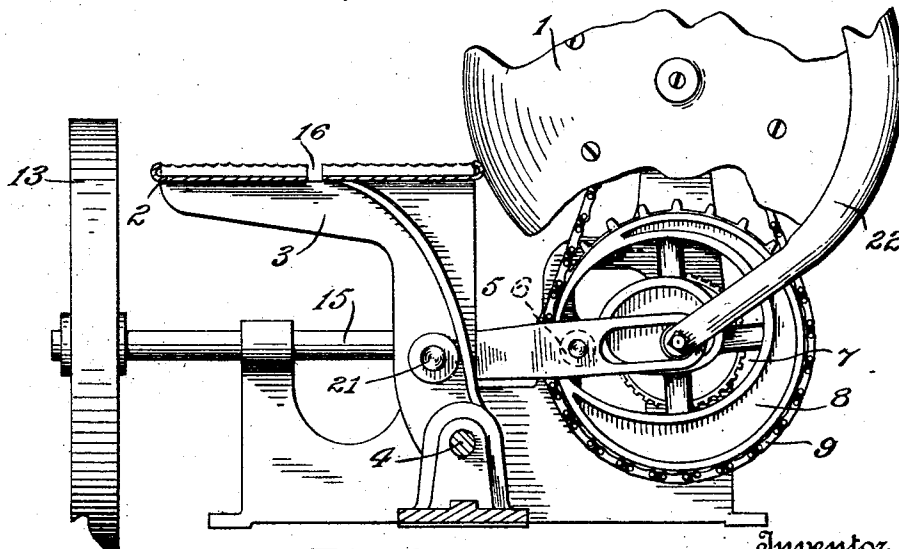
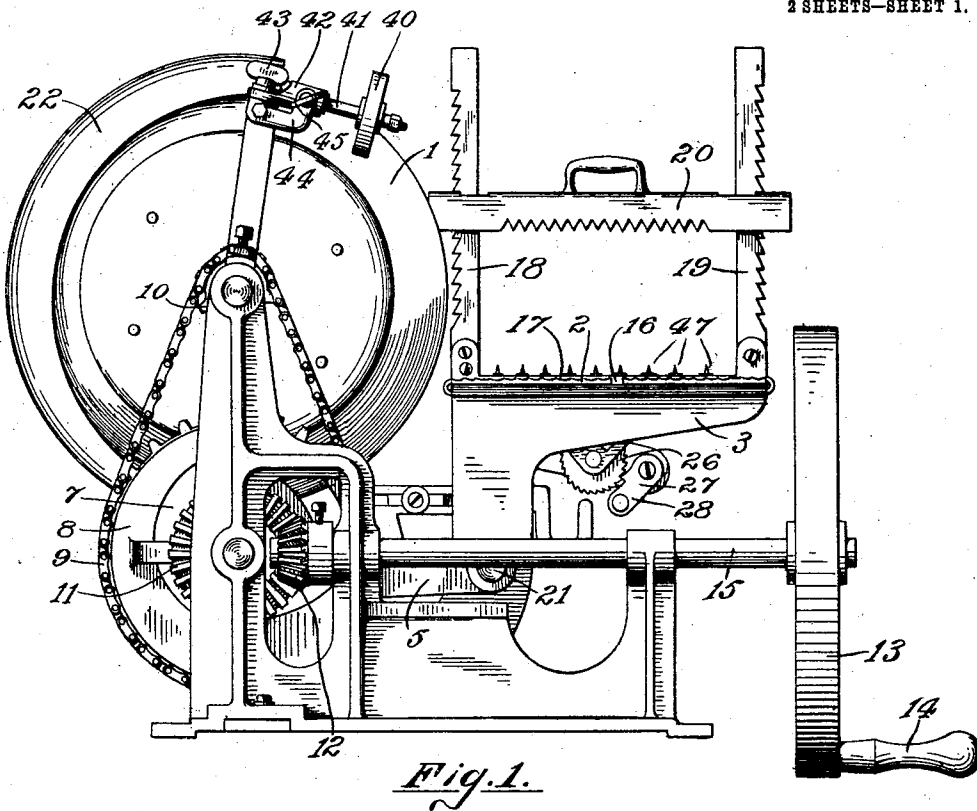


A. L. DAVIS.
SLICING MACHINE.
APPLICATION FILED NOV. 3, 1908.

968,134.

Patented Aug. 23, 1910.

