

June 9, 1931.

M. TRUNZ

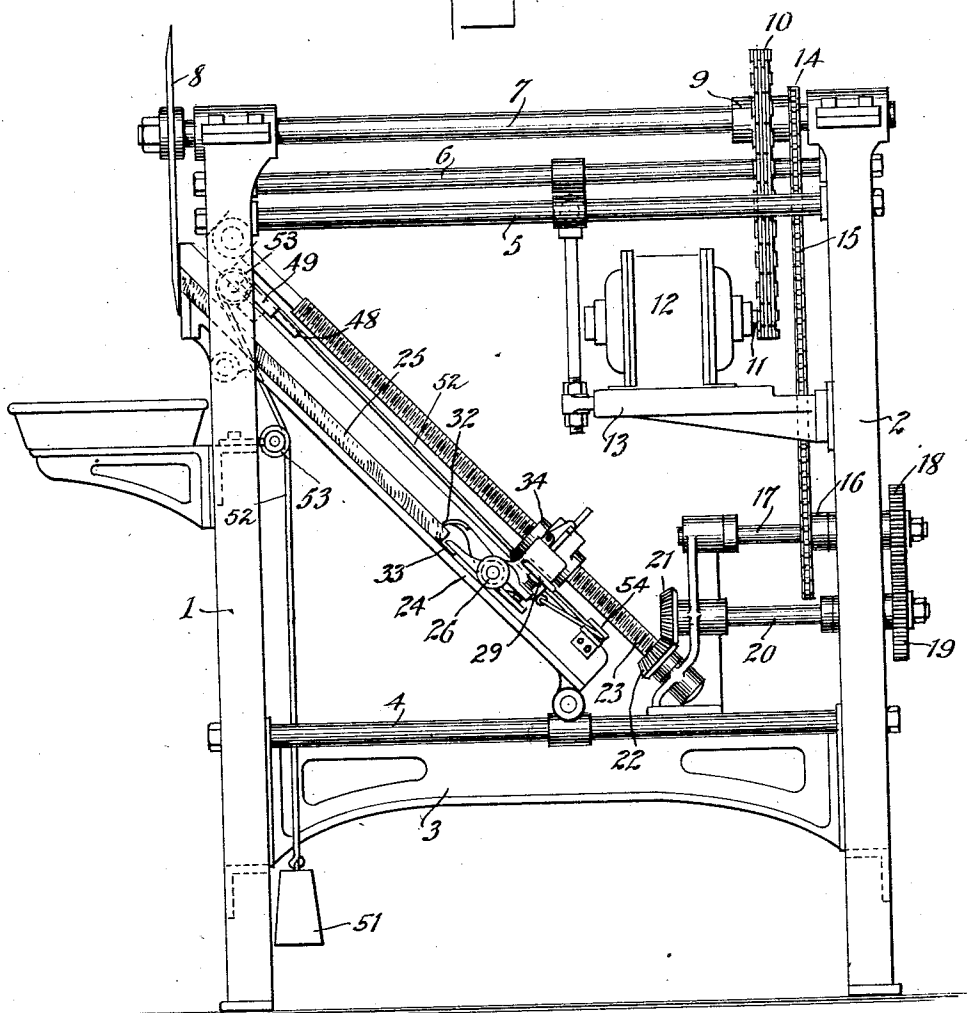
1,809,764

BIAS BACON SLICER

Filed Sept. 22, 1927

3 Sheets-Sheet 1

Fig. 1.



WITNESSES

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3 Sheets-Sheet 2

Fig. 2.

