C. F. M. VAN BERKEL.

SLICING MACHINE.

APPLICATION FILED JULY 12, 1917.

1,346,996.

Patented July 20, 1920.

4 SHEETS—SHEET 1.

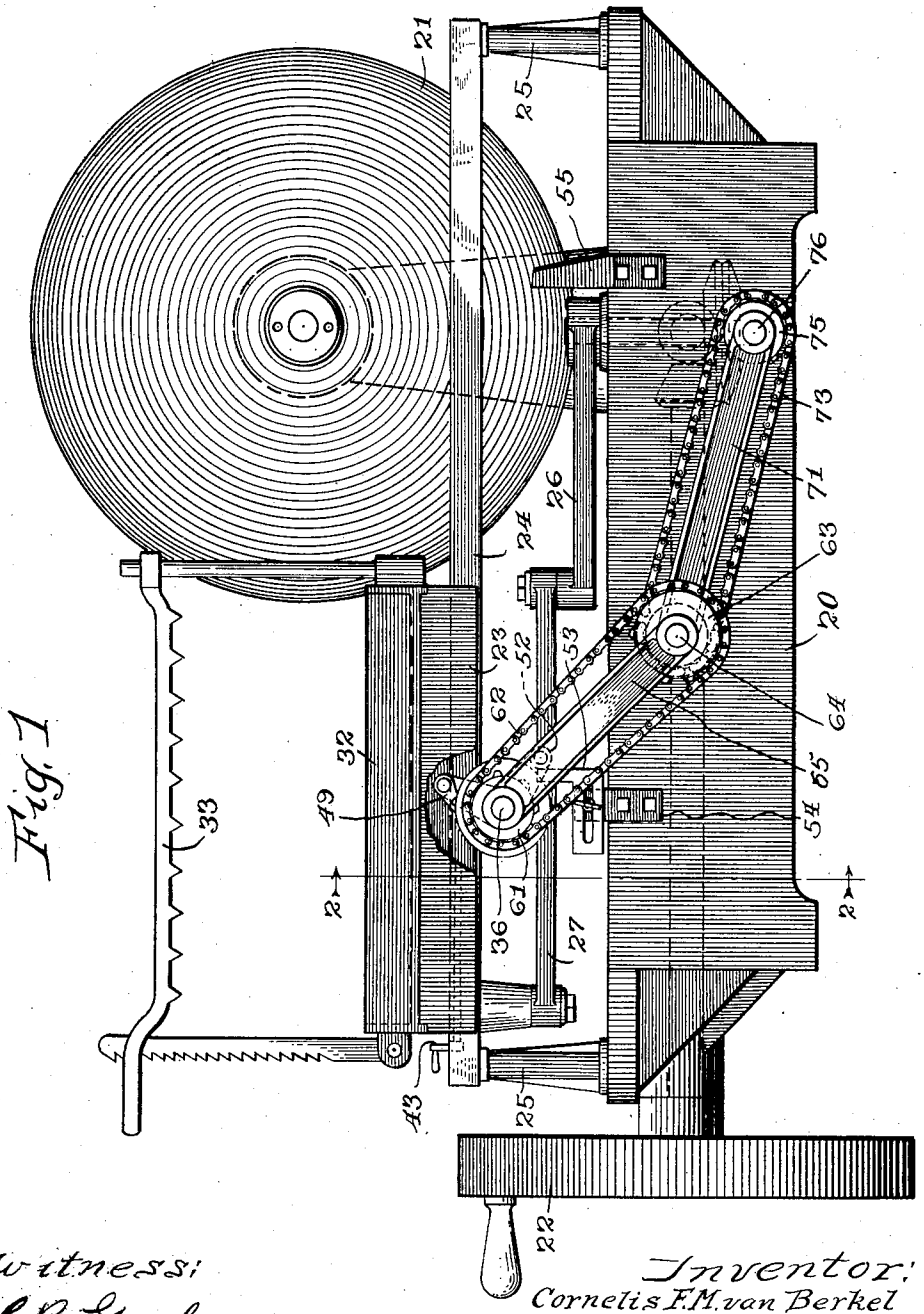


Fig. 1

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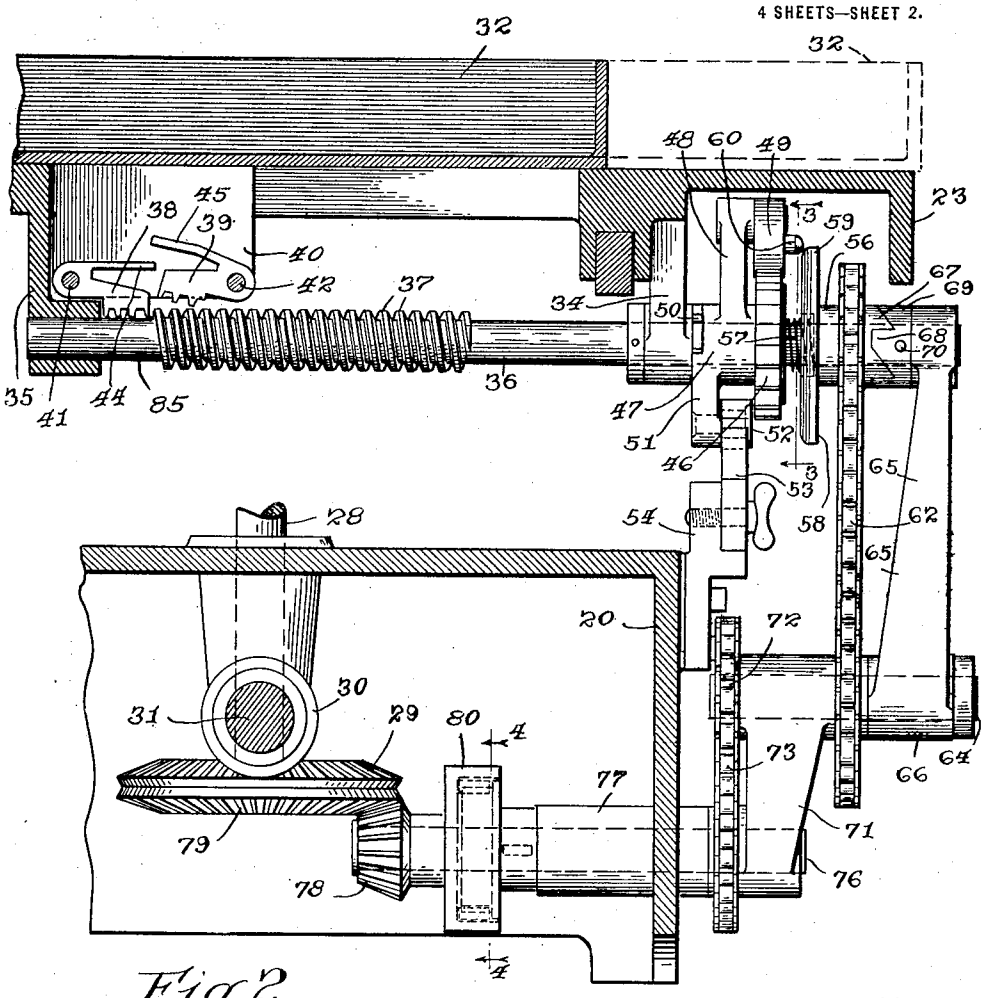


Fig. 2