2 SHEETS—SHEET 1.



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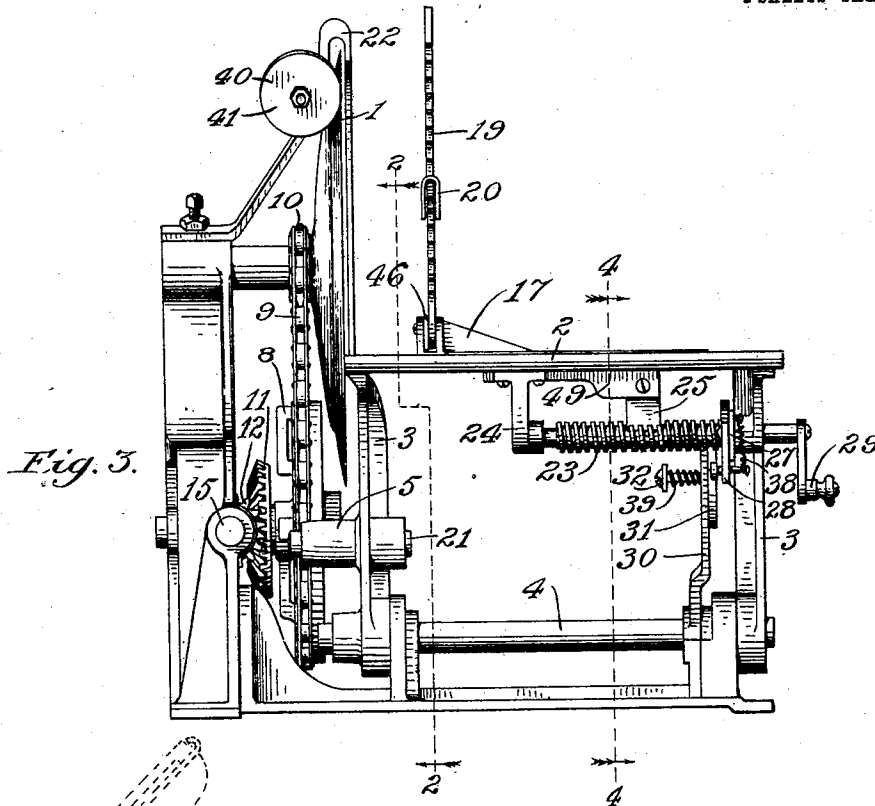


Fig. 3.

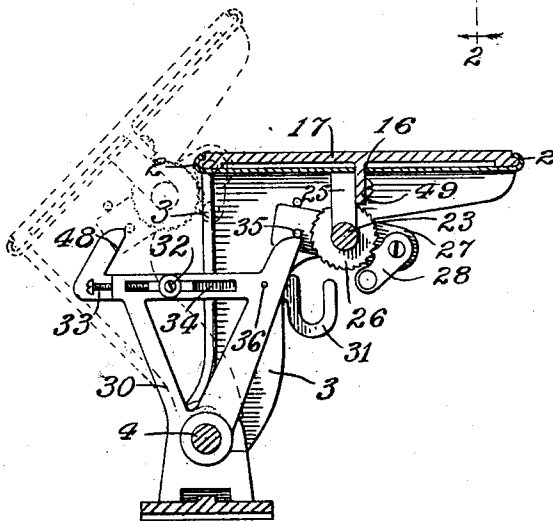


Fig. 4.

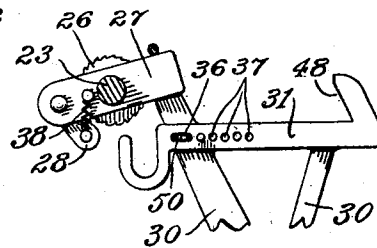


Fig. 5.

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UNITED STATES PATENT OFFICE.

ALBERT L. DAVIS, OF GRAND RAPIDS, MICHIGAN.

SLICING-MACHINE.

968,134.

Specification of Letters Patent.

Patented Aug. 23, 1910.

Application filed November 3, 1908. Serial No. 460,935.

To all whom it may concern:

Be it known that I, ALBERT L. DAVIS, a citizen of the United States of America, residing at Grand Rapids, in the county of Kent and State of Michigan, have invented certain new and useful Improvements in Slicing-Machines; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in slicing machines and more particularly to such machines for slicing meat and other like materials, and its object is to provide a machine simple in construction, cheap to manufacture and easy to operate.

The main feature of the invention is the cam, which eliminates gear wheels, gives a slow forward and a rapid return movement of the table and has only to move the table. It is evident that this cam could be made any desired shape, and by this means the knife does not have to be revolved as many times during one complete operation of the machine as though the table made the forward movement at the same speed as on the return.

A further object is to provide the device with various new and useful features hereinafter more fully described and particularly pointed out in the claims, reference being had to the accompanying drawings in which:

Figure 1 is an end elevation of a device embodying my invention; Fig. 2 is a sectional detail on the line 2—2 of Fig. 3; Fig. 3 is a side elevation of the machine at right angles to Fig. 1; Fig. 4 is a sectional view on the line 4—4 of Fig. 3 showing the carriage operating mechanism; and, Fig. 5 is a detail view of the carriage operating mechanism seen from the opposite side of Fig. 4, and with parts removed.

