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C. T. WALTER

1,995,048

SLICING MACHINE

Filed Dec. 4, 1931

2 Sheets-Sheet 1

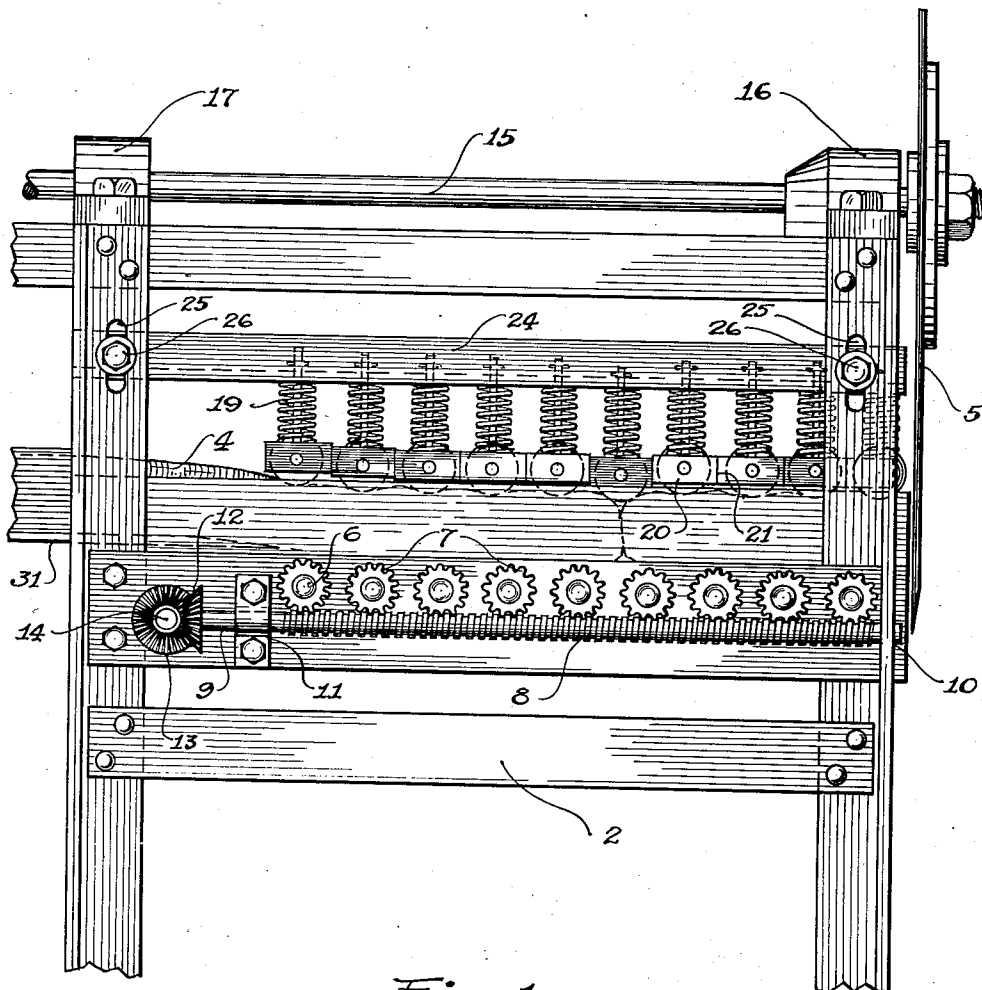


Fig. 1

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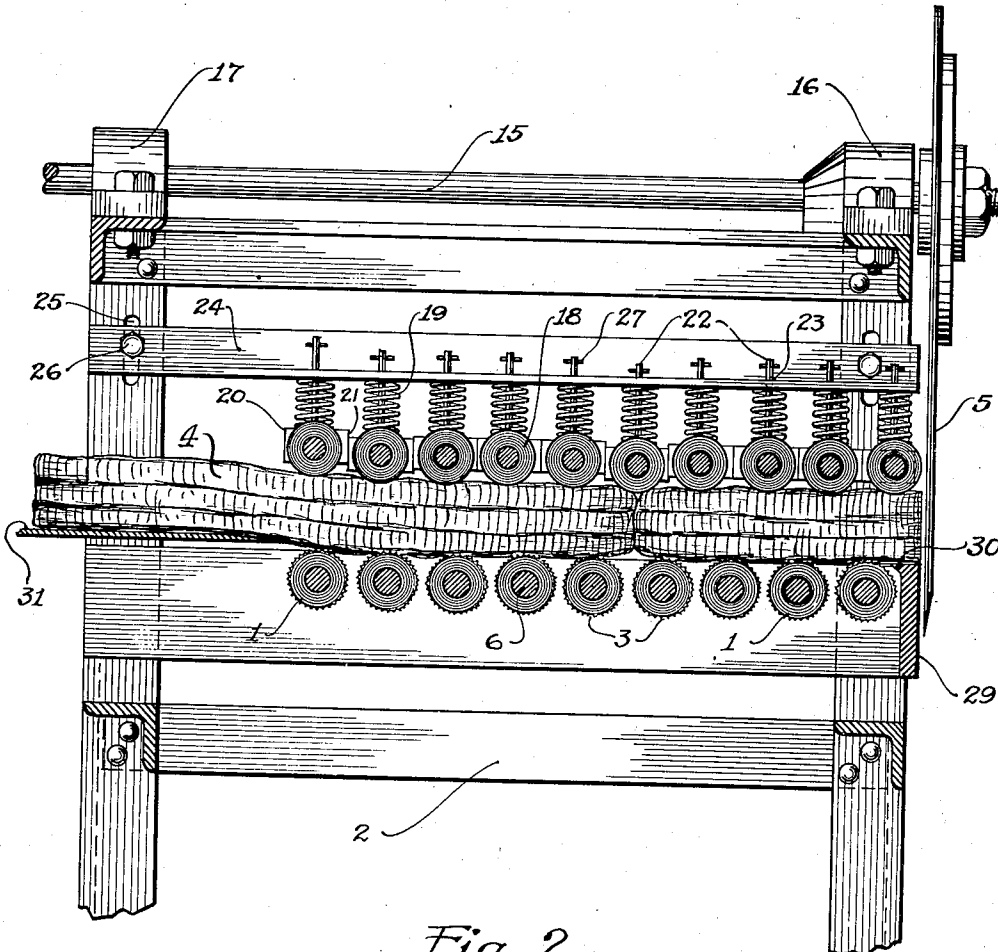


Fig. 2

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SLICING MACHINE

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7 Claims. (Cl. 146—95)

The invention relates to a feeding device for slicing machines.

The object of the present invention is to improve the construction of feeding devices for slicing machines and to provide a simple, practical and efficient feeding device of comparatively inexpensive construction, designed for feeding slabs of bacon and other products to a rotary slicing element and equipped with means for closing the gap between the slicing element and the adjacent end of the conveyor and for firmly supporting the product adjacent the slicing element.

A further object of the invention is to provide for slicing machines a feeding device capable of uniformly feeding the product to be sliced in a straight line to the slicing element.

With these and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and set forth in the claims hereto appended, it being understood that various changes in the form, proportion, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit of the invention or sacrificing any of the advantages thereof.

In the drawings:

Figure 1 is a side elevation of a slicing machine provided with a feeding device constructed in accordance with this invention.

Fig. 2 is a longitudinal sectional view of the same.

In the accompanying drawings, in which is illustrated the preferred embodiment of the invention, the feeding device for slicing machines comprises in its construction a bed or series of transversely disposed conveyor rollers 1 journaled in suitable bearings in the sides of the frame 2 of a slicing machine, and provided in their peripheries with longitudinal flutes 3 which engage the slabs 4 of bacon or other product and feed the same forwardly to a conventional rotary slicing knife 5. The conveyor rollers, which may be of any desired number, are provided with shafts or journals 6 which are extended at one side of the frame of the machine and have keyed or otherwise secured to them worm wheels 7 which mesh with a worm 8 of a worm shaft 9 arranged exteriorly of the frame of the machine and journaled in suitable bearings thereof, as clearly illustrated in Fig. 1 of the drawings. The worm 8 meshes with each of the worm wheels 7 and simultaneously rotates the conveyor or feed rollers in the same direction at a uniform speed so as to secure a

positive and accurate feeding of the product to the rotary knife or cutting element 5.