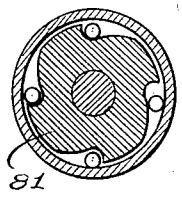


Fig. 4

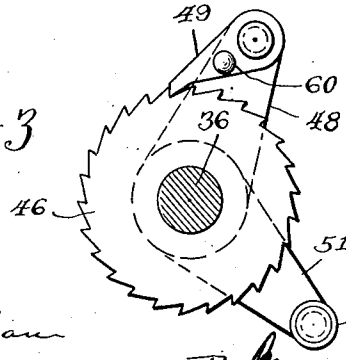


Fig. 3

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4 SHEETS—SHEET 3.

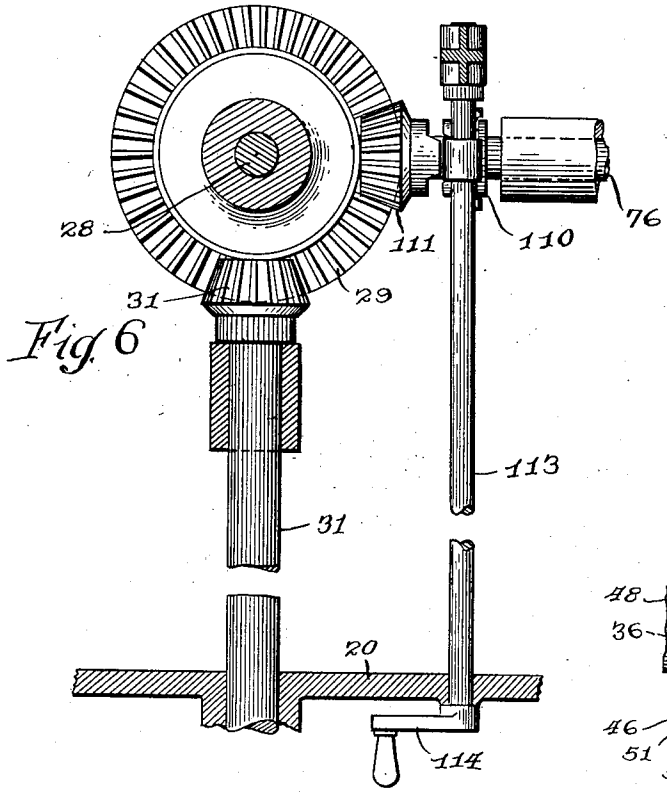


Fig. 6

Fig. 5

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4 SHEETS—SHEET 4.

