Aug. 10, 1926. 1,595,211

A. R. MULDER

BREAD SLICING MACHINE

Filed August 7, 1922 2 Sheets-Sheet 1

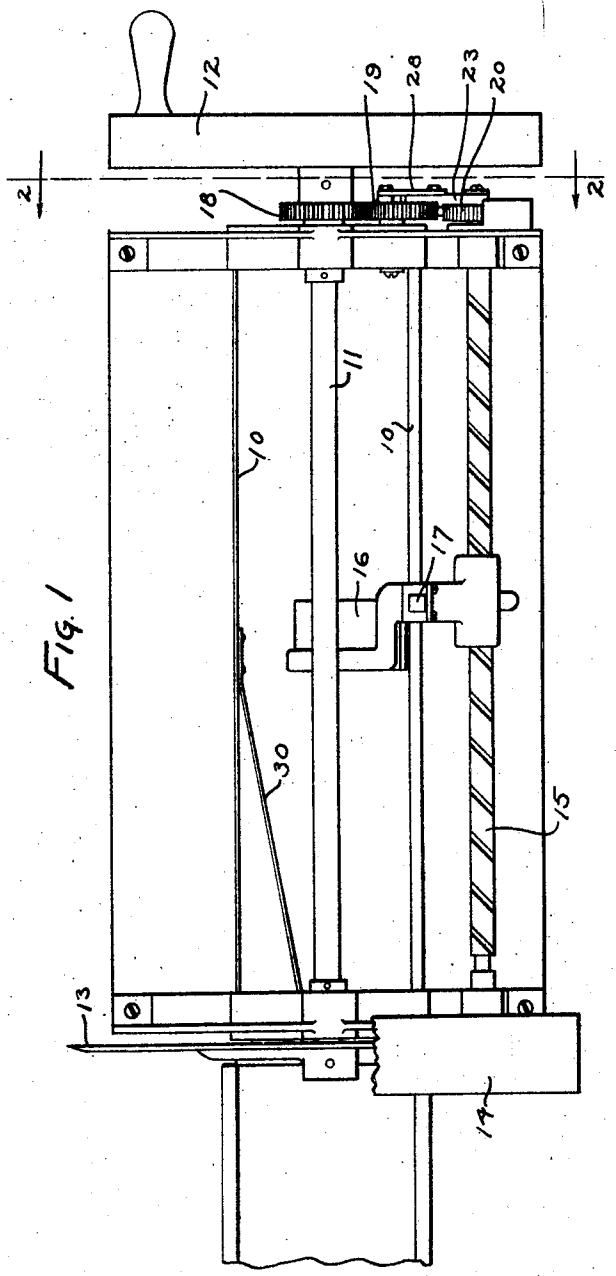


FIG. 1

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Fig. 2

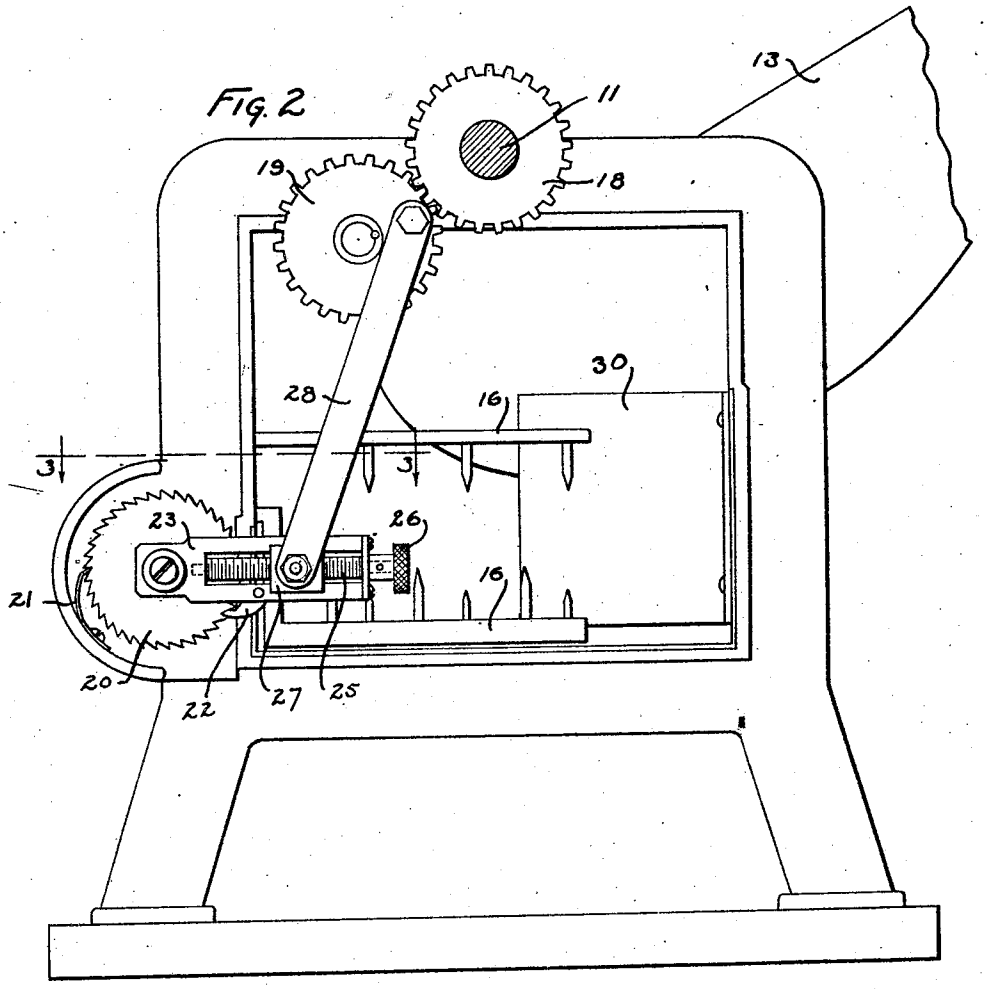
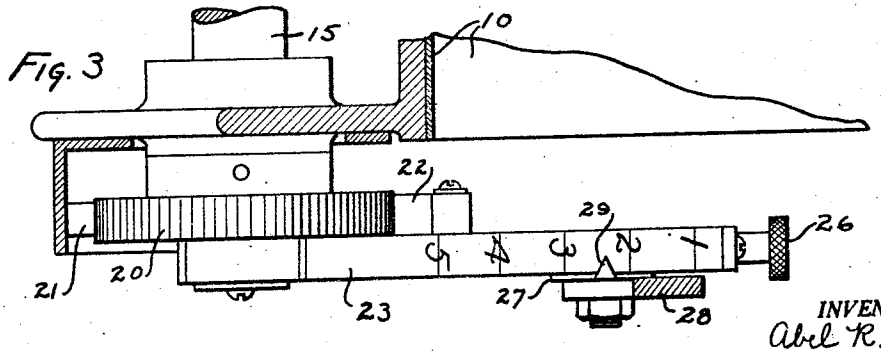


Fig. 3



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Patented Aug. 10, 1926. 1,595,211

UNITED STATES PATENT OFFICE.

ABEL R. MULDER, OF DAYTON, OHIO, ASSIGNOR, BY MESNE ASSIGNMENTS, TO DAYTON SCALE COMPANY, OF DAYTON, OHIO, A CORPORATION OF NEW JERSEY.

BREAD-SLICING MACHINE.

Application filed August 7, 1922. Serial No. 580,070.

This invention relates to improvements in bread cutters or slicing machines of the general type shown and described in my prior Patent No. 1,289,516 dated December 31, 1918.

The present invention relates generally to improvements in the means for advancing the bread to the cutting knife and for controlling the thickness of slice to be cut. Another object of this invention relates to an improved means of guiding the bread as the same is advanced to the cutting knife.

In the drawings,

Fig. 1 is a top plan view of the machine.

Fig. 2 is a detail end sectional view taken on line 2—2 of Fig. 1.

Fig. 3 is a detail sectional view taken on line 3—3 of Fig. 2.

