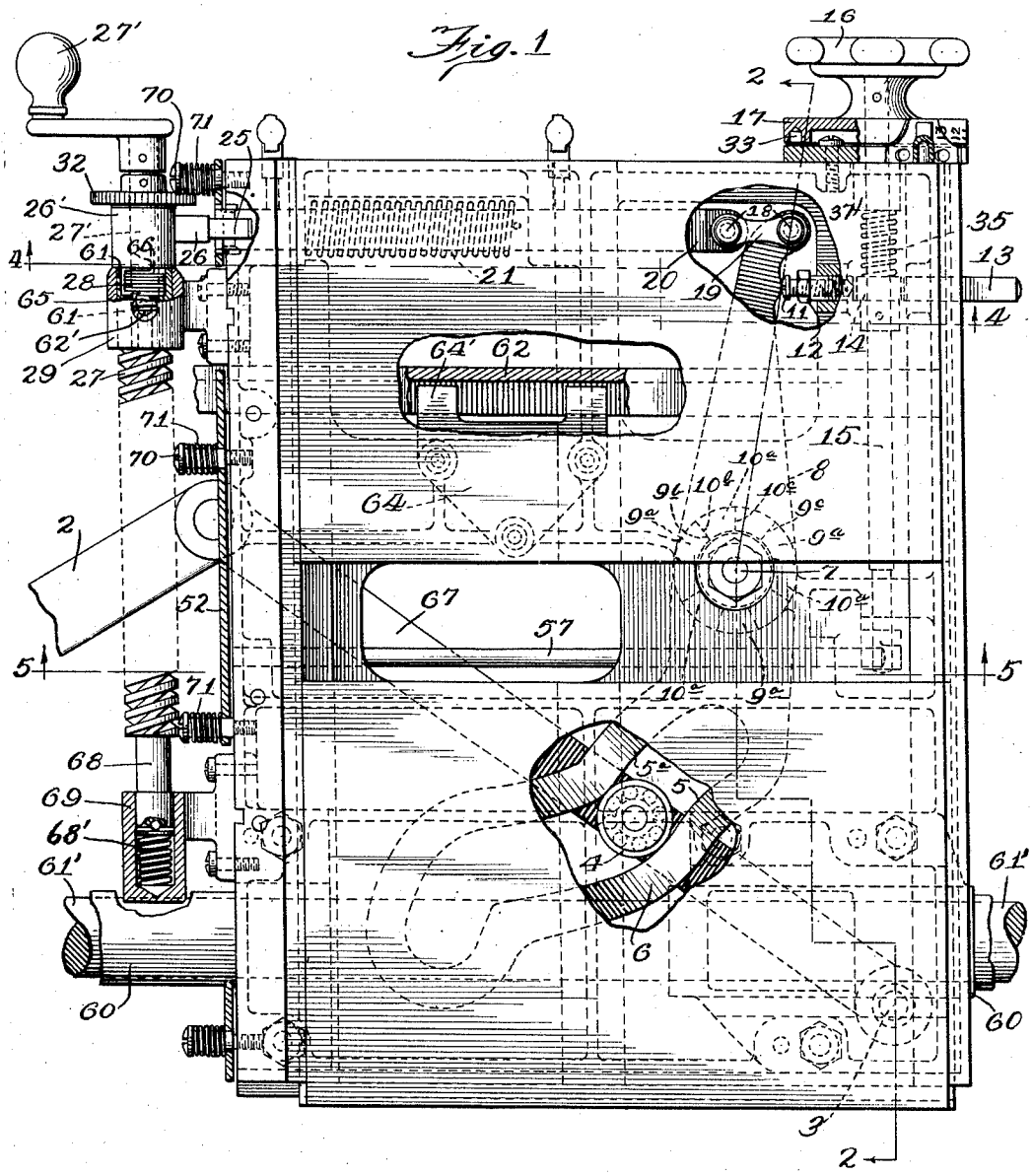
June 13, 1933. J. FOLK 1,913,749

FEED MECHANISM FOR SLICING MACHINES

Filed July 23, 1928 4 Sheets-Sheet 1

Fig. 1



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FEED MECHANISM FOR SLICING MACHINES

