F. GRAFF.

SLICING MACHINE.

APPLICATION FILED NOV. 1, 1911.

1,016,008. Patented Jan. 30, 1912

Fig. 3

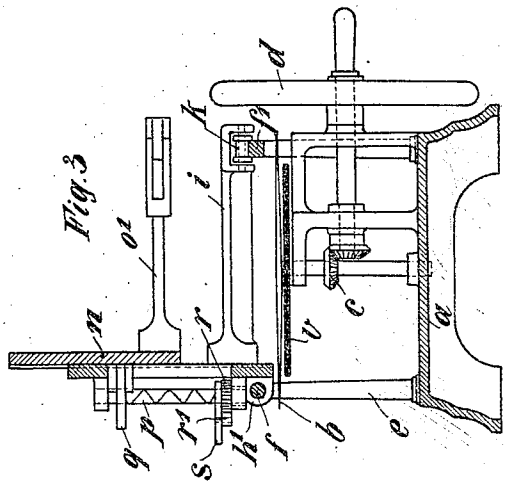


Fig. 4

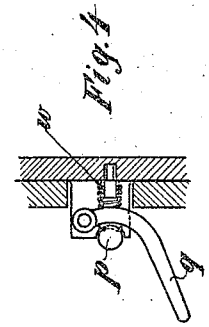


Fig. 1

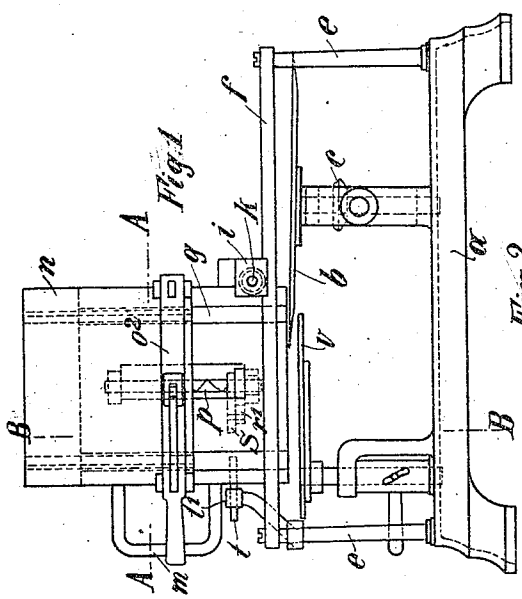
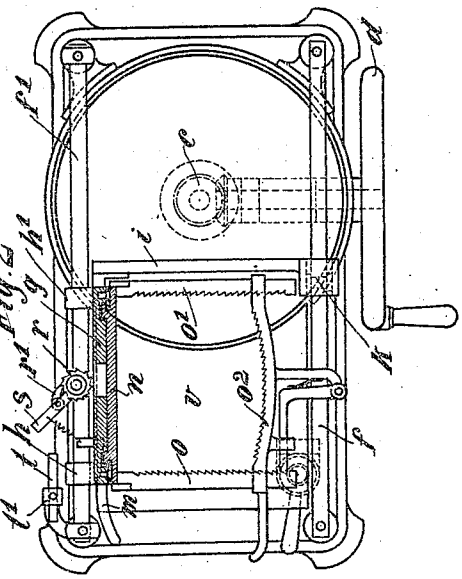


Fig. 2



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SLICING-MACHINE.

1,016,008. Specification of Letters Patent. Patented Jan. 30, 1912.

Application filed November 1, 1911. Serial No. 657,212.

To all whom it may concern:

Be it known that I, FRIEDRICH GRAFF, a citizen of the German Empire, residing at Witten-on-the-Ruhr, in the Province of Westphalia, Kingdom of Prussia, Germany, have invented certain new and useful Improvements in Slicing-Machines, of which the following is a specification.

The well-known slicing machines having a circular cutter revolving in a horizontal plane have in front of the circular cutter a laying-on table and above the cutter a receiving table. The piece or material to be sliced must therefore be grasped by the hand and pushed forward from the laying-on table over the edge of the cutter to the receiving table and then be pushed back again. Apart from the consideration that the grasping of the piece by the hand is not altogether unobjectionable from a hygienic point of view, the operation of these older forms of machine is both troublesome and fatiguing, as a great amount of friction is produced in pushing the piece on the supporting surfaces, and a proportionately large force is hence necessary to move the piece.

According to this invention, the defects referred to are avoided by the piece being held in a frame which is capable of being raised or lowered in the vertical direction on a carriage which can be moved to and fro opposite to the cutter, said frame being automatically lowered the thickness of one slice after each slice has been cut.

Machines according to the present invention do not require special supporting tables for the piece to be sliced, because the latter is freely suspended by the holding device. Moreover there is a guarantee that the thickness of the slice will always remain the same and moreover the production of waste is practically out of the question.

In the accompanying drawing is illustrated one embodiment of the present invention.

In this drawing: Figure 1 is an elevation, Fig. 2 a sectional view on the line A—A in Fig. 1, and Fig. 3 a sectional view on the line B—B in Fig. 1. Fig. 4 shows a detail.

On the frame *a* of the machine the circular cutter *b* which is revoluble on a vertical shaft is mounted, the latter receiving its motion by means of the intermediate bevel wheels *c*, from the flywheel *d* which is provided with a handle. The frame *a* has four pillars *e*, serving as supports for two parallel rods *f*, f^1, the latter serving as guides for the carriage *g*. The carriage *g* essentially consists of a vertical plate, which is guided on the rod f^1 by means of the two eyes *h*, h^1, and on the rod *f* by means of a cross-bracket *i*, furnished with a roller *k*. For pushing the carriage *g* along its guide rods, the former is provided with a handle *m*.

