No. 635,225. Patented Oct. 17, 1899.

W. A. VAN BERKEL.

MACHINE FOR SLICING GERMAN SAUSAGES, &c.

(Application filed Jan. 27, 1899.)

(No Model.) 2 Sheets—Sheet 1.

Fig. 1.

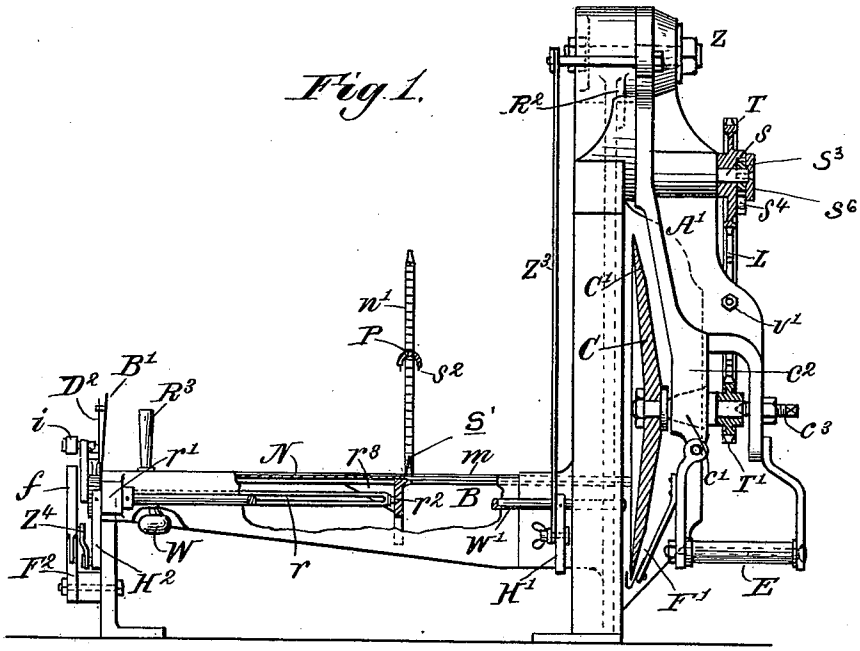


Fig. 2.

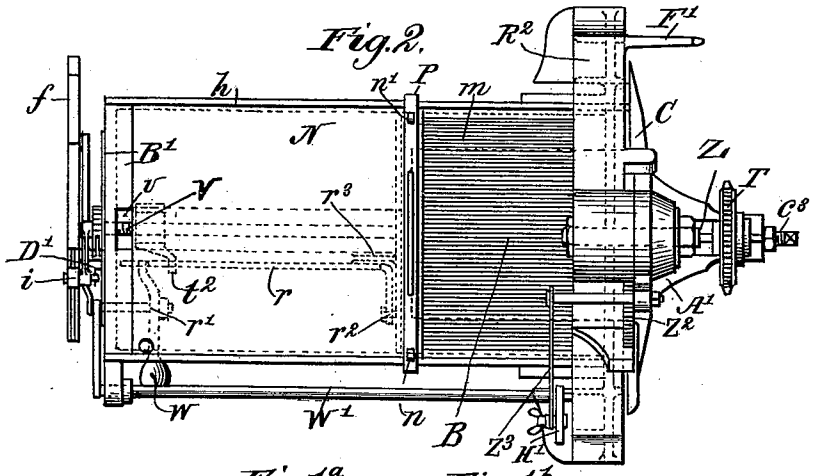


Fig. 1ª

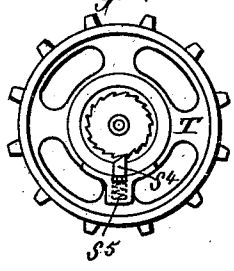
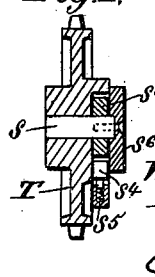


Fig. 1ᵇ



Witnesses.
Robt. Everett.
J. B. Taylor

Inventor.
Wilhelmus A. van Berkel.
By James L. Norris
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 635,225. Patented Oct. 17, 1899.

W. A. VAN BERKEL.

MACHINE FOR SLICING GERMAN SAUSAGES, &c.