The machine comprises the usual frame parts and the rectangular bread chute 10 and also is provided with the main shaft 11 carrying upon one end the handwheel or flywheel 12 and upon the other the knife 13. The knife is guarded in the usual housing 14 (not shown on Fig. 2). Also rotatably mounted in the frame is the threaded shaft or feed screw 15 which is adapted to periodically advance the bread carriage comprised of jaw members 16 and a handle or grip portion 17 having the usual provisions for engaging and disengaging the feed screw. The above parts being well known in the art require no detailed description.

For periodically rotating the shaft 15 for feeding the bread forward after each slice is cut the following instrumentalities are provided. Fixed to the main shaft 11 is a pinion 18 which meshes with a pinion or gear 19 rotatably mounted upon the frame of the machine. Adjacent thereto and fixed to the worm shaft is a ratchet 20 having a suitable coacting restraining pawl 21. Coacting with the ratchet is a feed pawl 22 pivotally mounted upon a bifurcated pawl arm 23. This arm at one end is pivotally mounted upon an extended unthreaded end of the screw shaft and carries a threaded shaft or stud 25 having fixed upon one end a knurled knob 26. Slidable relatively to the pawl arm is a block or slide 27 provided with suitable threads engaging the threaded shaft so as to be displaced in or out relatively to the shaft upon the turning of knob 26. Pivotally connected to the block is a pitman 28 having its upper end pivotally connected to the idler gear 19. The slide block is provided with index 29 which extends over the graduated number scale on the top of the pawl arm, as shown in Fig. 3.

When the machine is in operation the drive shaft rotates continuously and imparts a continuous rotary movement to the gears 18 and 19. Gear 19 in turn imparts a crank motion to the pitman 28 which at its lower end imparts a rocking motion to the pawl arm 23 and to the feed pawl 22 carried thereby. This action may conveniently be termed a crank and rocker motion. Upon the downward movement of the pitman the feed shaft is advanced a predetermined amount and during the upward pitman movement the screw shaft remains stationary. To vary the amount of the rotation imparted to the feed screw and thus vary the thickness of slice cut by the machine the knob 26 is turned so as to change the rocker arm radius of the crank and rocker motion by displacing the lower center of the pitman in or out relatively to the center of oscillation of the pawl arm. The thinnest slices will be cut with the index 29 in extreme outer position and thickest slices when the index is in extreme inner position. Any intermediate thickness may be secured by properly setting the block 27 in intermediate positions. Settings may be changed while the machine is in operation and when once set will maintain their adjustment until again changed by the operator.

To guide the bread in the chute 10 I provide a flat blade spring 30 fixed to the side wall of the chute and projecting therein at an angle thereto as shown in Fig. 1. This spring is adapted to bear against the side of the loaf of bread and to keep the same against the opposite wall thereof. The spring blade does not extend to the rear end of the chute since such an arrangement has been found impractical since it now only increases the difficulty of inserting loaves in place in the chute and also cuts down the effectiveness of the spring action.

I claim—

1. A machine for cutting bread into slices, in combination with a drive shaft and a feed screw, means for intermittently rotating said feed screw comprising ratchet and pawl devices associated with said screw and including a pawl arm rocked by said drive shaft, means comprising a screw for ad-

justing the effective length of said arm and thereby varying the amount of rotation of said feed screw, and a device on said arm to indicate the thickness of the slice being cut.

2. Feeding mechanism for a bread cutter comprising in combination, a drive shaft, a feed screw, a ratchet associated with said feed screw and including an arm actuated by said drive shaft through the instrumentality of a gear driven pitman, said pitman being connected to a block screw slidable in said arm to vary the effective length thereof, a graduated scale on said arm, and an index on said block cooperating with said scale.

3. In a bread slicing machine in combination with a drive shaft and a feed screw, means for rotating said feed screw comprising ratchet and pawl devices associated with said screw and including a pawl arm fitted with a micrometer screw for adjusting the effective length of said arm while the machine is in motion.

4. In a machine for cutting bread into slices, in combination with a drive shaft and a feed screw, mechanism for rotating said feed screw, said mechanism comprising a ratchet, an operating arm of adjustable length therefor, a scale on said arm to indicate the thickness of slice being cut, and micrometer means mounted on said arm for adjusting the effective length thereof while the machine is in motion.

In testimony whereof I hereto affix my signature.

ABEL R. MULDER.