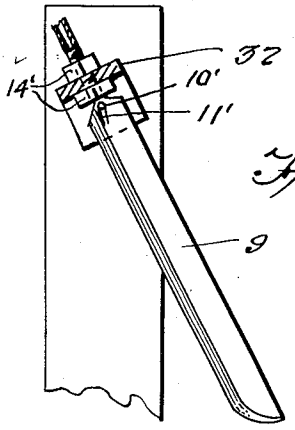


Fig. 6.

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Fig. 7.

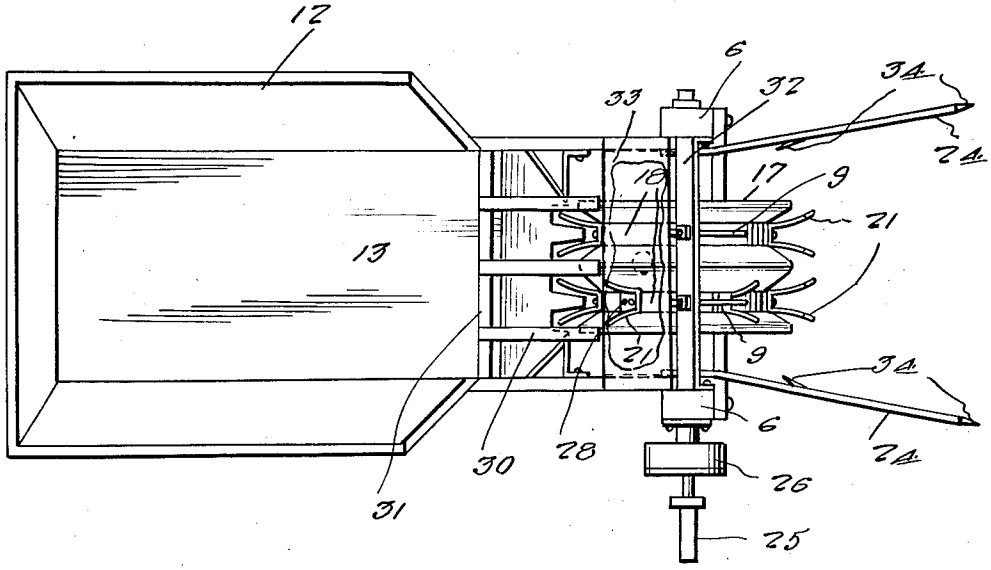
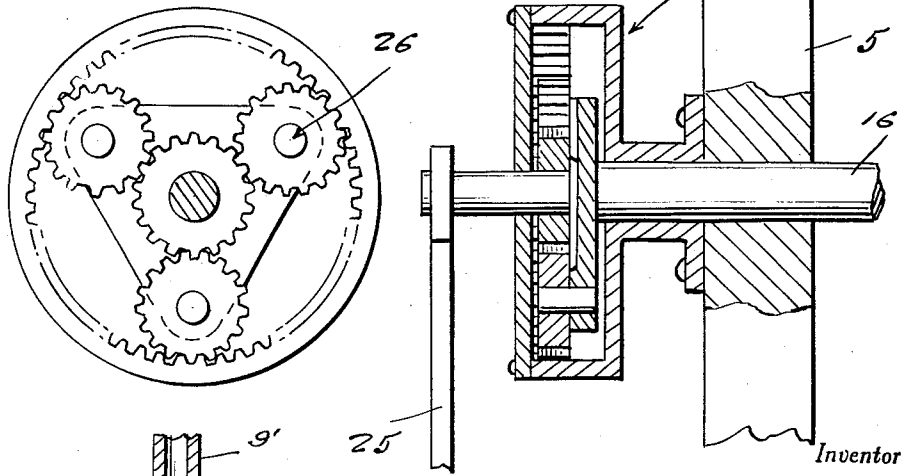


Fig. 7.

Fig. 8.



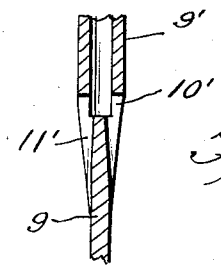


Fig. 9.

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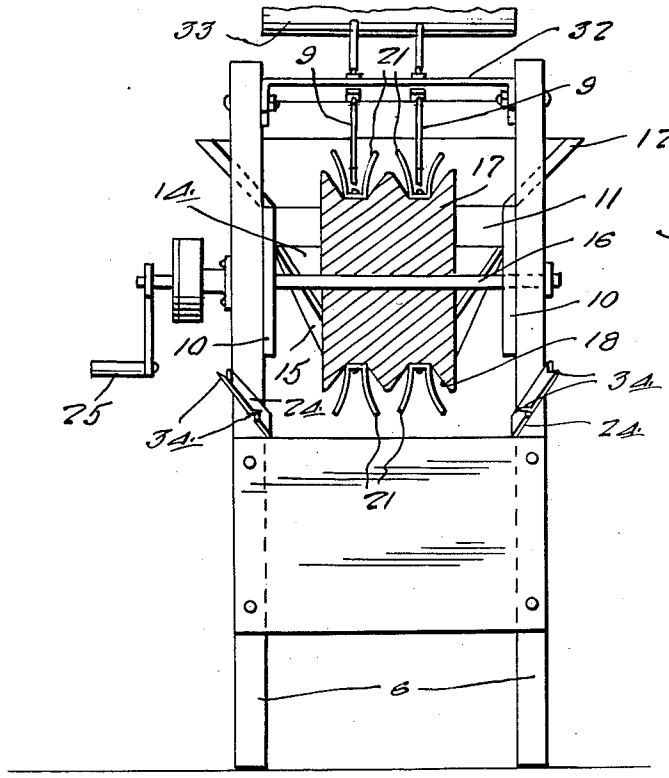


Fig. 3.