(Application filed Jan. 27, 1899.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

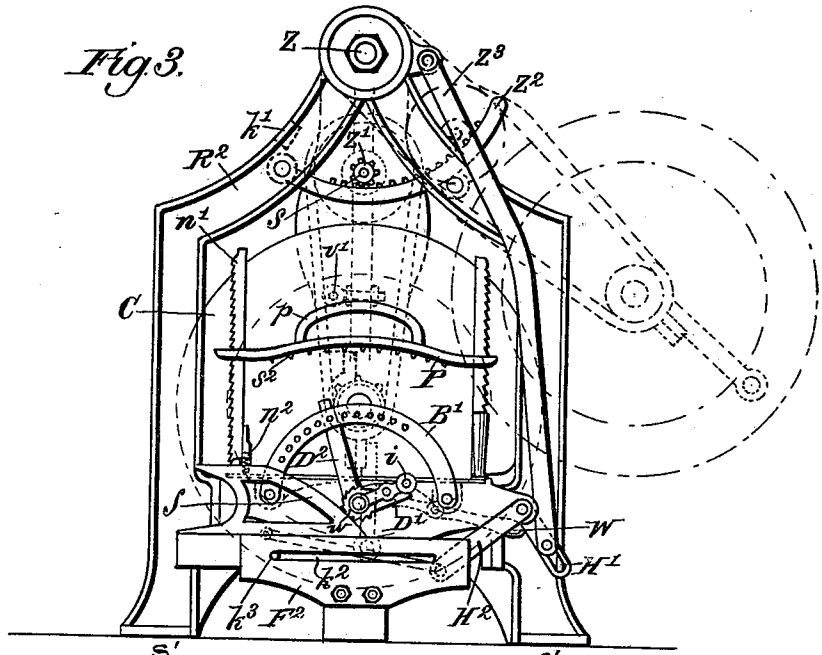


Fig. 3a.

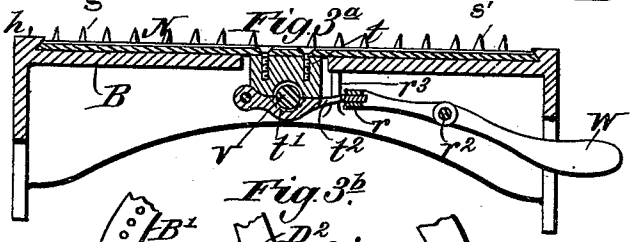


Fig. 3b.

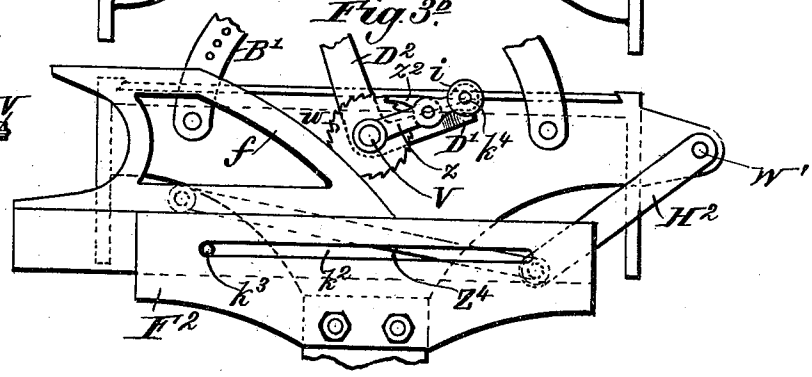
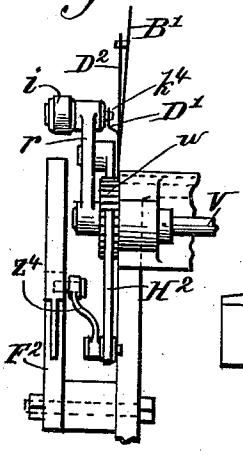


Fig. 3c.



Witnesses.
Robt Gnatt
A. D. Keefer

Inventor.
Wilhelmus A. van Berkel.
By James L. Norris
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

WILHELMUS ADRIANUS VAN BERKEL, OF ROTTERDAM, NETHERLANDS.

MACHINE FOR SLICING GERMAN SAUSAGES, &c.

SPECIFICATION forming part of Letters Patent No. 635,225, dated October 17, 1899.

Application filed January 27, 1899. Serial No. 703,611. (No model.)

To all whom it may concern:

Be it known that I, WILHELMUS ADRIANUS VAN BERKEL, manufacturer, a subject of the Queen of the Netherlands, residing at Rotterdam, in the Kingdom of the Netherlands, have invented certain new and useful Improvements in Machines for Slicing German Sausages and the Like, of which the following is a specification.

