June 16, 1942. W. A. VAN BERKEL 2,286,772

SLICING MACHINE

Filed May 24, 1940

Fig. 1

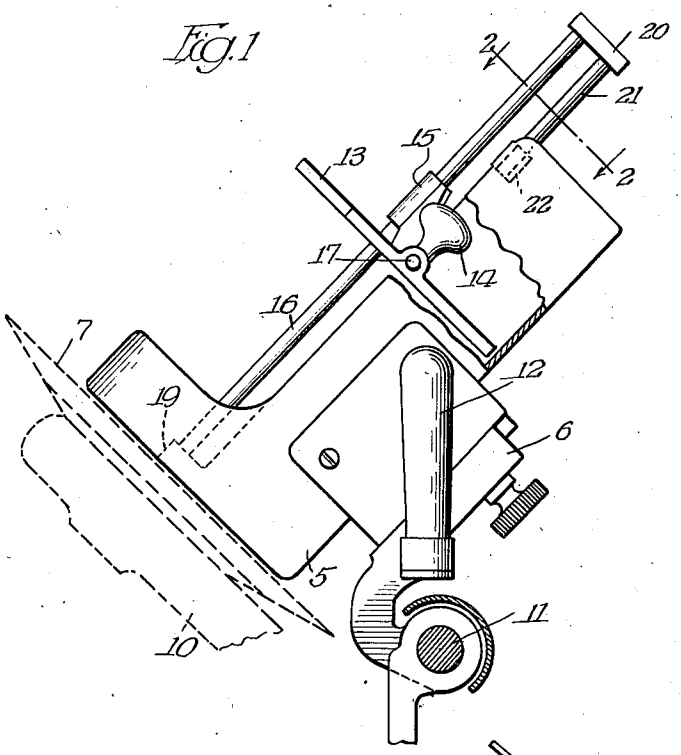


Fig. 2

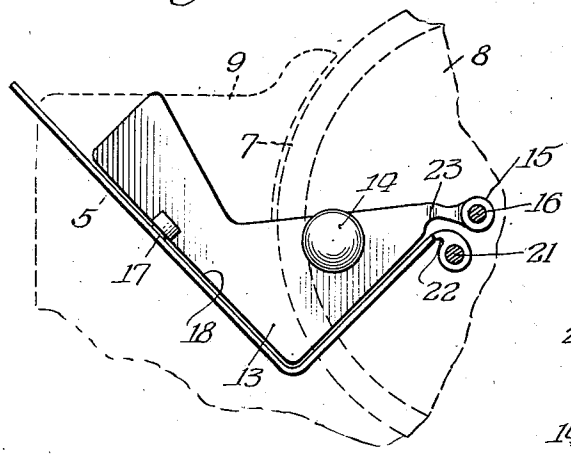


Fig. 3

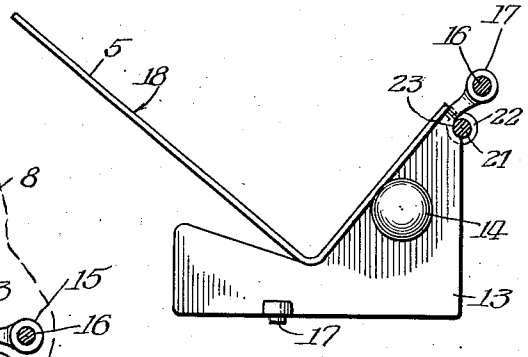
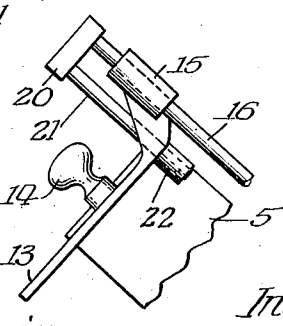


Fig. 4



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Patented June 16, 1942 2,286,772

UNITED STATES PATENT OFFICE

2,286,772

SLICING MACHINE

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Application May 24, 1940, Serial No. 337,107
In Great Britain June 20, 1939

2 Claims. (Cl. 146—102)

This invention relates to slicing machines in general, and particularly to slicing machines of the "push-pull" type wherein the carriage is reciprocated manually past a rotary circular slicing knife.