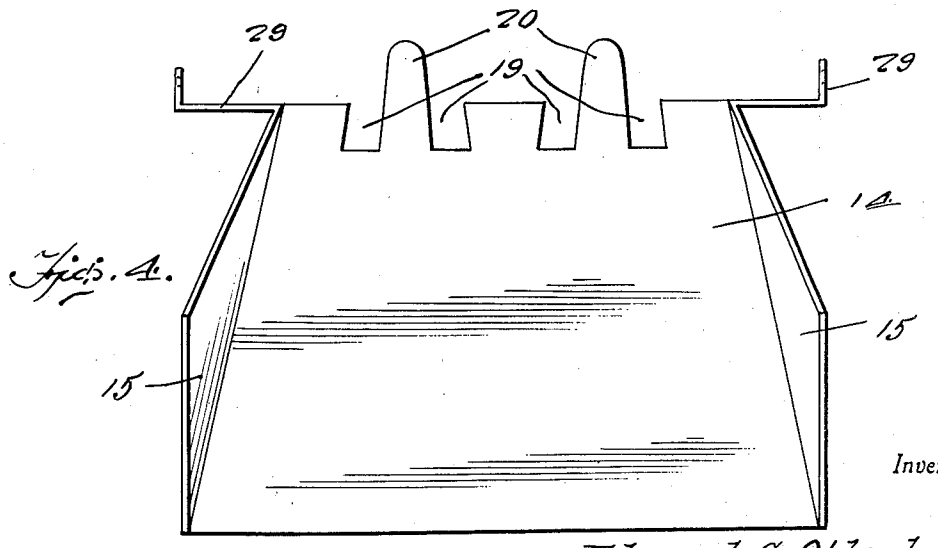


Fig. 4.

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UNITED STATES PATENT OFFICE

2,226,071

POTATO SLICING MACHINE

Edward G. Oldenburg, Gordon, Nebr.

Application June 19, 1940, Serial No. 341,363

4 Claims. (Cl. 146—164)

This invention relates to a potato slicing machine especially adapted for cutting seed potatoes ready for planting, and has for the primary object the provision of a device of this character which is capable of slicing a large number of potatoes within a very short period of time and delivering them to a container or sack and which may be operated with a minimum amount of effort and includes a minimum number of parts whereby the device may be manufactured and sold at a low cost.

With these and other objects in view as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination and arrangement of parts as will be hereinafter more fully described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which—

Figure 1 is a side elevation illustrating a potato slicing machine constructed in accordance with my invention.

Figure 2 is a top plan view illustrating the machine.

Figure 3 is an end view, partly in section, illustrating the machine.

Figure 4 is a plan view illustrating a feed trough.

Figure 5 is a perspective view illustrating one of the pairs of spring fingers for gripping and conveying potatoes on the feed drum.

Figure 6 is a fragmentary detail sectional view illustrating one of the slicing knives and its support.

Figure 7 is a detail view, partly in section, illustrating a speed reducing gear mechanism.

Figure 8 is a vertical sectional view showing the speed reducing gear mechanism connecting a crank handle to the feed drum shaft.

Figure 9 is a fragmentary sectional view, illustrating a part of one of the knives.

Referring in detail to the drawings, the numerical 5 indicates a supporting structure including front and rear legs 6 and 7 arranged in pairs and a hopper construction 8 supported by the legs. The front legs extend a limited distance above the hopper construction for the support of slicing knives 9 which will be hereinafter more fully described in detail.

The hopper construction 8 includes side boards 10 and an end board 11 so that the hopper construction is only closed at one end thereof. Slantinfi auxiliary boards 12 are secured on the boards 10 and 8 to form a flared mouth to the hopper construction. The bottom wall of the hopper is indicated by the character 13 and has secured thereto an inclined trough 14 provided with upstanding walls 15.

A transversely arranged shaft 16 is journaled in the pair of front legs 6 at the open end of the hopper construction and has secured thereon a feed drum 17 provided with peripheral annular grooves 18. One edge of the trough 14 has formed therein a series of notches 19 and elongated fingers 20 to extend into the grooves of the feed drum. The fingers 20 enter the grooves of the feed drum in a plane slightly below the plane of the feed drum shaft 16.

Pairs of resilient fingers 21 are secured in the grooves of the drum and during the rotation of the latter are adapted to straddle the fingers 20 as they pass the trough for the purpose of picking up potatoes on the trough and causing them to travel with the drum and come in contact with the knives 9 and thereby become sliced. As the potatoes are sliced by the knives they fall from the fingers 21 into a sack or container 23 supported by a sack holder 24 mounted on the front pair of legs 6.

