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C. F. M. VAN BERKEL

1,897,541

SLICING MACHINE

Original Filed Jan. 20, 1926

Fig. 1.

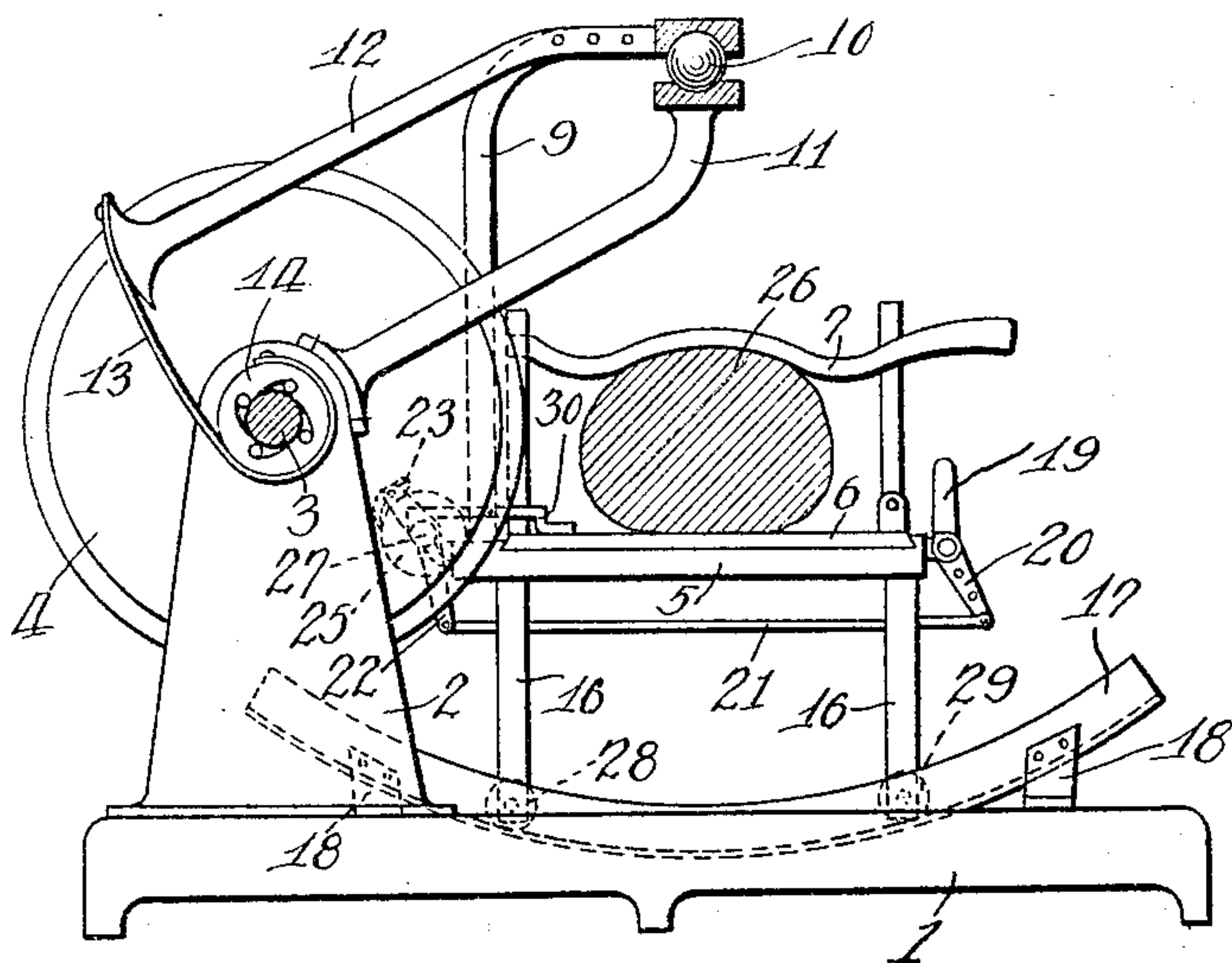


Fig. 2.