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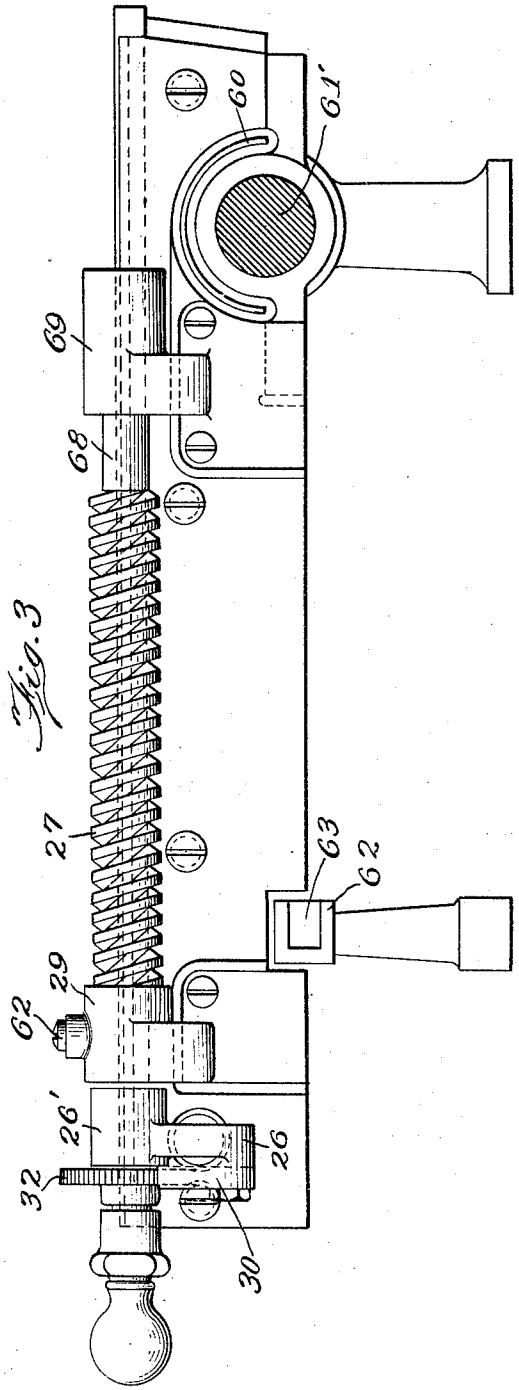


Fig. 3

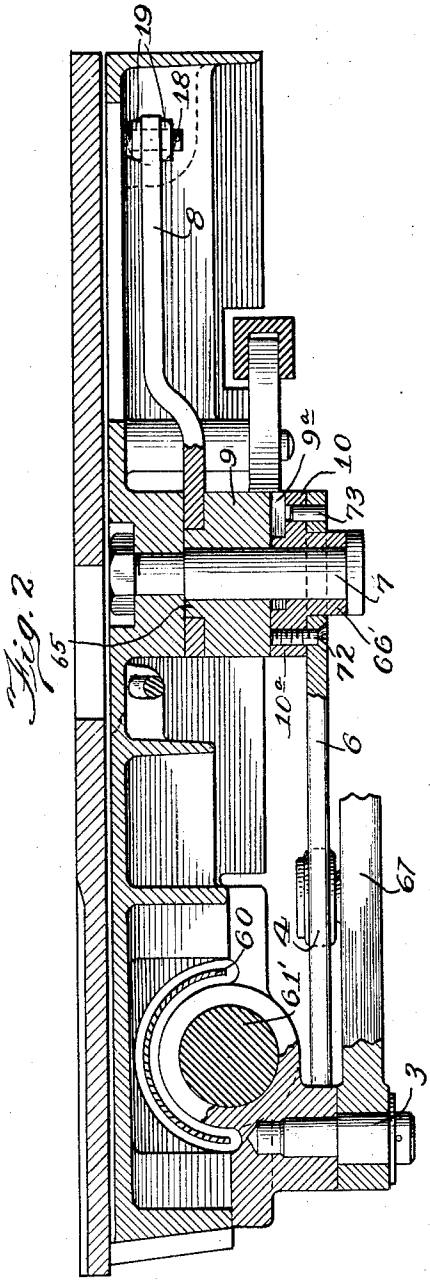


Fig. 2

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FEED MECHANISM FOR SLICING MACHINES

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Fig. 4

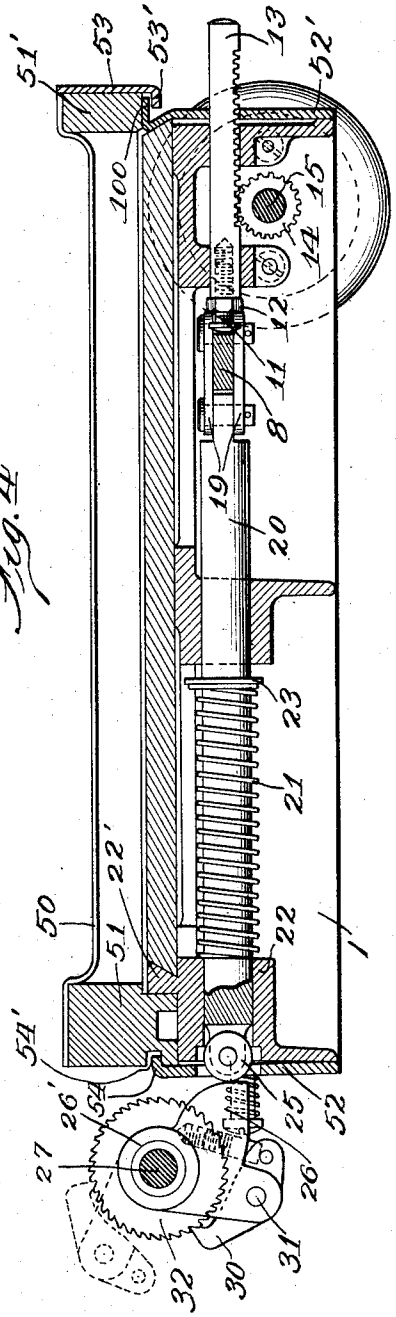
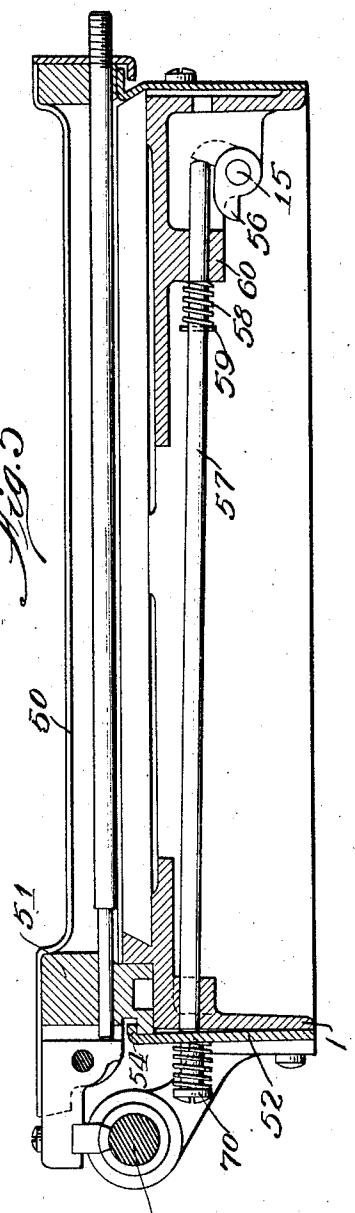