Fig. 7

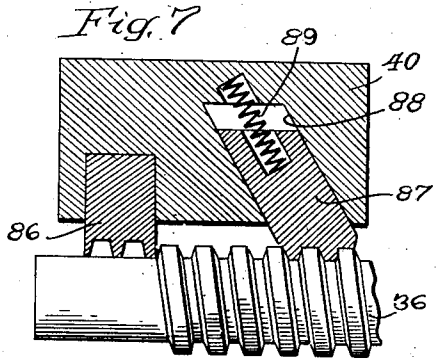


Fig. 8

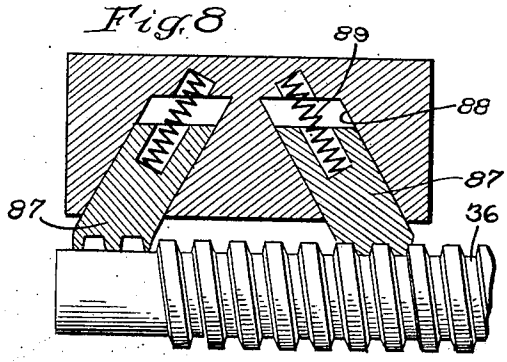


Fig. 9

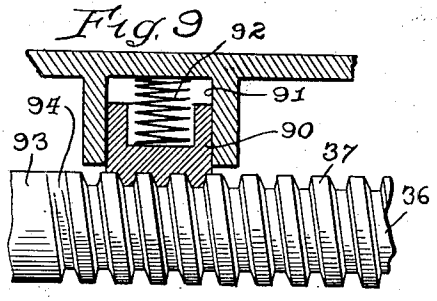


Fig. 10

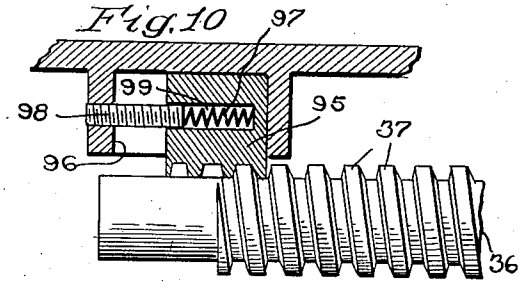


Fig. 11

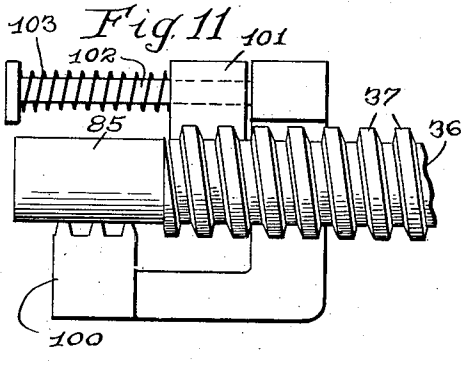


Fig. 12

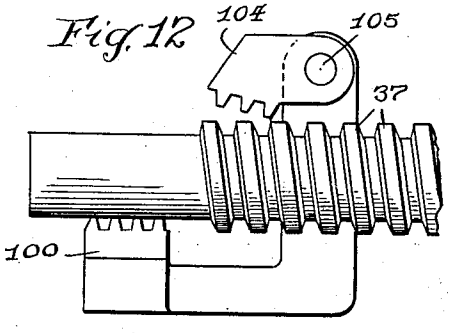
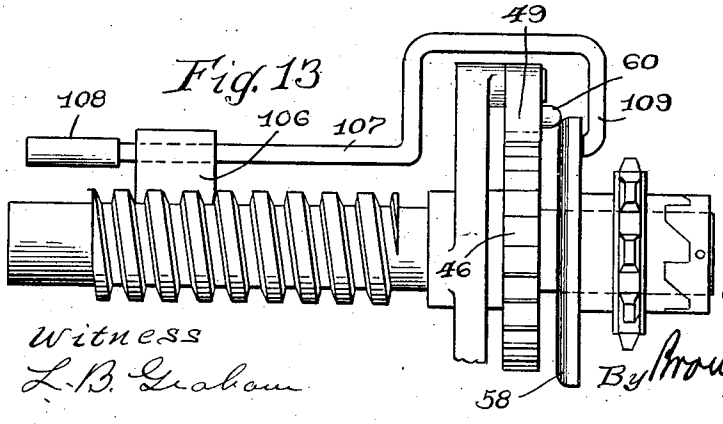


Fig. 13



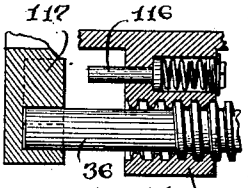


Fig. 14

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Att'ys.

UNITED STATES PATENT OFFICE.

CORNELIS F. M. VAN BERKEL, OF LAPORTE, INDIANA, ASSIGNOR TO U. S. SLICING MACHINE COMPANY, OF LAPORTE, INDIANA, A CORPORATION OF INDIANA.

SLICING-MACHINE.

1,346,996. Specification of Letters Patent. Patented July 20, 1920.

Application filed July 12, 1917. Serial No. 180,051.