Like numbers refer to like parts in all of the figures.

1 represents a circular rotary cutter preferably a disk slightly concaved at the side toward the carriage and having a sharp edge to sever the material.

2 represents an oscillating table, one end of which moves close to the concaved face of the cutter. This edge of the table is inclined upward and provided with teeth or serrations to prevent the material from sliding too freely away from the cutter. This

table is mounted on the horizontal arms of brackets 3, the vertical members of which brackets are pivotally supported upon the rock shaft 4.

The table is oscillated about the axis of the shaft by means of a connecting rod 5 engaging a pin 21 in the bracket nearest the cutter, and having a slot or elongated opening to receive the hub of a sprocket wheel 8, on which hub the connecting rod is longitudinally slidable, said rod is also provided with a laterally projecting roller 6 which engages the cam groove 7 in the web of the sprocket wheel 8. This cam groove is so formed as to impart a quick return movement to the table and a slow forward or cutting movement to the same. Engaging the sprocket wheel 8 is a chain 9 which extends over a small sprocket wheel 10 connected to the cutter 1 to rotate the same. This sprocket wheel 8 and cam groove 7 are driven by a shaft 15 having mounted thereon a fly-wheel 13 with a crank 14 for manually operating the machine and said shaft is connected to the wheel 8 by bevel gears 11 and 12.

Mounted on the table is a carriage 17 on which is supported the material to be sliced by the cutter. Mounted at the respective sides of this carriage are posts 18 and 19 having a series of ratchet teeth in their opposite sides and supporting a channel bar 20 with its flanges extending downward and provided with teeth to engage and hold the material to be sliced. The forward end of the carriage directly under the bar 20 is provided with sharp teeth or projections 47 to aid the bar in clamping this material. The bar 20 is vertically adjustable on the posts 18 and 19. The post 18 is rigidly fixed to the carriage and the post 19 is pivoted at its lower end, and is held outward by a spring 46, so that its ratchet teeth will engage the edge of a slot in the clamping bar 20.

To feed the carriage toward the cutter step by step at each oscillation of the table, the carriage is provided with a projection 49 which extends downward through a slot 16 in the table. Fastened to this projection of the carriage is a nut 25. This nut engages a screw 23. The screw 23 is supported at one end by a bracket 24, which is fixed on the underside of the table, and at the other end by one of the brackets 3. Mounted on this screw and rigidly attached

thereto is a ratchet wheel 26. Journaled on the screw is a rocker arm 27. This rocker arm carries a pawl 28 at one end which engages the teeth of the ratchet wheel 26, and on the opposite end of the said arm is a pin 35. 38 is a spring used to hold the pawl 28 in contact with the teeth on the ratchet wheel 26. A bracket 30 is attached to the main frame of the machine. The upper end of this bracket forms a cam surface with which the pin 35 slidably engages to move the arm 27 to turn the screw. A bar 31 is adjustably attached to this bracket 30 and is provided with a cam surface 48, which also engages the pin 35 to move the arm 27 in the opposite direction. The bar 31 is provided with a projection which fits into a slot 34 in the bracket 30 and is slidable therein. The bar 31 is held against the bracket 30 by means of a screw 32 in the spring 39 (see Fig. 3). The screw 32 is fixed to the projection of the bar 31 and one end of the spring bears against the head of the screw, and the other end of the same against the bracket 30. Holes 37 are provided in the bar 31, one of which engages a pin 36 fastened in the bracket 30. In order to adjust this bar on the bracket, the bar is pressed away from the bracket and thus disengages the pin from one of the holes. It is then moved to the desired position and allowed to spring back by action of the spring 39 to its normal position, at the same time the pin 36 engages another one of the holes 37, thus holding the bar in position. For finer adjustments a slot 50 is provided in the bar 31 into which the pin 36 fits and the set screw 33 engaging the projection on the bar 31 is used to adjust the bar on the bracket.

In operation the table carrying the carriage oscillates from the position shown in Fig. 4 toward the cutter. In the extremity of this oscillation the pin 35 engages the cam surface 48 and thus rocking the arm 27 on the screw 23 and moving the pawl 28 on the ratchet 26. The distance this arm rocks is ascertained by the position of the bar 31 upon the bracket 30. At the end of the return stroke of the table the pin 35 engages the cam surface on the upper end of the bracket 30, thus moving the arm 27 back to its normal position, the pawl 28 engaging one of the teeth in the ratchet 26 turning the same and also the screw 23. This moves the carriage ahead by means of the nut 25. To move the carriage back to insert fresh material, the pawl 28 is manually disengaged from the ratchet 26 and the screw 23 is turned backward by means of a crank 29 attached thereto thus moving the carriage to its former position.