Fig. 5



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June 13, 1933. J. FOLK 1,913,749

FEED MECHANISM FOR SLICING MACHINES

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Fig. 6

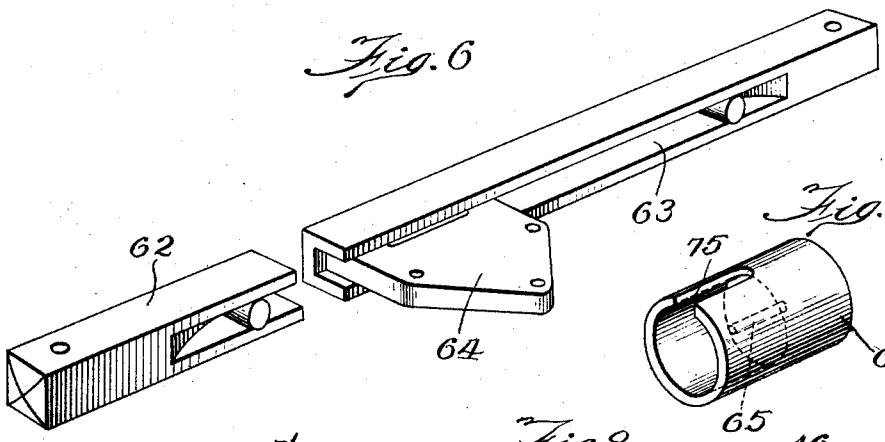


Fig. 7

Fig. 10

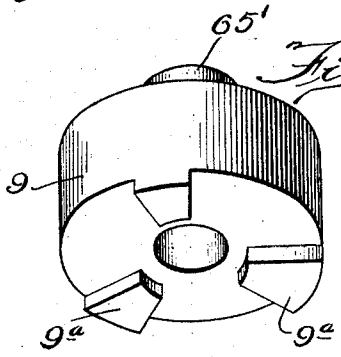
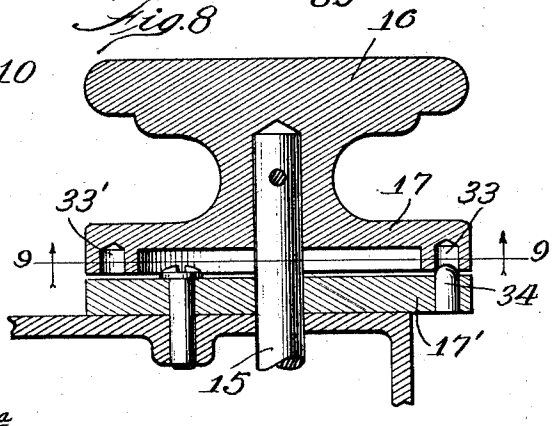


Fig. 8



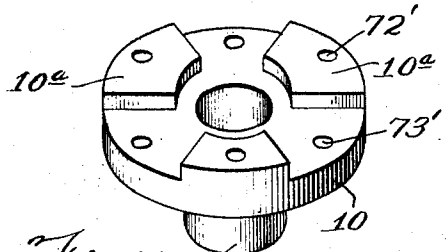


Fig. 11

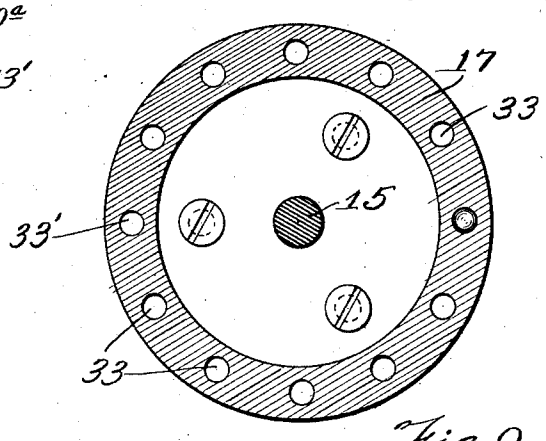


Fig. 9

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Patented June 13, 1933

1,913,749

UNITED STATES PATENT OFFICE

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FEED MECHANISM FOR SLICING MACHINES

Application filed July 23, 1928. Serial No. 294,749.