To all whom it may concern:

Be it known that I, CORNELIS F. M. VAN BERKEL, a subject of the Queen of the Netherlands, and a resident of Laporte, in the county of Laporte and State of Indiana, have invented certain new and useful Improvements in Slicing-Machines, of which the following is a specification.

This invention relates to machines for slicing meat and other material, and has for its object the provision of a device of the class named which shall be of improved construction and more efficient and convenient in operation than similar devices previously known.

The invention is exemplified in the combination and arrangement of parts shown in the accompanying drawings and described in the following specification, and it is more particularly pointed out in the appended claims.

In the drawings—

Figure 1 is a side elevation of a slicing machine embodying the present invention.

Fig. 2 is a fragmentary sectional view substantially on line 2—2 of Fig. 1.

Fig. 3 is a detail section on line 3—3 of Fig. 2 showing a ratchet device used in connection with the present invention.

Fig. 4 is a detail sectional view on line 4—4 of Fig. 2.

Fig. 5 is a view similar to Fig. 2 but showing a modified form of the invention; and

Fig. 6 is a horizontal sectional view on line 6—6 of Fig. 5.

Figs. 7 to 14, inclusive, are various modifications of one detail of the present invention.

Referring more particularly to the figures of the drawings, the numeral 20 designates the base or main framework of a slicing machine of the usual construction which has a slicing blade 21 supported thereon and a hand-wheel 22 by means of which the blade is rotated through shafts and gearing in a well known manner. A reciprocatory table 23 is mounted to slide on ways 24 supported from the frame 20 by uprights 25. The table 23 is caused to reciprocate on the ways 24 by a crank arm 26 and a pitman 27. The crank arm 26 is carried on an upright shaft 28 provided with a beveled gear 29 at its lower end which meshes with a pinion 30 secured to the end of a main drive shaft 31 to which the hand-wheel 22 is attached.

The table 23 carries a meat plate 32 arranged to slide upon the upper surface of the table in a direction transverse to the direction of movement of the table on the ways 24. The meat plate 32 is provided with the usual form of clamp 33 for holding the meat or other substance firmly on the plate. Projecting downwardly from the lower surface of the table 23, as shown in Fig. 2, is a pair of bearing lugs 34 and 35 which carry a feed shaft 36 journaled therein. The shaft 36 is provided with threads 37 by means of which the meat plate 32 is fed across the table 23. Connection is made between the meat plate and the threads 37 by means of a pair of half nuts 38 and 39 mounted between bearing plates 40 projecting downwardly from the upper surface of the plate 32 on pivot pins 41 and 42 respectively. The half nut 38 is rigid with its pin 41, and the pin is extended, as shown in Fig. 1, to the edge of the plate 32 nearest the operator and is provided with a crank 43 by means of which the nut 38 may be rotated to move it into and out of engagement with the threads 37. The nuts 38 and 39 are provided with extensions 44 and 45 respectively arranged to overlap one another so that whenever the rod 41 is rotated to disengage the nut 38, the nut 39 will also be disengaged from the threads. During a slicing operation the shaft 36 is rotated to feed the meat plate over the table 23 by a ratchet mechanism which may be of the usual construction, one form being shown in Figs. 2 and 3. In the form shown a ratchet wheel 46 is secured to the end of the shaft 36, and adjacent the inner side of the ratchet wheel and loosely mounted on the shaft 36 is a sleeve 47 which carries an arm 48 on the end of which is pivotally mounted a pawl 49 in position to engage the teeth of the ratchet wheel 46. A stop 50 may be provided on the bearing 34 to limit the movement of the sleeve 47 in a clockwise direction, as viewed in Fig. 1. A second arm 51 is secured to the sleeve 47 and carries a roller 52 arranged to strike a stop 53 adjustably mounted on an upright 54 secured to the frame 20 of the machine. As the table 23 approaches its extreme position at the end of the ways 24 adjacent the operator, the roller 52 will strike the stop 53 and shift the

collar 47 together with the arm 48 and pawl 49 in a counter-clockwise direction, as viewed in Figs. 1 and 3 and thus rotate the ratchet wheel 46 and the shaft 36 in a direction to feed the meat plate 32 toward the knife 21. The thickness of the slice will depend upon the amount the meat plate is fed at each reciprocation of the table, and this amount may be adjusted by shifting the stop 53 on its support 54. A second stop 55 is positioned at the opposite extremity of the path of movement of the roller 52 to insure return movement of the pawl 49 over the ratchet teeth 46 to position the pawl for a feeding operation.