The shaft 16 may be rotated by power or manually and as shown in the drawings has a crank handle 25 connected thereto by a speed reduction gear mechanism 26. Of course, if the device is to be driven by power the speed reduction gear mechanism is connected to a pulley in lieu of the chank handle.

The spring fingers 21 which grip the potatoes on the feed drum are arranged in pairs and are formed integrally on an attaching plate 28 which is bolted or otherwise secured on the feed drum within the grooves thereof.

Arms 29 are formed on the trough 15 for mounting the latter on the side boards 10 of the hopper construction. The hopper construction is further provided with horizontally arranged fingers 30 arranged in spaced relation and overlie the trough and a portion of the periphery of the drum for the purpose of preventing potatoes from following the rotation of the drum except the potatoes that are gripped by the pairs of fingers 21. The fingers 30 are supported by a cross member 31 arranged above the bottom wall of the hopper construction and secured on the side boards 10.

The knives 9 are detachably secured to a supporting member 32 secured on the upper portion of the front legs and may be adjusted thereon for the purpose of varying the inclination of the knives and also for varying the knives towards and from the grooves of the feed drum.

The member 32 is bolted on the legs 6 which will permit the knives to be adjusted to assume different inclinations by rotating the member 32 on the bolts when the nuts of said bolts have been backed off of the bolts. The shanks 9' of the knives are adjustably secured on the member 32 by nuts 14', whereby the knives may be adjusted toward and from the drums.

If desired, a disinfectant feeding apparatus 33 may be mounted on the member 32 and includes discharge pipes leading to the knives for directing disinfectant thereon. The disinfecting apparatus is of a conventional construction. In some instances agriculturists desire that the potatoes be disinfected at the time of slicing them ready for planting. It is preferable that the knives 9 have tubular attaching shanks 9' to which the discharge pipes of the disinfecting apparatus may be connected. The knives 9 are further provided with ports 10' connecting with the passages of the shanks and opening outwardly in the side faces of the knives in the form of grooves 11'. The grooves slope towards the cutting edges of the knives for directing the disinfectant towards said cutting edges.

The sack holder 24 includes diverging arms secured on the front legs and provided with tines 34 on which a sack may be fastened.

Braces 34' may be arranged between the supporting legs and the hopper construction.

In operation, potatoes in large numbers are poured or placed in the hopper construction and are gradually moved over the bottom and onto the inclined trough and with the drum in rotation the fingers pick the potatoes up from the inclined trough and carry them into engagement with the knives whereby the knives slice the potatoes permitting the parts of the potatoes to gravitate into the sack. Thus it will be seen that a large number of potatoes can be rapidly sliced with a minimum amount of effort.

While I have shown and described the preferred embodiment of my invention, it will be understood that minor changes in construction, combination and arrangement of parts may be made without departing from the spirit and scope of the invention as claimed.

Having thus described the invention, what I claim is:

1. In a potato slicing machine, a hopper construction, a supporting means for said construction, a drum journaled on said means at one end of the hopper construction and having annular grooves in the periphery thereof, an inclined trough extending from the hopper construction to the drum and provided with notches and spaced projections to extend into the grooves of the drum, spring fingers mounted in the grooves of the drum and adapted to pass through the notches during the rotation of the drum to pick up the potatoes, and a severing means carried by said supporting means for cutting the potatoes held by the fingers.

2. In a potato slicing machine, a hopper construction, a supporting means for said construction, a drum journaled on said means at one end of the hopper construction and having annular grooves in the periphery thereof, an inclined trough extending from the hopper construction to the drum and provided with notches and spaced projections to extend into the grooves of the drum, spring fingers mounted in the grooves of the drum and adapted to pass through the notches during the rotation of the drum to pick up the potatoes, knife blades adjustably mounted on the supporting means and inclining and terminating within the grooves to slice the potatoes held by the fingers.

3. In a potato slicing machine, a hopper construction, a supporting means for said construction, a drum journaled on said means at one end of the hopper construction and having annular grooves in the periphery thereof, an inclined trough extending from the hopper construction to the drum and provided with notches and spaced projections to extend into the grooves of the drum, spring fingers mounted in the grooves of the drum and adapted to pass through the notches during the rotation of the drum to pick up the potatoes, knife blades adjustably mounted on the supporting means and inclining and terminating within the grooves to slice the potatoes held by the fingers, a sack supporting means on the first-named supporting means to receive the potatoes as severed by the knives from the fingers.

4. In a potato slicing machine of the character described, a hopper construction, a supporting means for the hopper construction, a drum journaled on the supporting means at one end of the hopper construction, an inclined trough located between the hopper construction and the drum and having spaced notches defining projections, said drum having annular grooves in the periphery thereof with the projections extending therein, pairs of spring fingers mounted within the grooves of the drum and projecting outwardly of the grooves to grip potatoes on the trough and elevate said potatoes, knives adjustably mounted on the supporting means to engage and sever the potatoes held by said fingers, and means for rotating the drum.

EDWARD G. OLDENBURG.