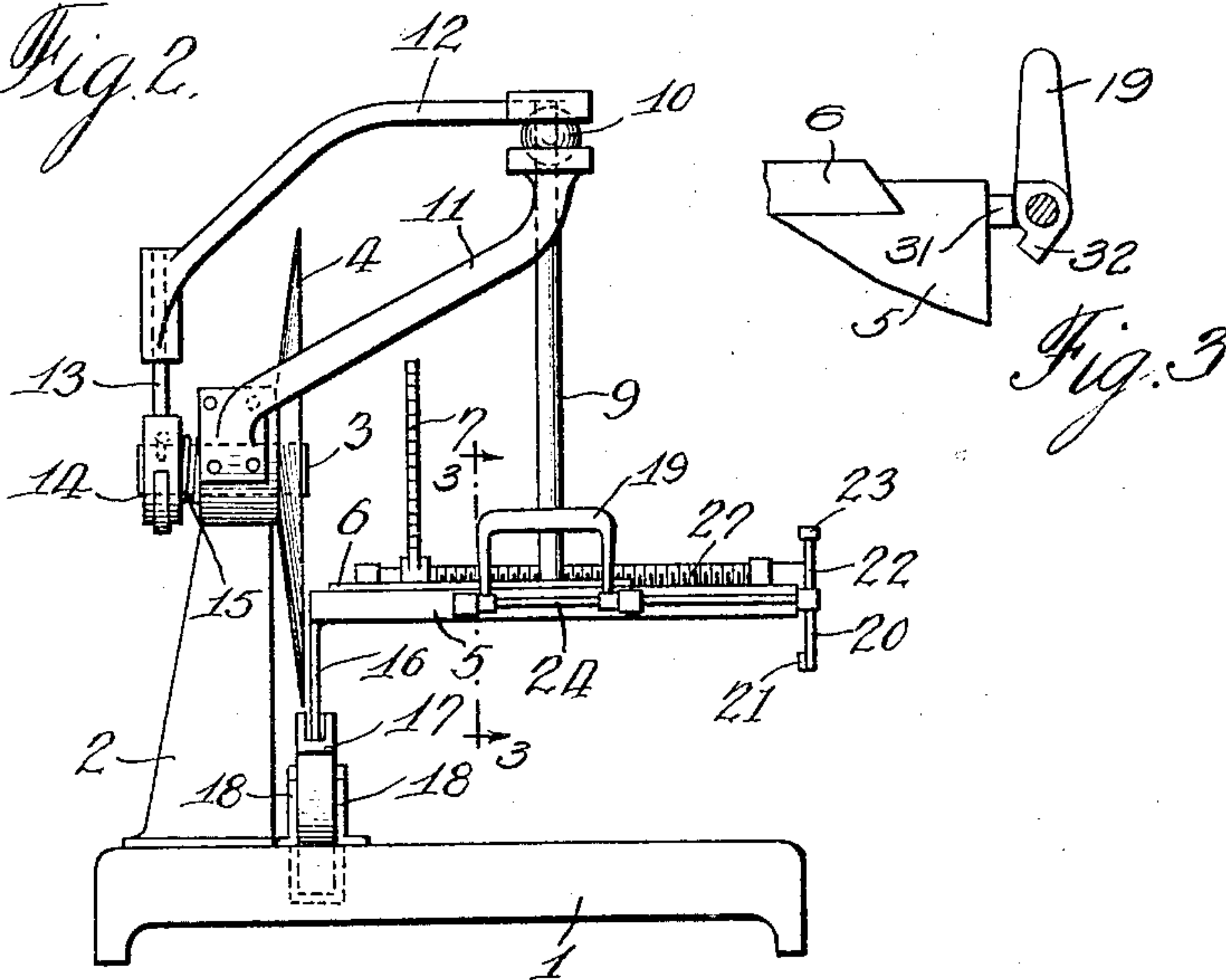


Fig. 3

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UNITED STATES PATENT OFFICE

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SLICING MACHINE

Application filed January 20, 1926, Serial No. 82,405, and in Germany September 18, 1925. Renewed September 5, 1930.