This invention relates to slicing machines and has for its object to provide a feeding movement wherein the movement imparted to the feeding parts of the mechanism correspond to the thickness of the slice desired, there being no motion in these parts beyond that necessary to feed the material support toward the knife by the desired amount. In the usual type of feeding mechanism, the same impulse or movement is imparted to the feeding parts of the mechanism and the desired thickness of the slices is obtained by utilizing only a part of the feeding movement, by some such means as a guard adjustable to cover a portion of the ratchet on the feed screw.

Another object is to provide an adjusting means for the feeding mechanism to vary the amount of motion imparted to the feeding parts of the mechanism.

Another object is to provide a spring plate release for the material support, the operating handle of which is positioned at the side of the table remote from the spring plate and in a position that is convenient to the operator.

Another object is to associate the adjusting means for the feeding mechanism and the spring plate release so that the action releasing the spring plate takes place after the feeding mechanism has been adjusted so far as to render the feeding mechanism inoperative.

Another object of the invention is to provide a mounting for the feed screw which shall be easily assembled and dis-assembled.

In the accompanying drawings:—

Fig. 1 is a plan view with parts in section and with parts broken away;

Fig. 2 is a section on line 2—2 of Fig. 1;

Fig. 3 is an elevation, as viewed from the left hand side of Fig. 1;

Fig. 4 is a section on the line 4—4 of Fig. 1;

Fig. 5 is a section on the line 5—5 of Fig. 1;

Fig. 6 is a perspective view of the slide rails and supporting bracket for the carriage;

Fig. 7 is a perspective view of the bushing used in the feed screw assembly;

Fig. 8 is a section view of the grip and grip socket for adjusting the feed;

Fig. 9 is a section on the line 9—9 of Fig. 8; and

Figs. 10 and 11 are perspective views of the clutch members.

Referring now to the drawings in detail, the numeral 1 denotes the reciprocating carriage or table having mounted thereon a material support 50 movable by the feeding mechanism toward the cutting plane of a slicing knife.

The carriage 1 slides on guides 61′ and 62. The guide 61′ is covered by a guard 60, as best shown in Fig. 2, and the guide 62 is slotted, as shown in Figs. 1 and 6. A bracket 64 is attached to the underside of the carriage and slides in the slot 63 in the guide 62. The bracket 64 has tines 64′ between which absorbent material for lubricant may be placed. This construction of the guide rail protects the sliding surfaces between the bracket 64 and the side of the slot 63 from dirt and the like and therefore reduces wear on the parts.

The material support 50 has a rail 51 which slides in a rail 22 of the carriage or under table. The carriage 1 is reciprocated in the usual manner by a crank 2 and a connecting rod 67 which is pivoted to the carriage at 3. The rail 22 of the carriage has a flange 22′ on one side and a spring plate 52 mounted on the other side. The rail 51 slides in the guide formed by the flange 22′ and the spring plate 52, this movement being caused by the action of the feeding mechanism, as will more fully appear.

The spring plate 52 is mounted on bolts 70 and springs 71 are interposed between the heads of the bolts and the spring plate. The spring plate 52 has a turned over portion 54 (Fig. 4), which engages a recess 54′ in the rail 51. The spring plate 52 is normally urged by the spring 71 to retain the turned over portion 54 within the recess 54′.

The material support 50 carries at its other side a rail 51′ having a plate 53 with a turned in portion 53′. The carriage 1 has a plate 52′ attached thereto at the side opposite the plate 52 and the plate 52′ has an outwardly bent portion 100 co-operating with the turned

in portion 53′ in the plate 53. In order to remove the material support 50 from the table 1, it is necessary to move the spring plate 52 to the left, as viewed in Fig. 4, against the action of the spring 71. The rail 51 can then be lifted up and the material support released by sliding it to the right.

Brackets 69 and 29 are mounted upon the carriage 1 and a feed screw 27 is journaled in these brackets. A spring 68′ in the bracket 69, as shown in Fig. 1, contacts with the reduced portion 68 of the feed screw and urges the feed screw in the direction of the bracket 29. The feed screw bracket 29 is provided with a bushing 61 (Figs. 1 and 7) the outside diameter of which is slightly larger than the outside diameter of the feed screw. A screw 62′ is threaded through the bracket 29 into the bushing 61 so that the bracket and the bushing become a unit. A spring 28 has an anchoring end 66 in the hub 26′ pivoted on the reduced end 27′ of the feed screw. The other end of the spring 28 is anchored at 65 in the bushing 61. The bushing 61 has one or more longitudinal slots 75 cut in its circumference. The bushing, just before the feed screw assembly is inserted in the bracket 29, is turned to impart to the spring 28 the proper tension, so that one of the slots 75 is in line with the screw 62′. The screw 62′ projects into the slot and acts as a pilot.