More specifically, the invention relates to an inclined food or substance trough whereby substance is fed by the aid of gravity to the inclined knife of the push-pull machine.

The invention is adapted to be applied to a slicing machine having an inclined knife of the type disclosed in applicant's Patent No. 2,186,565, granted January 9, 1940.

An important object of the present invention resides in the provision of an inclined substance trough or carrier which is arranged substantially at right angles to an inclined driven knife, there being a new and improved substance pusher arranged in the trough capable of being guided for movement longitudinally of the carrier or trough, the same being retractable in its operative setting beyond the end of the carrier whereby the pusher remains operative over the entire length of the carrier or trough.

Another important object of the invention is the provision of a relatively V-shaped or L-shaped substance trough or chute inclining downwardly at right angles to an inclined slicing knife, a pusher plate being slidably mounted with respect to the trough or chute whereby the substance is moved by the aid of gravity toward the slicing knife, the pusher being adapted to remain in its operative position throughout the entire length of the trough but capable of being retracted to an inoperative position beyond the extreme end of the trough.

A still further object of the invention is the provision of a trough of the type disclosed wherein there is provided a substance pusher having a bottom contour of substantially the same shape as the trough, there being means to permit the pusher plate to remain in operative position within the confines of the trough but permitting the pusher to be retracted beyond the extreme limits of the trough.

Still another object of the invention resides in the particular construction and arrangement of a pusher plate adapted for slidable position within the trough for operative movement, the plate being provided with an operative connection with respect to the trough whereby the plate may be swung about a pivot to an inoperative position at the extreme end of the trough.

Numerous other objects and advantages will be apparent throughout the progress of the following specification.

The accompanying drawing illustrates a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a detail sectional elevation of parts of a slicing machine and embodying the invention;

Fig. 2 is a detail sectional view on the line 2—2 of Fig. 1;

Fig. 3 is a view similar to Fig. 2 but showing the pusher locked in inoperative position; and

Fig. 4 is a detail fragmentary elevational view.

The carrier, which is in the form of a V-shaped or L-shaped trough or chute 5, is arranged in an inclined position. The carrier or trough 5 is operatively supported by a support 6 upon which it is adjustably secured. The trough 5 is mounted on the support 6 so as to incline an appreciable distance horizontally and at right angles to the rotary slicing knife 7. The slicing knife 7 is adapted to be driven by an electric motor, not shown, and carries on its outer surface a knife guard 8 which leaves the cutting edge of the knife exposed. The thickness of the slices to be cut is determined by a slice thickness gauge plate 9 which is adapted to be journalled in a stationary part of the frame and is adapted for movement parallel to the slicing plane of the knife. The knife 7 is operatively journalled in a knife supporting bracket 10 which is rigidly secured to the slicing machine frame.

The parts 7—10 are conventional parts and arrangements of a push-pull machine and are well known to those skilled in the art, and therefore shown in dotted lines.

The support 6 which carries the trough 5 is slidably mounted on a longitudinal bar 11 mounted in the machine frame and is adapted for forward and rearward reciprocation thereon. A second guide bar upon which the support 6 is also slidably mounted is not shown but is disposed below the said bar 11 whereby the support 6 is maintained in rigid operative position. The support 6 may be provided with a handle 12 by which the carrier is adapted to be reciprocated manually to move the substance in the trough across the gauge plate 9, the edge of the slicing knife 7, and the knife guard plate 8.

A pusher plate for normally assisting in moving the substance to be sliced down the trough 5 into engagement with the gauge plate 9 and knife 7 is provided and comprises a plate member 13 which is formed to fit snugly into the trough 5 with its lower edges just out of contact with the inner surfaces of the trough 5. A handle 14

may be fastened to the pusher so that it may be manipulated or operated longitudinally of the trough. A guide sleeve 15 is secured to the pusher 13 and is slidably and turnably mounted on a guide rod 16 which extends longitudinally along one side of the trough. A bearing pad 17 may be provided on one bottom edge of the pusher to provide a bearing for the edge of the pusher plate adjacent the inner surface 18 of the trough. The guide rod 16 is secured at the end adjacent the knife to a bracket 19 which is provided on the trough 5. This rod 16 is secured at its opposite end by a junction piece or cross plate 20 to a second parallel rod 21. The rod 21 is secured to a bracket 22 on one side of the trough 5. The rods 16 and 21 are parallel to each other and extend outwardly a predetermined distance from the extreme outer end of the substance supporting trough 5. The pusher is adapted to remain in its operative position in the chute 5 throughout the entire length of the trough. However, the pusher is adapted to be retracted from its operative position and swung to an inoperative position beneath the trough, as clearly shown in Fig. 3.