On the carriage *g* a plate *n* is mounted, in such a manner as to be capable of moving up and down thereon, grooves and tongues engaging therein being provided for this purpose and on this plate the piece to be sliced can be firmly clamped by means of the toothed bars *o*, o^1 and the curved cross-bar o^2 which is likewise toothed and adjustable on the said bars *o*, o^1. In this manner the piece to be sliced is suspended freely.

On the carriage *g* a vertical revoluble screw *p* secured against axial movement, is mounted, while the plate *n* carries a threaded member *q* which is in the form of a pivoted lever, and which is held in engagement with the screw *p* by means of a spring. In this way when the screw *p* rotates the member *q* moves correspondingly up or down in a slot in the carriage *g*, the plate *n* which holds the piece to be sliced moving in the same way. This screw *p* receives its motion from a ratchet-wheel *r*, fastened to said screw, the pawl r^1 of said ratchet-wheel being mounted on an arm *s* controlled by a spring and movable about the axis of the screw *p*. This arm strikes against a pin *t* on the return movement of the carriage *g*, and in this way such a limited movement of the ratchet-wheel *r* and the screw *p* occurs, that the plate *n* holding the piece for slicing is lowered to the desired extent of one slice-thickness. The pin *t* is adjustable in a guide t^1, so that its effective length can be adjusted to correspond with the desired slice-thickness. During the forward movement of the carriage *g* there is no forward feed of the plate *n* and the piece to be sliced.

In front of the circular cutter *b* and parallel to it, a table *v* is arranged, and provided with means for enabling it to be raised and lowered. When a piece is to be clamped in position for being sliced this table *v* is first of all raised to its highest position, when its upper surface is in the same plane as the upper surface of the circular cutter *b*, the piece for slicing is then set in position on the table *v* and thereupon clamped by means

of the cross-bar o^2. The piece thereby takes up the correct position and consequently no waste at the beginning of the slicing operation can occur.

Before commencing the slicing operation the table v is lowered into its lowest position, so that all contact with the piece is avoided, the latter being held simply by being clamped on the plate n. To carry out the slicing of the piece, the carriage g then only requires to be pushed to and fro on its guide rods, a slice being cut off at each forward movement, and the piece being automatically lowered to the extent of a slice-thickness at each return movement. In order to return the plate n into its initial position after the piece has been cut up, it is only necessary to disengage the threads on the member c from the screw p by moving the projecting end of said member and then to push up the plate.

Having now described my invention I declare that what I desire to secure by Letters Patent is:

1. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced.

2. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping frame comprising a vertical plate n vertically adjustable on said carriage, two horizontal toothed bars o, o^1 on said plate and a toothed cross-bar o^2 adjustable on said bars o, o^1.

3. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, and a vertically adjustable table in front of the circular cutter.

4. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping frame comprising a vertical plate n vertically adjustable on said carriage, two horizontal toothed bars o, o^1 on said plate and a toothed cross-bar o^2 adjustable on said bars o, o^1 and a vertically adjustable table in front of the circular cutter.

5. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, and means for automatically lowering the clamping frame through a distance equal to the thickness of a slice during each reciprocation of the carriage.

6. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, and means for automatically lowering the clamping frame through a distance equal to the thickness of a slice during each reciprocation of the carriage, and a vertically adjustable table in front of the circular cutter.

7. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame, and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, and adjustable means for automatically lowering the clamping frame through a distance equal to the thickness of a slice during each reciprocation of the carriage.

8. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a vertical screw on said carriage, a ratchet wheel and a spring-influenced arm on said screw, a pawl on said lever, a stop on the machine-frame opposite said arm, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping frame having a member provided with screw threads normally engaging with the above-mentioned screw.

9. A slicing-machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine frame, a vertical screw on said carriage, a ratchet wheel and a spring-influenced arm on said screw, a pawl on said lever, an adjustable stop on the machine-frame opposite said arm, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping

frame having a member provided with screw threads normally engaging with the above-mentioned screw and a vertically adjustable table in front of the circular cutter.

10. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a vertical screw on said carriage, a ratchet wheel and a spring-influenced arm on said screw, a pawl on said lever, a stop on the machine-frame opposite said arm, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping frame having a member provided with screw threads normally engaging with the above-mentioned screw, said member being disengageable from said screw.

11. A slicing machine comprising in combination a machine-frame, a circular cutter mounted on said machine-frame and revoluble in a horizontal plane, a horizontally reciprocating carriage on said machine-frame, a vertical screw on said carriage, a ratchet wheel and a spring-influenced arm on said screw, a pawl on said lever, an adjustable stop on the machine-frame opposite said arm, and a clamping frame vertically adjustable on said carriage and adapted to clamp the piece to be sliced, said clamping frame having a pivoted spring-influenced member provided with screw threads normally engaging with the abovementioned screw, said member being disengageable from said screw and a vertically adjustable table in front of the circular cutter.

In testimony whereof, I have signed my name to this specification in the presence of two subscribing witnesses.

FRIEDRICH GRAFF. [L. S.]

Witnesses:
CHAS. J. WRIGHT,
HELEN NUFER.