The feeding mechanism includes the feed screw assembly, mentioned above, and a push rod 20, as best shown in Fig. 4. The end of this push rod 20 carries a roller 25 which abuts against the lever 26 carried by the hub 26′ journaled on the reduced end of the feed screw. The lever 26 carries a pawl 30 which engages the teeth of the ratchet 32 fixed to the feed screw 27. The handle 27′ is fastened to the end of the feed screw in order that the feeding mechanism may be manually manipulated, if desired. The spring 28 urges the lever 26 into contact with the roller 25 and a spring 21 urges the push rod 20 away from the lever 26 and toward the right, as viewed in Fig. 4.

The actuating mechanism for the feeding mechanism comprises a driving element or lever 6 and a driven element or lever 8. The levers 6 and 8 are pivoted about the axis of a stud 7 carried by the undertable, as shown in Fig. 2, and are connected by clutch members 9 and 10, the clutch members being formed with clutch jaws, as clearly shown in Figs. 10 and 11. The clutch member 10 has a hub portion 66′ and the end of the lever 6 has a perforation receiving the hub 66′. The lever 6 is attached to the clutch member 10 by fastening members 72 and 73 passing through holes 72′ and 73′ respectively. The clutch member 9 has a hub portion 65′ and the lever 8 has a perforation in one end receiving the hub 65′ and attached to the clutch member 9 by suitable fastening means. The lever 6 is formed with a cam slot having cam faces 5 and 5*a* and the connecting rod 67 carries a roller bearing 4 to receive within the cam slot and bearing against the cam faces 5 and 5*a*.

The jaws on the clutch members 9 and 10 are shorter than the corresponding spaces on the opposite clutch. For instance, the clutch jaws 10*a* on the clutch 10 are of less width than the spaces between the clutch jaws 9*a* on the clutch member 9. Similarly, the jaws 9*a* on the clutch member 9 are of less width than the spaces between the clutch jaws 10*a* on the clutch member 10. The lever 8 is connected at one end to the push rod 20 through the links 19 pivoted at 18 to the push rod 20 and to the end of the lever 8.

It will be seen that the oscillation of the connecting rod 67 imparts a swinging movement to the lever 6 and the lever 6 imparts a swinging movement to the lever 8 which, in turn, moves the push rod 20 against the lever 26 to rotate the feed screw through the pawl 30 and the ratchet 32. The lever 8 abuts against a set screw 11 held by a lock nut 12 in the member 13, Figs. 1 and 4.

The member 13 is provided with rack teeth engaging the teeth of the gear 14 carried by a shaft 15 journaled in the carriage. The shaft 15 is provided at one end with an operating handle or grip 16 having a grip socket 17 provided with a number of index holes 33. A plate 17′ is attached to the end of the carriage and has a pin 34 adapted to engage in one of the holes 33 and a positive release index hole 33′.

The purpose of the abutment member 13 is to vary the amount of movement imparted to the driven lever 8 by the driving lever 6. Assuming that the faces 10*b* of the clutch jaws 10*a* contact with the faces 9*b* of the clutch jaws 9*a* at the beginning of the feeding movement, imparted to the lever 6 by the connecting rod 67, it will be seen that the lever 8 is moved during the entire arc of movement of the lever 6.

If, however, the rod 15 is rotated to move the abutment member 13 to the left, as viewed in Fig. 1, the clutch member 9 will be rotated counterclockwise, thereby spacing the faces 9*b* and 10*b*. Now, the lever 6, during part of its motion, will be ineffective to move the lever 8 and will impart movement to the lever 8 only after the clutch member 10 has moved a distance equal to the gap between the clutch teeth 9*a* and 10*a*. In this manner, the amount of movement imparted to the feed screw through the lever 8 and push rod 20, can be varied from a setting corresponding to the maximum thickness of the slices desired to a zero setting where the lever 6 will impart no motion to the lever 8. In the latter instance, the clutch jaws 10*a* will simply oscillate back and forth in the spaces between

the clutch jaws 9*a* on the clutch member 10.

The spring 21 serves to move the lever 8 and return the clutch jaws 9*a* back to an initial position where they will be driven forward again by the movement of the lever 6. The spring 35 has one end abutting against the pinion 14 and the bearing 37 for the shaft 15. This spring serves to retain the grip socket 17 against the socket plate 17′ to hold the pin 34 in the holes 33 and in the hole 33′.

While the adjusting means included in the parts 11, 13, 14, 15 and 16 is arranged so that the abutment screw contacts directly with the driven lever or element 8, it is, of course, obvious that the effective point of application of the abutment means might be interposed anywhere between the fulcrum 7 and the feed lever 26 which operates the feed screw ratchet, as, for instance, the push rod 20 could be provided with a pin or lug to abut the set screw 11.

The screw 11 may be readjusted when wear has taken place and this screw 11 serves the purpose of locating the curved face of the lever 26 (Fig. 4) which presses in the correct initial position on its fulcrum 27. For each thickness of slice, the arc of travel of the lever 26 must be the same, and the start of travel must be definite and should begin at the same point for a definite thickness of slice whether or not the parts have worn.

One end of the rod 15 carries a member 56, shown in Fig. 5. This member 56, when rotated by the rod 15, strikes against a rod 57 slidably mounted in the carriage 1. The other end of the rod 57 abuts against the spring plate 52 and serves as a releasing means for the spring plate.