The worm shaft 9 is journaled at one end at 10 in the frame of the machine and adjacent its other end in a suitable bearing 11, the latter end of the worm shaft being provided with a bevel pinion 12 which meshes with a bevel gear 13 of a transverse shaft 14 which may be driven by any suitable means, as will be readily understood.

The rotary knife, which is located at the front end of the frame of the machine, is mounted on a longitudinal shaft 15 journaled in suitable bearings 16 and 17 at the top of the frame of the machine and connected with any suitable driving mechanism for rotating the slicing knife 5.

The slabs of bacon are held down upon and in contact with the fluted conveyor rollers by means of a plurality of superimposed pressure or presser rollers 18 resting upon the slabs of bacon and urged downwardly by coiled springs 19. The pressure rollers are journaled at their ends in vertically movable bearing blocks 20 having flat contiguous end faces 21 slidable on each other. The bearing blocks 20 are provided with upwardly extending arms 22 consisting of rods slidable in guide openings 23 of longitudinal guide bars 24. The guide bars 24, which are horizontal, consist of angle bars having vertical and horizontal flanges, the vertical flanges being fitted against the adjacent sides of the frame of the machine and the horizontal flanges projecting inwardly from the flanges and provided with the said guide openings 23. The frame members adjacent the ends of the guide bars 24 are provided with vertical slots 25 for the reception of screws or bolts 26 carried by the guide bars 24 and adapted to secure the guide bars 24 at different elevations. The guide bars 24 are capable of vertical adjustment to simultaneously vary the tension of the springs 19 and the pressure exerted by the same on the bearing blocks without interfering with the independent vertical movement of the pressure rollers 18 in adjusting themselves to any inequalities in the upper surface of the slabs of bacon.

The arms 22 of the bearing blocks are provided at their upper portions above the horizontal flanges of the angle bars 24 with suitable stops 27 adapted to engage the upper faces of the horizontal flanges of the said angle bars to limit the downward movement of the pressure rollers 18. The stops may consist of pins, keys, or other suitable fastening devices.

The gap between the conveyor roller at the front end of the conveyor and the rotary slicing knife, is closed by a transverse frame member 29 pro-

vided at the upper edge with an inwardly or rearwardly projecting lip 30 extending longitudinally of the transverse frame member 29 and projecting over and overhanging a portion of the adjacent fluted roller 1, as clearly illustrated in Fig. 2 of the drawings. The lip is beveled at the under side and tapers rearwardly and presents a flat upper surface. By this construction the gap which normally occurs between the end of the conveyor and the rotary slicing element is closed and the slab of bacon or other product is firmly supported adjacent the rotary slicing knife, so that clean accurate cuts of bacon of a uniform thickness are made.

The slicing machine is provided at the rear portion with a suitable table 31 upon which the slabs of bacon or other product are placed and from which the product is fed forwardly to the slicing knife 5.

What is claimed is:

1. A bacon slicing machine comprising a transversely operating cutting element, means for feeding slabs of bacon longitudinally to the cutting element, a plurality of longitudinally-spaced transversely-extending pressure rollers located above the feeding means and arranged to engage and rest upon each bacon slab as being fed for holding the same against the feeding means, and oblong bearing blocks located at opposite sides of the slicing machine and carrying the pressure rollers and slidable vertically on each other to permit independent vertical movement of the pressure rollers, there being a bearing block for and corresponding to each end of each roller, the oblong bearing blocks extending lengthwise horizontally and having a vertical width less than the cross sectional diameter of the pressure rollers and their ends abutting with one another between the rollers and thereby maintained at their lower edges above the bacon slabs with their upper edges below the upper surfaces of the pressure rollers.

2. A meat slicing machine comprising a cutting element operable in a transversely-extending plane, means for feeding meat slabs in a forward longitudinal direction to the cutting element, a plurality of longitudinally-spaced transversely-extending pressure rollers located above the feeding means and arranged to engage and rest upon the meat slabs being fed and to hold the same against the feeding means, relatively narrow bearing blocks located at opposite sides of the slicing machine and each carrying an end of a pressure roller, said bearing blocks being slidable vertically on each other to permit independent vertical movement of the pressure rollers, said relatively narrow bearing blocks being of greater length than width and having their lengths extending horizontally and the bearing blocks at opposite sides of the machine having their ends abutting with the ends of the respective bearing blocks, said bearing blocks having a width less than the cross sectional diameter of the pressure rollers, rods extending upwardly from the bearing blocks, springs disposed on the rods and pressing on the respective bearing blocks for urging the pressure rollers downwardly, and guiding means for and common to the rods at one side of the machine, and guiding means for and common to the rods at the other side of the machine, each of which guiding means is adapted to simultaneously adjust the tension of the springs corresponding thereto without interfering with the guiding of the rods corresponding thereto or the independent vertical movement of the pressure rollers.