The shaft 36 carries a sleeve 56 loosely mounted thereon adjacent the outer face of the ratchet 46, but held in spaced relation with the ratchet by a spring 57. A circular cam disk 58 is formed on the end of the sleeve 56 adjacent the ratchet wheel and the periphery of the cam is provided with a beveled portion 59 arranged to engage a lug 60 carried by the pawl 49 when the disk 58 is forced to the left, as viewed in Fig. 2, against the tension of the spring 57. This movement of the disk will lift the pawl 49 out of engagement with the teeth of the ratchet wheel 46. The sleeve 56 also carries a sprocket wheel 61 over which a chain 62 passes, the opposite end of which chain engages a sprocket wheel 63 carried on a shaft 64 spaced from the shaft 36 by means of a link 65 and journaled in a bearing 66 at the end of the link. The end of the sleeve 56 opposite the disk 58 is provided with ratchet teeth, 67 which mesh with similar teeth 68 formed on the face of a collar 69 secured to the shaft 36 by means of a pin 70. A second link 71 is journaled on the shaft 64 on the side of the sprocket wheel 63 opposite the link 65, and a second sprocket wheel 72 is connected to the shaft 64 at the end of the shaft opposite the bearing 66. A sprocket chain 73 passes over the sprocket wheel 72 and engages with another sprocket wheel 75 secured to a shaft 76 journaled in a bearing 77 formed on the frame 20 of the machine. The end of the link 71 opposite the shaft 64 is also journaled on the shaft 76. A beveled pinion 78 is secured to the end of the shaft 76 in position to mesh with a beveled gear 79 formed on the lower surface of the gear 29 carried by the shaft 28. The pinion 78 is free to rotate about the shaft 76, but carries a housing 80 which incloses a one-way ratchet mechanism 81 which may be of any well known construction, one form being shown in cross-section in Fig. 4. This mechanism provides a "free wheel" or one-way drive connection between the main drive shaft 31 and the shaft 76. It will be readily understood from Figs. 1 and 2 of the drawings that the links 65 and 71 together with the sprocket chains 62 and 73 associated with the links constitute a floating drive connection between the shafts 76 and 36 which will permit of the transmission of motion to the shaft 36 from the main drive shaft 31 independently of the position of the table 23 in the ways 24. This drive connection will be inoperative however to transmit rotation to the shaft 36 when the main shaft 31 is turned to the right, as viewed in Fig. 2, which is the usual direction of rotation for a slicing operation. If, however, the hand wheel 22 and the shaft 31 are given a reverse rotation, this rotation will be transmitted through the chains 73 and 62 to the sleeve 56. This will cause the beveled portions of the ratchet teeth 67 to slide upon the corresponding portions of the teeth 68 on the collar 69, and in this way the sleeve 56 will be slid longitudinally on the shaft 36 compressing the spring 57 and forcing the disk 58 beneath the lug 60 on the pawl 49. In this way the pawl will be forced out of engagement with the ratchet 46, thus freeing the shaft 36 for movement in a reverse direction and continued reverse rotation of the shaft 31 will impart a similar rotation to the shaft 36 and thus feed the meat plate 32 rapidly across the surface of the reciprocating table 23 to its retracted position. During the reverse operation motion is imparted to the shaft 36 from the sleeve 56 by means of the ratchet teeth 67 and 68 which are of a sufficient length that they continue to engage one another after the sleeve 56 has slid to its extreme position to the left, as viewed in Fig. 2.

The arrangement of the half nuts 38 and 39 is an important feature contributing to the success of the operation of the return mechanism just described. As the meat plate 32 is fed forwardly by the ratchet feed it will gradually approach the knife 21 and there must be an automatic arrangement for checking the feed of the meat plate before the plate reaches a position to strike the knife. As shown in Fig. 2, this is accomplished by discontinuing the threads 37 on the end of the shaft 36 leaving a blank space 85 on the end of the shaft adjacent the bearing lug 35. As the forward movement of the meat plate continues the half nut 38 will leave the threads 37 and enter this blank space; at the same time the bearing plates 40 will strike the bracket 35 and thus positively stop the forward movement of the meat plate. The half nut 39 will still be in mesh with the threads 37, but it will be noted from Fig. 2 of the drawings that the pressure of the threads on the teeth of the nut 39 tends to rotate the nut in a clockwise direction about the pin 42 and thus force the nut out of engagement with the threads. Sufficient clearance is provided

between the threads and the teeth of the half nut to permit such disengagement, and the bearing surface of the threads and teeth may be slightly inclined if it is found necessary to facilitate this operation of the half nut. As soon as the rotation of the shaft 36 is reversed the pressure on the teeth of the nut will no longer force the nut out of engagement, but will tend on the contrary to draw it in, so that as soon as the direction of rotation of the hand-wheel is reversed, the nut 39 will automatically engage the threads 37 to feed the meat plate in its backward movement. If only a single nut were provided, reverse movement of the shaft would not be sufficient to start the meat plate in its reverse direction since there would be nothing to cause the nut to reëngage the threads after it had once passed into the blank space 85.

It will be seen that the half nuts 38 and 39 will perform a similar operation when the extreme reverse position of the meat plate has been reached, but in this position the half nut 39 will be fed into the blank space while the half nut 38 will be forced out of engagement with the threads because of the position of its pivot.