During the period of rotation of the shaft 15 indicated by the full and dotted lines of the member 56, this rotation of the shaft 15 has been effective to vary the thicknesses of the slices through the co-action of the member 13 and the lever 8, as previously described. When the member 56 strikes the rod 57, further rotary movement of the shaft 15 serves to render the lever 6 ineffective to drive the lever 8 because of the separated position of the clutch jaws 9*a* and 10*a* and the member 56 then begins to move the rod 57 axially to the left, as viewed in Fig. 5. This operation results in the release of the spring plate 52 from the material support 51 and permits removal of the material support only after the feeding mechanism has been rendered inoperative. The positive release index hole 33′ in the socket 17 is positioned beyond the zero mark on the scale carried by the socket 17 and indicates the position at which the feeding mechanism has been rendered inoperative and also indicates that further rotation of the shaft 15 will actuate the rod 57 to release the spring plate 52.

The full line position of the member 56 corresponds to the largest index number position, (in this case, number 14) on the grip socket 17. When the grip is turned to zero position, the member 56 has moved to the dotted line position and abuts against the rod 57. At this position, the adjusting rod 13 has rotated the lever 8 clockwise so far that the space at the beginning of the cam travel between the faces 10*b* of the driving clutch jaws 10*a* and the faces 9*b* of the driven clutch jaws 9*a* is large enough to accommodate the entire arc of travel of the lever 6 which now swings idly and moves the clutch jaws 10*a* back and forth between the spaces of the jaws 9*a*.

There is still, however, sufficient space left between the jaw faces 10*c* on the jaws 10*a* and the jaw faces 9*c* to permit the shaft 15 to be turned beyond the zero mark, indicated by the positive release index hole 33′, until the rod 57 has been moved axially enough to release the spring plate 52. This additional movement of the shaft 15 and of the lever 8 through the member 13 necessary to release the spring plate, brings the faces 10*c* and 9*c* very close together, that is, the faces 9*c* are brought adjacent the return position of the faces 10*c* and the cam lever 6 still oscillates idly.

Several advantages of my improved feeding mechanism may be noted. The feeding mechanism is protected by the undertable, and, as the whole feeding mechanism is mounted on the undertable, there cannot occur the variation that occurs when one part of the feeding mechanism is mounted on the moving carriage and the other part upon the stationary frame. Since the movement of the feed lever 26 and parts associated therewith correspond to the thickness of the slice, there is slight wear because of the short range of movement of these parts.

The feed is accurate and the accuracy is retained for the thicker slices because the feeding starts before the carriage arrives at its dead end and the feeding movement is completed much sooner than any of those arrangements where the feeding starts with the cutting stroke of the undertable. The meat therefore does not feed into the knife.

Obviously those skilled in the art may make various changes in the construction and arrangement of parts without departing from the spirit and scope of the invention as defined by the appended claims, and I therefore do not wish to be restricted to the precise construction herein disclosed.

I claim:—

1. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, feeding mechanism for feeding said material support transversely of said carriage, actuating mechanism connected with said feeding mechanism, said actuating mechanism consisting of a driven element and a

driving element, said driven element being connected with said feeding mechanism, means associated with said slicing machine for imparting a driving and return movement to said driving element, co-operating clutch jaws on said driving and driven elements, the spaces between the jaws on each of said elements being greater than the width of the corresponding clutch jaws positioned in said spaces, and means for varying the relative position of the clutch jaws on one of said elements with respect to the clutch jaws on the other of said elements.

2. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, feeding mechanism for feeding said material support transversely of said carriage, actuating mechanism connected with said feeding mechanism, said actuating mechanism consisting of concentrically pivoted driving and driven levers, said driven lever being connected to said feeding mechanism, means associated with said slicing machine for imparting a swinging driving and return movement to said driving lever, a co-operating clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, and adjusting means for varying the relative position of the clutch jaws on one of said elements with respect to the clutch jaws on the other of said elements.

3. In a slicing machine, a reciprocatory carriage, a material support on said carriage, feeding mechanism for feeding said material support transversely of said carriage, actuating mechanism connected with said feeding mechanism, said actuating mechanism consisting of a driving element and a driven element, said driven element being connected with said feeding mechanism, means associated with said slicing machine for imparting a driving and return movement to said driving element, co-operating clutch jaws on said driving and driven elements, the spaces between the jaws on each of said elements being greater than the width of the corresponding clutch jaws positioned in said spaces, an adjustable abutment member for varying the initial driving position of said clutch jaws on said driving element with respect to the clutch jaws on said driven element, and means for returning said driven element to initial position upon return movement of said driving element.

4. In a slicing machine, a reciprocatory carriage, a material support on said carriage, feeding mechanism for feeding said material support transversely of said carriage, actuating mechanism connected with said feeding mechanism, said actuating mechanism consisting of concentrically pivoted driving and driven levers, said driven levers being connected to said feeding mechanism, means associated with said slicing machine for imparting a swinging driving and return movement to said driving lever, co-operating clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, an adjustable abutment member for varying the initial position of said clutch jaws on said driving lever with respect to the clutch jaws on said driven lever, and means for returning said driven lever to initial position upon the return movement of said driving lever.

5. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, a feed screw for moving said material support transversely of said carriage, a pawl and ratchet for rotating said feed screw, concentrically pivoted driving and driven levers, means associated with said slicing machine for imparting a swinging driving and return movement to said driving lever, co-operating clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, a push rod connecting said driven lever with said pawl, means urging said pawl toward the end of said push rod, adjusting means for varying the initial driving position of said clutch jaws on said driving lever with respect to the clutch jaws on said driven lever, and means for returning said driven lever to initial position upon the return movement of said driving lever.

6. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, a feed screw for moving said material support transversely of said carriage, a pawl and ratchet for rotating said feed screw, concentrically pivoted driving and driven levers, means associated with said slicing machine for imparting a swinging driving and return movement to said driving lever, co-operating clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, a push rod connecting said driven lever with said pawl, means urging said pawl toward the end of said push rod, an adjustable member for varying the initial driving position of said clutch jaws on said driving lever with respect to the clutch jaws on said driven lever, and means for returning said driven lever to initial position upon the return movement of said driving lever.

7. In a slicing machine, a reciprocatory carriage, a releasable guide plate on said carriage, a material support slidably held by said guide plate, feeding mechanism for feeding said material support transversely of said carriage, releasing mechanism for said guide

plate, means operated by said slicing machine for actuating said feeding mechanism, adjusting means for varying the amount of movement imparted to said feeding mechanism, said adjusting means being adjustable to render said first-named means inoperative to move said feeding mechanism, said adjusting means including mechanism for actuating said releasing mechanism after said adjusting means has been adjusted sufficiently to render said feeding mechanism inoperative.

8. In a slicing machine, a reciprocatory carriage, a releasable guide plate on said carriage, a material support, slidably held by said guide plate, feeding mechanism for feeding said material support transversely of said carriage, releasing mechanism for said guide plate, co-operating driving and driven elements movable by said slicing machine for actuating said feeding mechanism, an adjustable abutment member for varying the amount of movement imparted to said feeding mechanism, and adjusting means for moving said abutment member, said adjusting means having mechanism associated therewith for actuating said releasing mechanism after said adjusting means has been moved sufficiently to render said feeding mechanism inoperative.

9. In a slicing machine, a reciprocatory carriage, a releasable guide plate on said carriage, a material support slidably held by said guide plate, a feed screw for moving said material support transversely of said carriage, a pawl and ratchet for rotating said feed screw, releasing mechanism for said guide plate, pivoted driving and driven levers, means movable by said slicing machine for imparting a swinging driving and return motion to said driving lever, clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, a push rod operatively connecting said driven lever with said pawl, an adjustable abutment member for varying the initial driving position of said clutch jaws on said driving lever with respect to said driven lever, means for returning said driven lever to initial position against said abutment member upon the return of said driving lever, and adjusting means for moving said abutment member, said adjusting means having mechanism associated therewith for actuating said releasing mechanism after said adjusting means has been moved sufficiently to render said feeding mechanism inoperative.

10. In a slicing machine, a reciprocatory carriage, a releasable guide plate on said carriage, a material support slidably held by said guide plate, a feed screw for moving said material support transversely of said carriage, a pawl and ratchet for rotating said feed screw, pivoted driving and driven levers, means movable by said slicing machine for imparting a swinging driving and return motion to said driving lever, clutch jaws on said driving and driven levers, the spaces between the jaws on each of said levers being greater than the width of the corresponding clutch jaws positioned in said spaces, a push rod operatively connecting said driven lever with said pawl, an adjustable member positioned in the path of movement of said driven lever for varying the initial driving position of said clutch jaws on said driving lever with respect to said driven lever, means for returning said driven lever to initial position against said abutment member upon the return of said driving lever, a manually operated rotatable shaft for adjusting said abutment member, a rod for releasing said guide plate, and means carried by said shaft effective after said feeding mechanism has been rendered inoperative by movement of said abutment member to move said shaft and release said guide plate.

11. In a feeding mechanism assembly for slicing machines, a carriage, a bracket on said carriage, a slotted bushing in said bracket, a screw extending through said bracket and into the slot in said bushing, a feed screw journaled in said bushing, a pawl journaled on said screw, a push rod for actuating said pawl, and a spring anchored in said bushing and connected with said pawl to urge said pawl against said push rod.

12. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, feeding mechanism for feeding said material support transversely of said carriage, a connecting rod for reciprocating said carriage, driving and driven elements having co-operating clutch jaws, said driven element being connected with said feeding mechanism, the spaces between said jaws on each of said elements being greater than the width of the corresponding clutch jaws positioned in said spaces, means co-operating with said connecting rod and driving element to drive said driving element, and means for varying the relative position of the clutch jaws on one of said elements with respect to the clutch jaws on the other of said elements.

13. In a slicing machine, a reciprocatory carriage, a material support carried by said carriage, feeding mechanism for feeding said material support transversely of said carriage, a connecting rod for reciprocating said carriage, concentrically pivoted driving and driven levers having co-operating clutch jaws, said driven lever being connected with said feeding mechanism, co-operating means between said connecting rod and driving lever imparting a driving and return movement to said driving lever, the spaces between said jaws on each of said levers be-

ing greater than the width of the corresponding clutch jaws positioned in said spaces, means to impart a return movement to said driven lever upon the return movement of said driving lever, and means for varying the relative position of the clutch jaws on one of said levers with respect to the clutch jaws on the other of said levers.