The invention relates to a meat cutting machine and particularly refers to a machine of this kind having a rotary circular knife and a reciprocating table essentially for hand operation. As compared with known machines the new machine is substantially simple in construction and therefore considerably cheaper in the manufacture, for which reason it is primarily suitable for household purposes.

The machine, according to the invention is characterized in its main points by the fact that the table supporting the material to be cut moves parallel to or approximately parallel to the plane of rotation of the circular knife about a point located above.

The advantage obtained thereby over known machines of this kind must be seen in the feature that a very small force only is required for the return movement of the table subsequent to the severance of a slice from the material to be cut, so that a great saving in power as compared with other machines is to be noted.

The drawing shows an embodiment of the subject matter of this invention, and in the drawing:

Fig. 1 is a front elevation; and

Fig. 2 is a side elevation of the meat cutting machine.

Fig. 3 is a section on line 3—3 of Fig. 2.

A standard 2 is secured on a base plate or foot plate 1 or is made integral respectively with said base plate. The shaft 3 for the rotary circular knife 4 is supported in the standard 2. The table 5 carrying the material to be cut is equipped with a carriage 6 and the customary holding or clamping device 7 for the material 26 to be cut. A bar 9 is secured to the table 5, said bar carrying at its free end a ball 10. The ball 10 is supported in an arm 11 secured to the standard 2. An arm 12 is connected with the bar 9 in some suitable way, the free end of said arm being secured to a tape 13 of steel or some other suitable material. The other end of the tape 13 is fastened to a disc 14 which is constructed as a one-way clutch and which is mounted on the shaft 3 of the circular knife 4. The disc 14 is associated with a

spring 15 which surrounds the shaft 3 between the disc and the bearing, the other end of the spring being anchored in a suitable way on a fixed part of the machine. A handle 19 preferably of bail shaped form is secured to shaft 24 on one side of the table 5 and is rotatable with the shaft, said shaft carrying a lever 20 at that end which is opposite the knife. The rotation of the handle 19 and shaft 24 in a counter-clockwise direction, as viewed in Fig. 1, is limited by the engagement of the handle with the table 5 or a suitable stop thereon such as 31, shown in Fig. 3, so that the first effect of pressure on the handle is to effect a partial rotation of the shaft 24 to operate the ratchet feed mechanism, hereinafter described. Further pressure on the handle will move the table to the left past the knife. The movement of the handle in the opposite direction may be limited by the stop 32 on handle 19 abutting against the stop 31 on the table or by any other suitable means. The arm 20 which is directed downward is connected by means of a link 21 with a double arm lever 22 carrying the ratchet pawl 23. The ratchet pawl co-operates with a ratchet 25 on a feed spindle 27, the spindle producing periodic movement of the carriage 6 by means of a feed nut 30, the carriage 6 supporting the material 26.

Two braces 16 are secured to the table 5 near that end which is directed towards the knife 4, the lower ends of said braces having rollers 28, 29 thereon, adopted to travel in a groove of a bar 17 which is secured by brackets 18 to the pedestal or base plate 1. The bar 17 has the shape of a circular arc and the center of this arc coincides with the center of the ball 10. The operation of the machine is as follows:

When the handle 19, Fig. 1, is moved from the position shown in Fig. 1 to the left, the table 5 with all of the parts secured thereto is turned towards the knife 4. This results in a swinging movement of the rod 9 by means of which movement is also imparted to arm 12 in such manner that the disc 14 is turned to enter into the clutch connection with the shaft 3, whereby the knife 4 is rotated to sever a slice from the material 26 to be cut. When,

then, a pull is exerted on the handle 19, the table 5 returns to its original position, the tape 13 rewinding itself owing to the action of the spring 15 on the disc 14, whereby, however, the disc 14 does not cause rotation of the shaft 3 and the knife remains stationary while the ratchet pawl 23 slides on the teeth of the ratchet 25. Through the next succeeding pressure on the handle 19 the lever 20 is turned so that thru the connection of the link 21 the lever 22, the ratchet pawl 23 and the ratchet 25, the carriage 6 is advanced to the desired extent in such manner that the material 26 to be cut again assumes a position in which upon the next swinging movement of the table 5 another slice is severed.