A number of other forms of engaging mechanism between the feed screw 36 and the meat plate may be employed for securing a similar result. In Fig. 7 a fixed half nut 86 is employed in conjunction with a movable half nut 87 arranged to slide in an inclined opening 88 formed in the connecting plate 40. A spring 89 normally forces the nut 87 into engagement with the threads of the screw 36. When the meat plate reaches its extreme forward position the nut 86 will enter the blank space at the end of the threads, while the nut 87 will be forced upwardly in its opening 88 out of engagement with the threads, but will automatically return into position to engage the threads when the direction of the shaft 36 is reversed. This arrangement it will be seen will operate automatically at one end of the screw only, but where it is desirable to provide automatic operation at both ends a pair of inclined half nuts 87 may be provided, as shown in Fig. 8.

In Fig. 9 a half nut 90 is held in a vertical socket 91 and is pressed downwardly into engagement with the screw 36 by a spring 92. In this form the blank space 93 at the end of the shaft is given a diameter equal to the outside diameter of the screw threads 37, and the bottom of the threads is given a gradual inclination toward the outer periphery of the shaft, as shown at 94. When the meat plate reaches the end of the shaft, the inclined surface 94 will force the nut 90 upwardly against the spring 92 and thus move the nut out of mesh with the threads. Reverse rotation of the shaft 36 will, however, permit the nut to move downwardly over the inclined surface 94 into mesh again and thus cause reverse movement of the meat plate. This arrangement may be made to operate automatically at both ends of the threads.

In the form shown in Fig. 10 a half nut 95 is mounted to slide horizontally in the direction of the axis of the shaft 36 within a socket 96 on the bottom of the meat plate. A spring 97 normally forces the nut 95 to one end of the socket 96, the end of the spring being arranged to bear against a plunger 98 which slides freely in the opening 99 in the half nut. The tension of the spring 97 may be adjusted by rotating the plunger 98 in its threaded connection with the wall of the socket. Where this arrangement is used the rotation of the screw 36 first compresses the spring 37 and brings the nut 95 into contact with the front end of the socket 96, the friction on the meat plate being sufficient to overcome the force of the comparatively weak spring 97. As soon as the direction of the rotation of the screw 36 is reversed, the spring 97 causes the nut 95 to reëngage the threads and thus move the meat plate backwardly.

In the form of mechanism shown by Fig. 11, a fixed nut 100 may be utilized to feed the plate forwardly and may be permitted to enter the blank space 85 at the end of the screw when the extremity of the movement of the plate is reached. A supplemental nut 101 is mounted to slide on a rod 102 and is held at one end of the rod by a spring 103. After the extreme position of the meat plate has been reached, the supplemental nut 101 will be fed along the rod 102 by the threads 37 compressing the spring 103 without moving the meat plate. As soon as the rotation of the screw 36 is reversed, the spring 103 will force the nut 101 to reengage the threads and thus operate to start the return movement of the plate.

Fig. 12 shows an arrangement similar to Fig. 11, but in this case the supplemental nut 104 is mounted on a pivot 105 so that it swings upwardly out of engagement with the threads 37 instead of compressing the spring as is done in the form shown in Fig. 11.

In the form shown in Fig. 13 a nut 106 is rigidly connected with the meat plate and is free to slide on a rod 107 having an enlargement 108 at one end. The opposite end of the rod 107 is provided with a bent portion 109 which lies opposite the outer face of the cam disk 58. When the nut 106 reaches the extremity of its movement it strikes the enlargement 108 and causes the rod 107 to move in unison with the meat plate, thus drawing the cam disk 58 into engagement with the lug 60 on the pawl 49 and forcing

the pawl out of engagement with the ratchet 46. This will prevent further rotation of the ratchet and so stop the feeding movement of the meat plate. The rod 107 may be supported on the table 23 by bearing lugs, not shown, projecting downwardly from the table and located beyond the extremities of movement of the nut 106.

Fig. 14 shows an arrangement in which the screw 36 engages a nut 115 rigidly secured to the meat plate, and a spring-pressed plug is carried by the plate in position to engage a fixed stop 117 on the machine frame when the nut 115 registers with the blank portion on the shaft 36. The plug 116 continuously urges the nut toward the threads on the screw so that they will immediately mesh with one another when the shaft is reversed. The nut 115 may be made to extend entirely around the screw as shown, or it may be permitted to engage only a portion of the periphery to permit easy disengagement, if desired.