14. A slicing machine comprising feeding mechanism, a driving element, a driven element adapted to engage and operate said feeding mechanism, means for pivoting said driving and driven elements to each other and to a relatively fixed support, means for imparting a continuous oscillation to said driving element about its pivot, and means on said driving element for engaging means on said driven element after a predetermined amount of oscillation of said driving element to thereby cause said driven element to move about its pivot and actuate said feeding mechanism.

15. A slicing machine comprising feeding mechanism, a driving element, a driven element adapted to engage and operate said feeding mechanism, means for pivoting said driving and driven elements to each other and to a relatively fixed support, means for imparting a continuous oscillation to said driving element about its pivot, means on said driving element for engaging means on said driven element after a predetermined amount of oscillation of said driving element to thereby cause said driven element to move about its pivot and actuate said feeding mechanism, and means for regulating the amount of oscillation of said driving element which will occur prior to the time when the means on the driving element engages the means on the driven element to thereby actuate the latter.

16. In a feeding mechanism for slicing machine tables, the combination with a feed screw adapted to co-operate with a feed nut on the slicing machine table, a pawl and ratchet connection for rotating said feed screw, a pivoted arm on which said pawl is pivotally mounted, a push rod adapted to actuate said arm ir one direction, a spring for moving said arm in the opposite direction, a second arm connected by a link to said push rod, a spring for moving said push rod in one direction, a third arm pivoted to a support and having abutments thereon adapted to engage corresponding abutments on said second arm for actuating said second arm and, thereby, said push rod, said third mentioned arm being adapted to oscillate through an unchanging path and range of movement, and means for regulating the amount of movement which the second mentioned spring imparts to said push rod, the action of said second arm on said push rod being opposed to the action of said second-mentioned spring.

17. A slicing machine comprising a table, a work support mounted on said table and slidable relatively thereto, feeding mechanism for moving said support relative to said table, a push rod for actuating said feeding mechanism, a driven element for actuating said push rod, a driving element having a constant path and range of movement for actuating said driven element, co-operating means on said driving and driven elements for imparting motion to said driven element from said driving element, said co-operating means being adapted to operate for the purposes set forth after a predetermined movement of said driving element, adjustable means for limiting the movement of said driven element in one direction, means for moving said adjustable means to cut slices of predetermined thicknesses and for indicating the thickness of the slice to be cut, and wear compensation means on said adjustable means for compensating for wear independently of the means for moving said adjustable means.

18. In a substance holding means for slicing machines, the combination with a feed plate, of a feeding mechanism for moving said feed plate, a pair of oscillating arms, means for connecting the end of one of said oscillating arms to said feed mechanism, means for actuating the other of said oscillating arms, means normally positioning said first mentioned arm in a position to be oscillated by said second mentioned arm, co-operating means on said arms operative when said arms are in said last mentioned position to impart motion to said first arm as said second arm is oscillated to thereby actuate said feeding mechanism, and means for moving said first mentioned arm to an inoperative position so that said cooperating means will not cause the first arm to be oscillated by said second mentioned arm.

19. In a substance holding means for slicing machines, the combination with a feed plate, of a feeding mechanism for moving said feed plate, a pair of oscillating arms, means for connecting the end of one of said oscillating arms to said feed mechanism, means for actuating the other of said oscillating arms, means normally positioning said first mentioned arm in a position to be oscillated by said second mentioned arm, co-operating means on said arms operative when said arms are in said last mentioned position to impart motion to said first arm as said second arm is oscillated to thereby actuate said feeding mechanism, and means for moving said first mentioned arm to an inoperative position so that said co-operating means will not cause the first arm to be oscillated by said second mentioned arm, said means for positioning said first mentioned arm in a position so that it is inoperative to actuate said feeding mechanism, being also adapted to position

said first mentioned arm in a plurality of predetermined selected positions in which various amounts of oscillation are imparted thereto by said second mentioned arm as said second mentioned arm moves over the same path and through the same extent of movement.

20. A device as claimed in claim 18 in which the feed plate is slidable within suitable guides, one of which is releasable to permit removal of the feed plate and in which mechanism is provided for releasing said releasable guide only after said first mentioned arm is moved to an inoperative position.

21. A slicing machine substance support comprising a base, a feed plate slidable along said base, a feed screw co-operating with said feed plate to move said feed plate along said base when said feed screw is rotated, means for rotating said feed screw, means for rendering said rotating means inoperative, means for holding said plate in position on said base against lateral movement as said plate moves there-along, means for releasing said plate holding means, and a common actuating means for actuating said means for rendering said rotating means inoperative and said means for releasing said feed plate holding means, said common actuating means being so constructed as to prevent the movement of said means for releasing said plate holding means until after said common actuating means has been moved sufficiently to render said feed screw rotating means inoperative, said means for rotating said screw comprising pawl and ratchet mechanism actuated by suitable means which latter is rendered inoperative by the movement of said pawl to a predetermined position by said common actuating means.

In testimony whereof I have signed my name to this specification on this 19th day of July, A. D. 1928.

JOSEPH FOLK.