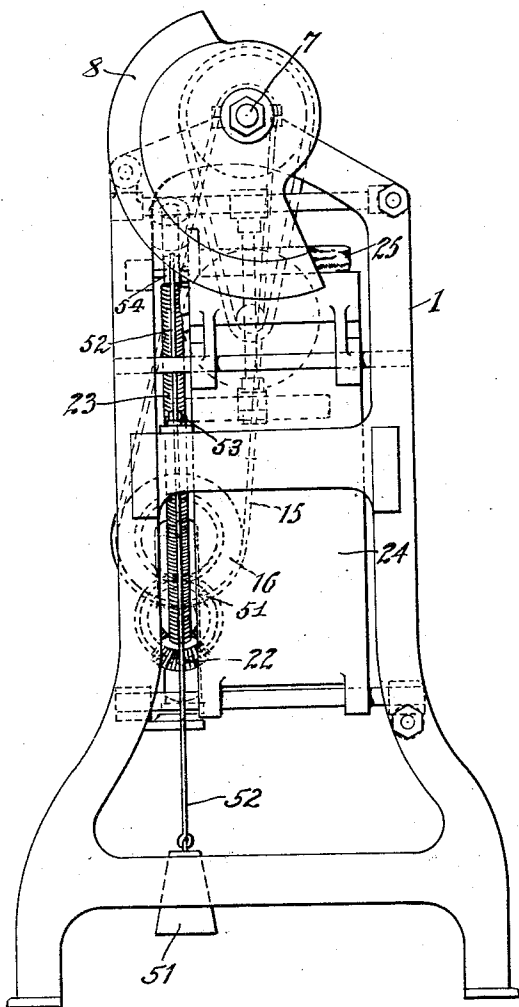
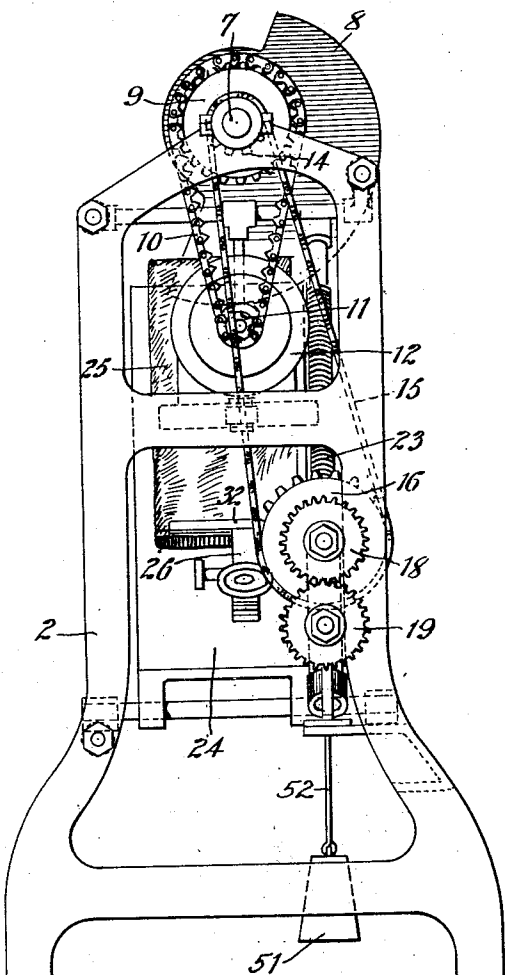


Fig. 3.



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BIAS BACON SLICER

Application filed September 22, 1927. Serial No. 221,311.

This invention relates to a improved machine for slicing bacon on the bias, and has for an object to provide an improved construction wherein bacon or other meat may be placed in the machine and automatically sliced at an angle to the plane of the bacon, whereby each slice will be wider than the thickness of the bacon.

Another object of the invention is to provide a bacon slicer wherein means are provided at such an angle to the cutter that as the bacon is fed to the cutter it will be automatically sliced on the bias, the structure being such that the bacon may be fed continuously or intermittently toward the cutter and automatically stop when a predetermined point has been reached.

In the accompanying drawings—

Figure 1 is a side view of a machine disclosing an embodiment of the invention.

Figure 2 is an end view of the machine shown in Figure 1, said view being taken from the end carrying the cutter.

Figure 3 is an end view of the machine shown in Figure 1, said view showing the opposite end to that illustrated in Figure 2.

Figure 4 is a fragmentary top plan view of part of the mechanism shown in Figure 1, the same being on an enlarged scale.

Figure 5 is a side view of the structure shown in Figure 4 together with part of the cutter and associated parts.

Figure 6 is a sectional view through Figure 5 on line 6—6.

Figure 7 is a detail sectional view through the screw blocks shown in Figure 4.