3. A bacon slicing machine comprising a cutting element, means for feeding bacon slabs to the cutting element, a plurality of transversely-disposed pressure rollers located above the feeding means and arranged to engage and rest upon the bacon slabs for holding the same against the feeding means, oblong bearing blocks located at opposite sides of the slicing machine and each carrying an end of a pressure roller corresponding thereto, there being a bearing block for each end of each roller, said bearing blocks having their lengths extending horizontally and the adjacent blocks having their ends abutting and being of a width less than the cross sectional diameter of the pressure rollers and extending horizontally between the upper and lower surfaces of the pressure rollers, being slidable vertically on each other to permit independent vertical movement of the pressure rollers, a rod for and extending upwardly from each bearing block, a spring for and disposed on each rod, which springs collectively urge the pressure rollers downwardly, guide bars extending longitudinally of the slicing machine at opposite sides thereof and having guide openings receiving the said rods, and means for adjusting the guide bars vertically for simultaneously controlling the tension of the springs, said springs being located below the guide bars and between said guide bars and the bearing blocks.

4. A slicing machine wherein there is a transversely operated cutting element, a means by which material to be sliced is longitudinally fed in a forward direction to the cutting element and means for downwardly pressing material being fed towards the first mentioned means and characterized by the fact that said pressing means comprises a plurality of longitudinally-spaced transversely-extending presser rollers that are located above the first mentioned means and that are revolvably mounted in vertically-yieldable bearing blocks located at opposite sides of the machine, which bearing blocks are oblong shaped and disposed with their lengths in horizontal planes and provided in such number and arrangement that there is a bearing block at and for each pressing roller end and so that each bearing block is in vertical sliding engagement with the bearing block next to it, whereby each pressing roller is free to vertically yield while being vertically guided by the bearing members which are in sliding engagement with the bearing member next thereto.

5. In a combined feeding means and associated pressing means for pressing towards the feeding means of material while being longitudinally fed, which said associated pressing means comprises a plurality of longitudinally-spaced transversely-extending presser rollers located above the feeding means and arranged to engage and rest upon the material being fed for holding said material against the feeding means, and oblong bearing blocks located at opposite sides of the slicing machine and carrying the presser rollers and horizontally disposed between the upper and lower surfaces of the presser rollers and slidable vertically on each other to permit vertical movement of the presser rollers, there being a bearing block for and corresponding to each end of each roller.

6. A meat slicing machine comprising a frame, a cutting element, a feeding means in the frame including transversely disposed feed rollers, means for rotating said rollers, and means for pressing the meat on the feed rollers for effective feeding of the meat by the rollers to said cutting

element, including spaced transversely disposed
presser rollers arranged for direct engagement
with the upper face of the meat and spaced sets
of downwardly spring pressed supporting bearing
5 blocks at opposite sides of the frame for the sup-
port of the opposite ends of the presser rollers,
the bearing blocks of each set having vertical
sliding abutting contact with one another to main-
tain the presser rollers uniformly and positively
10 spaced from one another and being arranged in-
termediate the upper and lower surfaces of the
presser rollers and thereby disposed above the
plane of the contacting surface of the presser
rollers with the meat.

7. A bacon slicing machine comprising a frame,
a cutting means, means for the feed of bacon slabs
to the cutting means, and yieldable means for
pressing the slabs on said means for the feed of
the slabs including oppositely disposed sets of
5 relatively narrow bearing blocks disposed length-
wise horizontally and in which the ends of the
respective rollers are journaled, the ends of adja-
cent bearing blocks of each set thereof abutting
in relative sliding engagement between the re- 10
spective rollers and having their lower edges
spaced above the plane of the lower surfaces of
said rollers.

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