I claim:

1. A slicing machine comprising a rotary circular knife, a table for supporting material to be sliced by said knife, said table being movable in an arcuate path with its edge moving in a plane parallel with the cutting plane of said knife, and means operated by said table when so moved to impart rotation to said knife.

2. A slicing machine comprising a rotary circular knife, a table for supporting material to be sliced by said knife, and an arcuate guide on which said table is mounted to move in a direction substantially parallel to the cutting plane of said knife.

3. A slicing machine comprising a slicing knife, a table for supporting material to be sliced by said knife, a ball and socket joint forming a pivotal point about which said table moves to present material thereon to said knife and a guide for directing the movement of said table in a direction substantially parallel with the cutting plane of said knife.

4. A slicing machine comprising a rotary circular knife, a table for supporting material to be sliced by said knife, a pivotal support about which said table moves to present material to said knife, and an arcuate guide for directing the movement of said table about said pivotal support.

5. A slicing machine comprising a supporting frame, a rotary circular knife mounted on said frame, a reciprocating table, a pivotal support for said table on said frame, an arcuate guide on said frame for directing said table about its pivotal support, and means operated by said table when moved in one direction for imparting rotary movement to said knife and permitting movement of said table in the opposite direction without reversing the movement of said knife.

6. In a slicing machine, a rotary slicing knife, a table mounted for arcuate movement in a direction parallel with the cutting plane of said knife, and a one-way driving connection between said table and knife for impart-

ing rotary movement to said knife when said table is moved in one direction.

7. A slicing machine comprising a rotary circular knife, a table mounted for arcuate movement in a direction parallel with the cutting plane of said knife for presenting material to said knife to be sliced, a meat support on said table, means for feeding said meat support relative to said table, a handle connected with said table to permit direct reciprocating movement to be imparted to said table by the hand of the operator, means operated by said handle for feeding said meat support toward the cutting plane of said knife when said handle is moved in one direction, and a one-way driving connection between said table and knife for imparting a rotary movement to said knife when said table is moved in one direction.

8. A slicing machine comprising a rotary knife, a table for supporting material to be sliced by said knife, said table being movable in an arcuate path with the edge of said table moving in a plane parallel with the cutting edge of said knife, and means operated by said table when so moved to impart rotation to said knife.

9. A slicing machine comprising a slicing knife, a support, a work holder pivoted to said support and adapted to swing below said support and past said knife, said pivot comprising a ball resting on a support, a bearing member on said work holder and engaging the upper side of said ball, means for retaining said ball in position between said support and bearing member, and a drive operatively connected between said holder and said knife for driving said knife by said work holder as said work holder oscillates.

10. In a slicing machine, the combination with a rotary knife, of an arcuate guide adjacent the cutting plane of said knife and substantially parallel thereto, a table, guiding means on said table co-operating with said guide, and a pivotal connection for said table arranged to cause said guiding means to move in an arc of substantially the same radius as said arcuate guide.

11. In a slicing machine, the combination with a rotary knife, of an arcuate guide adjacent the cutting plane of said knife and substantially parallel thereto, a table, guiding means on said table co-operating with said guide, and a pivotal connection for said table arranged to cause said guiding means to move in an arc of substantially the same radius as said arcuate guide, said guide comprising a grooved member and said guiding means comprising rollers rotatably mounted on said table.

12. A slicing machine comprising an arcuate guide, a ball and socket joint, an arm suspended by said ball and socket joint, and a

work holder carried by said arm and movable in a substantially vertical plane while guided by said guide, said ball and socket joint being located substantially directly
5 above said guide whereby said holder swings as a pendant about said joint while prevented from lateral movement by said guide except in said plane.

13. A slicing machine comprising a slicing
10 knife, a work support, a work holder pivoted to said support and adapted to swing past said knife beneath said support, said pivot comprising a ball resting on said support, a bearing on said work holder engaging the
15 upper side of said ball, means for retaining said ball in position between said support and bearing, and means substantially directly beneath said pivot for guiding said support in a substantially vertical plane as it
20 moves about its pivot.

In testimony whereof I have signed my name to this specification on this 30 day of December, 1925.

25 **CORNELIS FRANCISCUS MARIA van BERKEL.**

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