This invention relates to slicing-machines of the kind described in my previous patent, application filed April 5, 1898, Serial No. 676,561, and has for its object to produce a smaller form of machine than that described in my aforesaid patent, so that the table-frame may be dispensed with and the machine be placed on a shop-counter or in other convenient place. To this end I have embodied in the present invention the essential features of my aforesaid patent—namely, the revoluble spherical or dished circular knife C with cutting edge C′, cone-bearings c' c^2, and chain-wheel gear T L T′; the table B with corrugations m and the adjustable plate N in guide-bars h; the clamping device n, P, p, n', and n^2 for the polony or the like; also, the nut formed in two parts t t' on the plate N for the screwed rod V in the opening v of the table, and the arrangement t^2 r r' r^2 W for throwing same out of action. In this modified form of machine owing to the table-frame being dispensed with the base or table B is made stationary and the rotary circular knife C movable, and an alteration is made in the arrangement for rotating the screwed rod V. This modified and smaller kind of cutting-machine having a swinging circular knife is shown in Figures 1 to 3^c of the accompanying drawings, in which—

Fig. 1 is a side view, Fig. 2 a plan view, Fig. 3 a rear view, while Figs. 1^a, 1^b, and 3^a, 3^b, and 3^c are detail views on an enlarged scale.

The table is extended upward in front into a rectangular open frame R^2, at the highest point of which an oscillating arm A′ is pivoted on a pin Z and carries at its lower end the circular knife C. In the forked end of the arm A′ a chain-wheel T′ is mounted on a shaft c', and the latter is adjusted by means of a screw-pin c^3. The arm is moved to and fro by means of a handle E, and its movement is limited by a stop k' on the frame, Fig. 3. Fig. 3 shows in dotted lines the other outermost position of the arm and the circular knife. The driving chain-wheel T is mounted in the arm close beneath the pivot Z. Its shaft s is prolonged to the rear and carries there a small pinion Z′, which engages with the teeth of a toothed segment Z^2 on the table-frame, Fig. 3. The chain-wheel T is mounted loosely on the shaft s and has a ratchet-wheel s^3 and pawl s^4. The ratchet-wheel is connected with the shaft s and the pawl is pressed on by a spiral spring s^5, while the chain-wheel is secured against lateral displacement by means of a plate s^6, Figs. 1, 1^a, and 1^b. By this arrangement when the arm A′ is pressed down—*i. e.*, during the slicing—the circular knife is set in rapid rotation, as by the running movement of the pinion Z′ along the toothed segment Z^2 the chain-wheel T is rotated and by the chain L rotates the chain-wheel T′ on the shaft of the circular knife, because in this direction of rotation the pawl is fast in the ratchet-wheel, and thus connects the chain-wheel T with the shaft s. If the knife be, however, again drawn back, causing the pinion to run up the toothed segment and rotate in the opposite direction, the pawl slips over the ratchet and the knife can continue to rotate in the same direction by its former impulse, being actuated afresh at each downward movement of the arm.

A sheet-metal strip or plate F′ prevents the cut slices of polony or the like being thrown downward, and suitable guard-plates for the rotary knife are also provided in this smaller machine.

The tightening of the chain L takes place by means of a stretching-roller v', Figs. 1 and 3.

For the purpose of securely clamping the polony or the like on the table small sharp pins or points s' s^2, Figs. 1 and 3, are provided on the front edge of the plate N and the under side of the clamp-iron P, and thus the very last part or end of the piece of meat or polony can be better held by means of these pins. A handle R^3 is also provided on the plate N for drawing back the latter.

The rotation of the spindle V with the object of pushing forward the plate N after each slice has been cut is effected in this small machine as follows: A ratchet-wheel w is in this

case also firmly mounted on the end of the spindle V, and a lever z and pawl z^2 and roller i are loosely mounted on said spindle. The inclined plane f is, however, adjustably mounted in a guide F^2 and is held by a pin k^3, sliding in a slot k^2 in the guide-plate F^2. A draw-bar or link Z^3 is connected with the arm A'. The other end of said bar engages a one-armed lever H' on a rock-shaft W', mounted at the side of the table. A second lever H^2, which is connected with the inclined plane f by means of a link Z^4, (shown in dotted lines in Fig. 3^b,) is mounted on the other end of the rock-shaft W'. By drawing back the arm A' the inclined plane is drawn to the right, Fig. 3, and thus lifts the lever z by the roller i and revolves the spindle V by means of the ratchet-gear, whereby the plate N is pushed forward with the polony or the like. The normal position of the roller i—that is to say, the extent to which the lever z drops back again after the inclined plane on the completion of the slicing has again moved from under the roller i—determines the extent of the rotation of the spindle V on the succeeding lift and the thickness of the slice of the polony or the like to be cut.