Referring to the accompanying drawings by numerals, 1 and 2 indicate end members of a suitable frame 3. This frame is provided with bracing members 4, 5 and 6, together with other parts which present a strong rigid frame structure, but the details of which form no part of the present invention. At the upper part of the frame a shaft 7 is journaled in the end members 1 and 2, said shaft at one end carrying a cutter 8 which is a knife eccentrically mounted and formed substantially as half a circle as illustrated in Figure 2. A sprocket wheel 9 is secured to the shaft 7 and carries a chain 10

which is preferably of a noiseless type. The chain 10 passes over a suitable sprocket wheel 11 carried by the motor 12, which motor is preferably an electric motor supported on a suitable bracket 13. It will thus be seen that whenever motor 12 is functioning, shaft 7 will be rotating. A sprocket wheel 14 is secured to shaft 7 and accommodates the chain 15 which passes over the comparatively large sprocket wheel 16 secured to the shaft 17. Shaft 17 adjacent one end carries a gear wheel 18 which continually meshes with gear wheel 19 rigidly secured to shaft 20. If it should be desired to change the ratio of rotation of the shafts 17 and 20, gear wheels 18 and 19 may be removed and gear wheels of other sizes substituted. A bevel gear 21 is rigidly secured to shaft 20 and continually meshes with the bevel gear 22 rigidly secured to the feed screw 23.

During the operation of the machine, the feed screw continually rotates. Arranged adjacent the feed screw 23, but preferably parallel thereto, is a slicing table 24 on which the bacon or other meat 25 is placed preparatory to the slicing operation. A gripping member or structure 26 is provided and positioned to grip one end of the bacon 25 so as to force the same toward the cutter 8. This gripping structure is pivotally mounted on an arm 27 and is moved into gripping position by the screw 28, said screw having a hand wheel 29. As indicated in Figure 5, when hand wheel 29 is operated to cause the ends 30 and 31 of the gripping member 26 to separate, the gripping points or teeth 32 and 33 will grip the meat 25. The arm 27 is preferably formed integral with a substantially tubular member 34 which loosely surrounds the screw 23. As indicated in Figure 4, the tubular member 34 is provided with an opening 35 which accommodates the blocks 36 and 37, said blocks having their inner connecting portions provided with threads adapted to mesh with the threads of screw 23. A pin 38' extends through the blocks 36 and 37 and through a lever 38 which is pivotally mounted at 39 on a suitable bracket extending from the tubular member 34. An arm 40 extends from lever 38,

said arm and lever being urged in one direction by the spring 41, said spring at one end being connected to the bracket 42 extending from the tubular member 34. At the end of
 5 lever 38 opposite the arm 40, is a grip 43 which is adapted to be grasped by the hand for moving the parts from the dotted position shown in Figure 6 to the full line position. When moved to the full line position,
 10 the threads on the blocks 36 and 37 are engaging the threads on screw 23 and the hook extension 44 of lever 45 is permitted to move over lever 38 for locking the same in a lowered or operated position. Lever 45 is pivotally
 15 mounted on the arm 27 and is urged to the position shown in Figure 5 by a spring 46 acting through the plunger 47. Lever 45 extends downwardly a sufficient distance to strike the rod 48 when the parts are moved
 20 to near the upper end of the screw 23. The rod 48 acts as a stop and a trip member, said rod being adjustably mounted in a sleeve 49 secured in any desired manner to the table 24.

25 As the machine operates, the gripping structure or grip 26 and associated parts, move upwardly until the end 50 of lever 45 strikes rod or stop 48. This will cause the hook extension 44 to move off of the lever 38
 30 whereupon spring 41 will quickly move lever 45 and blocks 36 and 37 to the dotted position shown in Figure 6. This causes a substantially instantaneous release of the parts from the screw 23. As soon as this release has
 35 taken effect, the weight 51 will begin to function. This weight acts through the cable 52 which passes over pulleys 53 and 54. One end of the cable 52 is connected to the arm 27 so that when the blocks 36 and 37 are released,
 40 weight 51 will automatically move the member 34 back to its starting position, but if desired member 34 could be moved back manually to its starting position, namely, to substantially the position shown in Figure 1 at any
 45 time. Though the weight 51 moves the parts back to their starting position, the parts will not begin a second upward travel until the lever 38 has been manually lowered. This is not done until a new piece of bacon is placed
 50 on table 24 and is engaged by the teeth 32 and 33. After the bacon has been properly positioned as described, grip 43 is pressed downwardly until the hook extension 44 automatically snaps over lever 38. If motor 12 is
 55 operating, the bacon will begin to move upwardly immediately upon the engagement of blocks 36 and 37 with the screw 23. By reason of the action of screw 23, the bacon has a continuous tendency to move upwardly, but
 60 this movement is slightly retarded at the upper end as the bacon bears against the knife. After the knife enters the bacon, it will act in a certain sense as an abutment for preventing further upward movement of the
 65 bacon until the cutting edge has passed,