In the form of invention shown in Figs. 5 and 6, the one-way drive 81 is replaced by a clutch 110, and a pinion 111 corresponding to the pinion 78 in the form already described is placed above instead of below the beveled gear 29 so that the shaft 76 is rotated in the opposite direction from that in which it is driven in the form described. The clutch 110 may be thrown into mesh with the clutch member 112 on the pinion 111 to cause the shaft and pinion to rotate in unison with one another by means of a clutch rod 113 and a hand-crank 114. In order that there may be sufficient room for the floating drive, the gear wheel 29 is located somewhat lower relative to the main frame 20 in this form of device than it is in the form previously described. With the exception of the differences mentioned, this form of the device does not differ structurally from the other form, but there are some differences in operation which should be noted. In the form first described, it is necessary to reverse the direction of rotation of the hand-wheel in order to rotate the screw 36 in the proper direction to return the meat plate, but in the present form of the invention when the meat plate has reached its extreme forward position, it is only necessary to throw in the clutch 110 and to continue rotation of the hand-wheel 22 in the same direction as formerly in order to produce a rapid return movement of the meat plate. This is brought about by the fact that the beveled pinion 111 is placed above instead of below the gear 29 so that the shaft 76 is rotated in the proper direction to reverse the movement of the screw 36 whenever the clutch 110 is thrown in. The pawl 49 is disengaged from its ratchet during this operation the same as in the form previously described. This is a desirable arrangemnt where a motor is employed for driving the machine because it permits return of the meat plate without stopping the motor and without reversing its direction. This form of the invention also permits of a rapid movement of the meat plate forwardly when it is desired to position the material on the plate close to the plane of the knife preparatory to beginning a slicing operation. This positioning of the meat plate is secured by turning the main shaft in a reverse direction while the clutch 110 is in engagement. It will be understood that this will drive the screw 36 in the same direction as it is driven by the ratchet mechanism, that is, in the feeding direction, but at a much more rapid speed than can be accomplished by the ratchet device. During this movement the pawl will simply overrun the ratchet and permit the rapid operation. In case the device is attached to a power machine it is no objection that this positioning is performed by a reversed rotation of the hand-wheel, because such positioning must be performed by hand rotation in any case, and it is, therefore, not necessary to drive the motor in a reverse direction for this purpose. It will be understood that in both forms of the invention it is not necessary to permit the meat plate to reach its extreme forward position before it can be returned to the starting point, but this may be done from any intermediate position of the plate if it is found desirable to do so.

I claim:—

1. In a slicing machine, a main driving device, a reciprocating table, a support for material to be sliced movably mounted on said table, mechanism for feeding said support relative to said table, means operated in timed relation with the reciprocation of said table for operating said feeding mechanism to feed said support relative to said table, and a drive connection between said feeding mechanism and said main driving device arranged to operate said feeding mechanism independently of the reciprocation of said table.

2. In a slicing machine, a reciprocating table, a support for material to be sliced movably mounted on said table, means for feeding said support relative to said table, means controlled by the reciprocation of said table for operating said feeding means, and a supplementary means for operating said feeding means to move said support on said table independently of the reciprocatory movement of said table.

3. In a slicing machine, a reciprocating table, a support for material to be sliced mounted on said table, means for moving said support relative to said table, means operating in timed relation with the reciprocation of said table for actuating said

moving means to move said support relative thereto, and supplemental means for actuating said moving means to impart a rapid movement to said support relative to said table independent of the reciprocation of said table.

4. In a slicing machine, a table, a support for material to be sliced movably mounted on said table, means for feeding said support relative to said table, and means for automatically disconnecting said support from said feeding means when said support reaches a given position and for again connecting said support automatically with said feeding means when said feeding means is operated in a reverse direction.

5. In combination with a slicing knife, of a support for material to be sliced, and mechanism for feeding said support relative to said knife, said feeding mechanism being arranged to automatically disconnect itself from said support when said support reaches the limit of its movement and to automatically reëstablish connection with said support when said feeding mechanism is operated in a reverse direction.

6. In combination with a slicing knife, of a support for feeding material to said knife, a screw for feeding said support relative to said knife, and means for engaging said screw for transmitting motion therefrom to said support arranged to automatically break the driving connection between said support and said screw when said support has reached a given position relative to said screw and to automatically reëstablish connection between said support and said screw when said screw is operated to move said support in a reverse direction.

7. In a slicing machine, mechanism for driving said machine, a reciprocating table, a support for material to be sliced movably mounted on said table, mechanism for imparting a step by step feeding movement to said support relative to said table, and supplementary mechanism operated by the driving mechanism for said slicing machine for imparting a continuous movement of said support on said table.

8. In combination, a slicing machine comprising driving mechanism, a reciprocating table, a support movably mounted on said table, means controlled by the reciprocation of said table for imparting a step by step feeding movement to said support relative to said table, and means operable independently of the reciprocation of said table for imparting a continuous movement of said support on said table.

9. In combination, with a slicing machine and driving mechanism therefor, of a reciprocating table, a support for material to be sliced movably mounted on said table, means controlled by the reciprocation of said table for imparting a step by step feeding movement to said support relative to said table, and a direct drive for transmitting movement from said main driving mechanism to said support independently of the reciprocation of said table.

10. In combination, a slicing machine having a main drive shaft, a reciprocating table, a support for material to be sliced movably mounted on said table, a screw for feeding said support relative to said table, ratchet mechanism controlled by the reciprocation of said table for imparting a step by step movement to said table, and a direct driving connection between said main drive shaft and said screw for imparting a continuous movement to said support relative to said table independently of the reciprocation of said table.

11. In a slicing machine, a support for material to be sliced, a screw for imparting a feeding movement to said support, ratchet mechanism for operating said screw, and means for breaking the operative connection between said ratchet mechanism and said screw and for rotating said screw in a reverse direction through connection with the operating mechanism of said slicing machine.