The following arrangement is adopted in this small machine for enabling the thickness of the slice to be each time adjusted: A flat elbow-lever D' D^2, Figs. 3^a and 3^b, is mounted on the spindle end behind the ratchet-wheel w, and the pin k^4 of the roller i is prolonged from the lever z, so that it rests on the shorter arm D' of the double lever. A pin on the longer lever-arm D^2 snaps into one of the series of holes in a curved piece B', screwed on the rear edge of the table B. By adjusting the double lever D' D^2 the elevation of the lever z may thus be altered, and therewith the forward movement of the plate N and the thickness of the slice to be cut off the polony or the like, a certain hole in the curved piece B' corresponding to a certain thickness of the slice.

In order to prevent the circular knife when cutting from coming in contact with the plate N when pushed forward, an inclined or beveled projection or stop r^3, Figs. 1 and 2, is provided. If at the end of its course the lower half l' of the nut encounters with its extended end l^2 the stop r^3, it is gradually pressed down and the nut released from the spindle V—*i. e.*, the forward movement of the plate N is interrupted when the part l^2 has reached the lower edge of the stop r^3. The counterweight W is then held down by hand, the plate N drawn back again, and the polony or the like again clamped fast.

I declare that what I claim is—

1. A machine for slicing German sausages and the like, having a revoluble circular knife suspended in such a way that while being rotated it may be swung across the goods for the purpose of effecting the slicing, a curved rack, a pinion engaging therewith, means for imparting a rotary movement to the knife while it is being swung and means permitting rotation of the knife on the reverse movement and means for preventing backward rotation of the knife during such reverse movement as set forth.

2. In a slicing-machine of the kind described, the combination with a frame and a stationary base or table having means for holding and feeding the goods to be cut, of a knife or cutter mounted on an arm suspended on said frame and adapted to be swung across the goods for the purpose of effecting the slicing, a curved rack, a pinion engaging therewith, and means for rotating the knife in one direction of movement of said arm and for allowing a continued rotation during the reverse movement of the arm, substantially as hereinbefore set forth.

3. In a slicing-machine of the kind described, the combination with a frame and a stationary base or table having means for holding and feeding the goods to be cut, of a circular knife or cutter revolubly mounted on an arm suspended on said frame and adapted to be swung across the goods, and means for setting said knife in rotation by intermittent impulses while it is being swung on said arm, and means allowing the knife to continue rotating in the same direction during reverse movement of the arm substantially as hereinbefore set forth.

4. In a slicing-machine of the kind described, the combination with a frame and a stationary base or table having means for holding and feeding the goods to be cut, of a circular knife revolubly mounted on an arm A pivotally suspended on said frame and adapted to be swung across the goods, a pinion Z' revolubly mounted on said arm to swing therewith, a stationary curved rack Z^2 to engage said pinion and cause it to rotate or roll thereon as it swings, a pawl-and-ratchet device on the shaft of the revoluble knife, and means for transmitting the movement of the pinion to the pawl-and-ratchet device in such a way as to rotate the knife continuously in one direction by intermittent impulses as the arm is swung, substantially as hereinbefore described.

5. In a slicing-machine of the kind described having a swinging circular knife, the arrangement of said knife on an arm A which is adapted to be pulled to and fro on a pin Z on the frame of a fixed table, in such a way that when moved forward the rotation of the circular knife takes place by the running of a pinion Z' along a curved rack Z^2 the rotation of said pinion being transmitted to the knife by means of a loose ratchet-wheel s^3 and pawl s^4 on a chain-wheel T and a chain L and chain-wheel T' on the shaft of the circular knife, whereby on the return movement the pawl s^4 will slip over the ratchet-wheel s^3 and allow the knife to continue rotating in the same direction under its former impulse substantially as hereinbefore described.

6. In a slicing-machine of the kind de-

scribed having a stationary table and a swinging cutter, the means for producing the rotation of the screwed spindle V for the pushing forward of the feed-plate N after each slice, consisting of a ratchet-wheel w on the spindle in combination with a lever z which carries a pawl z^2 engaging in the ratchet w and a roller i and a cam or inclined plane f moved to and fro by the oscillating arm A′ of the cutter, whereby the said inclined plane in the return movement of the circular knife lifts the lever z by the roller and thus moves the ratchet-wheel forward by means of the pawl so that the plate with the polony or the like is moved forward the thickness of a slice, the elevation of the roller i being adjusted according to the width of slice required by means of a double lever D′ D^2 adjustable on a curved piece B′ on the shorter arm D′ of which lever the roll bears substantially as described.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

WILHELMUS ADRIANUS VAN BERKEL.

Witnesses:

JOANNES FRANCISCUS VAN DEN FLOOGEN,

JOHANNES MARTINUS SALTERS.