In order to keep the cutter sharp, a grinding wheel 40 is provided attached to the casing 22 by means of a bracket 44.

42 is a bearing for the shaft 41 of the grinding wheel and is pivoted to the bracket 44 and fastened thereto by a thumb screw 43.

45 is a thumb screw in the bracket 44 and engaging the bearing 42, and it is used to hold the grinding wheel against the cutter.

What I claim is:—

1. A slicing machine, comprising a rotary cutter mounted on a stationary bearing, an oscillating table mounted on pivoted arms, a rotary driving member, a belt connecting said driving member and cutter, a cam on said driving member, and a rod connecting the cam and table.

2. A slicing machine, including in combination a rotary cutter mounted on a stationary bearing, a vibratory table arranged to cooperate with said cutter, and a single driving member having a belt connection with the cutter and a link connection with the table.

3. A slicing machine, comprising a rotary cutter, a table moving near the face of the cutter at one end, a carriage on the table, a clamp on the carriage, means for moving the carriage step by step toward the cutter, pivoted brackets supporting the table, a quick-return cam adapted to cause a slow forward movement and quick return movement of the table, a rod connected to the brackets and having a slot to slidably receive the hub of the cam, a roller on the rod engaging and traversing the cam, and means for rotating the cam.

4. A slicing machine, comprising a rotary cutter, a large wheel having a quick-return cam in its web adapted to cause a slow forward movement and quick return movement of the table, a small wheel attached to the cutter, means for imparting motion from the large wheel to the small wheel, a pair of brackets mounted on a rock shaft, a table supported on the brackets and oscillating near the cutter at one end, a carriage on the table, a screw and nut to move the carriage, a ratchet wheel connected to the screw, a pawl to engage and move the ratchet wheel, a lever pivoted on the screw and carrying the pawl, and means for oscillating the lever at each oscillation of the table.

5. A slicing machine, comprising an oscillating table, a cutter near one end of the table, a carriage slidable on the table, a nut on the carriage, a screw mounted on the table and engaging the nut, a ratchet wheel fixed on the screw, a pivoted lever carrying a pawl to engage the ratchet, a fixed member and an adjustable member to alternately and oppositely move the lever at the termination of the respective movements of the table.

6. A slicing machine, comprising a carriage to hold and adjust the material to be sliced, a screw to adjust the carriage, an oscillating lever to operate the screw, a fixed bracket having a cam surface to operate the

lever in one direction and also having a slot, an adjustable member longitudinally and laterally movable in the slot, a spring to hold the said member against said lateral movement, said member also carrying a cam surface to operate the lever and having a series of openings, and a pin in the bracket to successively engage said openings.

7. A slicing machine, comprising a rotary cutter having a small sprocket wheel attached thereto, a larger sprocket wheel connected thereto by a chain and having a cam groove in its web, an oscillating table having one end moving close to the cutter, a slotted connecting rod pivotally connected to the table at one end and slidably engaging the hub of the larger wheel at the other end, and a roller on the connecting rod engaging and traversing the groove in the web.

8. A slicing machine, comprising a rotary cutter, a wheel connected to the cutter to rotate the same, said wheel having a quick-return cam groove in its web, a table supported on pivot-brackets, a connecting rod having a slot at one end slidably engaging the hub of the wheel and pivoted to one of the brackets at the other end, a roller mounted on the connecting rod and traversing the cam groove, a carriage on the table, a clamp

on the carriage, a screw to operate the carriage, a ratchet wheel fixed on the screw, a lever journaled on the screw, a pawl carried by the lever to engage the ratchet wheel, a fixed member to move the lever in one direction, and an adjustable member to move the lever in the opposite direction.

9. A slicing machine, comprising a rotary cutter, an oscillating table mounted on pivoted brackets, a carriage slidable on the table, a clamp on the carriage, a screw to move the carriage, a pawl and ratchet to operate the screw, a pivoted lever to operate the pawl, a fixed member and an adjustable member to operate the lever, sprocket wheels and chain to operate the cutter, a cam groove in the driving sprocket wheel, a rod having a slot at one end slidably engaging the hub of said driving sprocket wheel and pivoted to one of the brackets at the other end, a roller mounted on the rod and traversing the cam groove, and means for manually rotating the driving sprocket wheel.

In testimony whereof I affix my signature in presence of two witnesses.

ALBERT L. DAVIS.

Witnesses:

GEORGIANA CHACE,
LUTHER V. MOULTON.