12. In a slicing machine, a support for material to be sliced, means for feeding said support to bring the material thereon into position to be sliced, mechanism for imparting a step by step movement to said feeding means, mechanism for driving said feeding means continuously in a reverse direction, and means for automatically disconnecting said mechanism for imparting step by step movement to said feeding means when said feeding means is operated in a reverse direction.

13. In a slicing machine, a support for material to be sliced, a screw for feeding said support to bring the material thereon into position to be sliced, ratchet mechanism for imparting a step by step movement to said screw to feed said support in one direction, means for imparting a continuous rotation to said screw in a reverse direction, and means for automatically disconnecting said ratchet mechanism from said screw when said screw is operated in a reverse direction.

14. In a slicing machine, a support for material to be sliced, means for imparting a step by step movement to said support, and means including power transmission mechanism separate from said step by step imparting means and operable at the will of the operator for imparting a continuous movement to said support.

15. In combination, a slicing machine having a main driving device, a reciprocatory table, a support movably mounted on said table, means for imparting a step by step movement to said support relative to

said table, and means including power transmission mechanism separate from said step by step imparting means and operable at the will of the operator for transmitting a continuous movement from said main driving device to said support.

16. In combination, a slicing machine having a main driving device, a reciprocatory table, a support mounted for movement on said table, a screw for imparting movement to said support relative to said table, means for transmitting movement from said screw to said support and arranged to automatically disconnect said screw and said support from one another when said support has reached a limiting position, ratchet mechanism for imparting intermittent movement to said screw, driving means for connecting said screw with the main drive of said slicing machine and arranged to transmit a reverse movement to said screw from said main driving means, means for automatically disconnecting said ratchet mechanism from said screw during said reverse movement, and means for automatically reconnecting said ratchet mechanism with said screw after said reverse movement.

17. The combination with a threaded member, of a coöperating member moved thereby and arranged to become operatively disengaged from said threaded member to limit the relative movement of said members and to become operatively reëngaged with said threaded member when the direction of movement of said threaded member is reversed.

18. The combination with a horizontally arranged threaded member, of a toothed piece for engaging said member and arranged to be moved thereby out of engagement with said threads, and means for causing said toothed piece to reëngage said threads when the direction of rotation of said member is reversed.

19. The combination with a screw, of a member driven thereby, and a toothed piece arranged to engage said screw, said toothed piece being connected with said driven member in such a manner that the force exerted by said screw, when said screw is rotated in one direction, tends to move said toothed piece out of engagement with said screw but when said screw is rotated in the opposite direction the force exerted tends to move said piece into firmer engagement.

20. The combination with a screw, of a member having a limited path of movement arranged to be driven by said screw, and mechanism for connecting said member with said screw, said mechanism comprising means for automatically disconnecting said member from said screw when the limit of movement of said member is reached and for automatically reëngaging said member with said screw when the direction of rotation of said screw is reversed.

21. In combination, power transmission mechanism, a coöperating member arranged to be moved thereby, means for producing a break in said power transmission mechanism when said coöperating member reaches a predetermined position, and means for causing reverse movement of said coöperating member when said power transmission mechanism is operated in a reverse direction.

22. In a slicing machine, a reciprocating table, a support for material to be sliced mounted on said table, means for feeding said support relative to said table to bring the material thereon into position to be sliced, mechanism for imparting a step by step movement to said feeding means, mechanism for driving said feeding means continuously in a reverse direction, and means for automatically disconnecting said mechanism for imparting step by step movement to said feeding means when said feeding means is operated in a reverse direction.

23. In combination, a slicing machine having a main driving device, a reciprocating table, a support mounted for movement on said table, a screw for imparting movement to said support relative to said table, means for transmitting movement from said screw to said support and arranged to automatically disconnect said screw and said support from one another when said support has reached a limiting position. means for automatically reëngaging said screw and support when said screw is operated in a reverse direction, ratchet mechanism for imparting intermittent movement to said screw, driving means for connecting said screw with the main drive of said slicing machine and arranged to transmit a reverse movement to said screw from said main driving means. means for automatically disconnecting said ratchet mechanism from said screw during said reverse movement, and means for automatically reconnecting said ratchet mechanism with said screw after said reverse movement.

24. In a slicing machine, a reciprocating table, mechanism mounted on said table for feeding material thereon relative thereto, and flexible power transmission mechanism for driving said feeding mechanism at the will of the operator at various positions on said reciprocating table.

25. In a slicing machine, a base, a table mounted to reciprocate on said base, mechanism carried by said table for feeding material thereon relative thereto, driving mechanism mounted on said base, and means for transmitting motion from said driving mechanism to the feeding mechanism on said reciprocating table, said means com-

prising a frame composed of pivoted links, and means for transmitting power supported by said frame.

26. In a slicing machine, a base, a reciprocating table mounted on said base, power mechanism carried by said base, and means for transmitting power from said power mechanism to said reciprocating table, comprising a flexible frame and sprocket mechanism carried by said frame.

In testimony whereof I have signed my name to this specification on this tenth day of July, A. D. 1917.

CORNELIS F. M. VAN BERKEL.