When the pusher has been moved beyond the extreme end of the trough, it is adapted to be swung freely downwardly into inoperative position, as shown in Fig. 3, whereby it automatically moves into locking engagement with the trough 5 and the rod 21, as shown in Figs. 3 and 4. The pusher 13 may be recessed at 23 so that it seats itself snugly against the rod 21 while located in the position underneath the trough. In this latter position an inclined edge of the pusher is adapted to be in engagement with an inclined bottom edge of the trough. The pusher 13 may be constructed so that when it occupies its inoperative position it will be flush with the supporting surface of the trough.

The pusher 13 is guided for retraction longitudinally of the trough to a position beyond the extreme edge of the substance carrier and is adapted to be displaced downwardly into an inoperative position after reaching the extreme outer end of the trough. In this latter inoperative position the pusher will be below, or substantially flush with, the substance supporting surface of the carriage. Means may be provided to maintain the pusher 13 in its operative setting until close to the limit of its extreme longitudinal movement (to the right, Fig. 1) where it may be swung downwardly into the inoperative position. Such means may comprise the bearing pad 17 which may be made to engage not only the inner surface 18 of the trough 5, but also the top edge thereof. When adapted for engagement with the top edge the bearing pad 17 may be notched.

The invention provides a slicing machine having an inclined trough arranged substantially perpendicular to the inclined knife, with a pusher plate arranged in the trough operable throughout the entire length of the trough but adapted to be shifted to an inoperative position beneath the trough beyond the extreme outer end thereof.

Changes may be made in the form, construction and arrangement of the parts without departing from the spirit of the invention or sacrificing any of its advantages, and the right is hereby reserved to make all such changes as fairly fall within the scope of the following claims.

The invention is hereby claimed as follows:

1. A slicing machine comprising a carriage slidable past a cutting knife, a substance support mounted on said carriage, said substance support being substantially continuous throughout its supporting surface, a pusher plate slidable in the substance support, a guide rod connected to the substance support adjacent one side thereof and extending parallel with an edge of the support to a predetermined distance beyond an outer end of the support, a second rod fixed to the support adjacent said outer end thereof and extending below said guide rod substantially parallel therewith to a corresponding predetermined distance beyond the outer edge of the support, means on the outwardly extending end of said second rod for supporting the adjacent end of said guide rod, a sleeve on the pusher for slidably and pivotally mounting the pusher on said guide rod, said sleeve and pusher being movable on the guide rod to a position beyond the said outer end of the support and pivotable at said position to a downward inoperative position beneath the supporting surface of the support, and said second rod providing a stop for limiting downward movement of the pusher and maintaining the pusher in said inoperative position.

2. A slicing machine comprising a carriage slidable past a cutting knife, a substance support mounted on said carriage, said substance support being substantially continuous throughout its supporting surface, a pusher plate slidable in the substance support, a guide rod connected to the substance support adjacent one side thereof and extending parallel with an edge of the support to a predetermined distance beyond an outer end of the support, a second rod fixed to the support adjacent said outer end thereof and extending below said guide rod substantially parallel therewith to a corresponding predetermined distance beyond the outer edge of the support, means on the outwardly extending end of said second rod for supporting the adjacent end of said guide rod, a sleeve on the pusher for slidably and pivotally mounting the pusher on said guide rod, said sleeve and pusher being movable on the guide rod to a position beyond the said outer end of the support and pivotable at said position to a downward inoperative position beneath the supporting surface of the support, said second rod providing a stop for limiting downward movement of the pusher and maintaining the pusher in said inoperative position, and said pusher being provided with a recess therein into which the said second rod is received when the pusher is in its downward inoperative position.

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