whereupon the shape of the knife will permit the bacon to freely move upwardly, which movement is caused somewhat by the expansion of the meat and somewhat by the feeding action of the screw 23 and associated parts.
 70 As the slices are comparatively thin, the movement produced as described, operates very efficiently. It will be noted that by having the bacon arranged at approximately a
 75 forty-five degree angle, the slices are almost twice the width that they would be if the slices were cut at right angles to the length of the bacon. In the drawings, the table 24 has been shown as positioned at a forty-five
 80 degree angle, but it will be evident that this angle may be varied without departing from the spirit of the invention, though this particular angle has proven to be very desirable as it gives an additional width to the slice
 85 without distorting the portions of the meat whereby the fat and lean sections will maintain the same relative width.

What I claim is:

1. In a slicing machine, meat feeding and clamping means comprising a pair of hinged
 90 gripping members for gripping the meat, a clamping screw for moving said gripping members to gripping position, a tubular member supporting said gripping members,
 95 means acting as a traveling nut carried by the tubular member, and a continually rotating screw coacting with the means acting as a nut for moving the tubular member and associated parts.
2. In a meat slicer, a continuously rotating screw and meat feeding means co-acting
 100 therewith, said meat feeding means including a structure for gripping a piece of meat, a tubular member connected with said structure, a pair of blocks having threaded portions for fitting against said screw, a lever
 105 for moving said blocks against said screw, a spring for swinging said lever and blocks away from said screw, a hook for normally holding said lever in position for maintaining
 110 said blocks in engagement with said screw, and a stop positioned to shift said hook to an inoperative position when the parts have been moved to a certain position
 115 on said screw.
3. Apparatus for slicing bacon comprising
 120 downwardly operating slicing means, and means for guiding a strip of bacon upwardly toward said slicing means at an acute angle to the plane in which said slicing means operates.
4. Apparatus for slicing bacon comprising
 125 a frame member, a rotary slicer supported by said frame member, an inclined bacon guide supported by said frame member at an acute angle to the plane of said slicer,
 means for advancing a strip of bacon in said guide upwardly toward said slicer; and
 130 means for simultaneously actuating said slicer and said advancing means.

5. A method of slicing bacon which comprises uniformly advancing a strip of bacon upwardly into the path of a cutter at an obtuse angle to its plane of operation, whereby, strips of bacon of substantially greater width than the thickness, of the strips are cut therefrom in a direction toward said advancing strip.

6. Apparatus for slicing bacon comprising slicing means, guiding and supporting means for receiving thereon a strip of bacon for slicing, said guiding and supporting means having its bacon supporting surface at an obtuse angle to the plane defined by said slicing means.

7. The method of slicing bacon which comprises successively cutting slices from a strip of bacon initially through the wider flat side thereof and at an obtuse angle between the plane of the cut and the plane defined by the said initially-cut longitudinal side of said strip of bacon.

8. The method of uniformly slicing bacon by machine at an acute angle to the length of the strip from which the cut is made which consists in guiding the bacon along a fixed and determined path and intermittently cutting thin slices from the end of said strip by successive cuts made initially through the wider flat surface thereof and at an obtuse angle to the length of the strip being cut measured from the plane defined by the initially-cut longitudinal surface of said strip to the plane of the cut.

9. Apparatus for slicing bacon, comprising a rotary slicer, guiding and supporting means for a strip of bacon to be sliced, said means presenting the wider flat surface of said strip initially to the knife and being inclined such that the plane defined by the said surface of the strip of bacon thereon forms an obtuse angle with the plane of the rotary slicer, bacon advancing means on said guiding and supporting means, and means for simultaneously rotating said slicer and actuating said advancing means.

Signed at New York city, in the county of New York and State of New York this 14th day of September, 1927.

MAX TRUNZ.