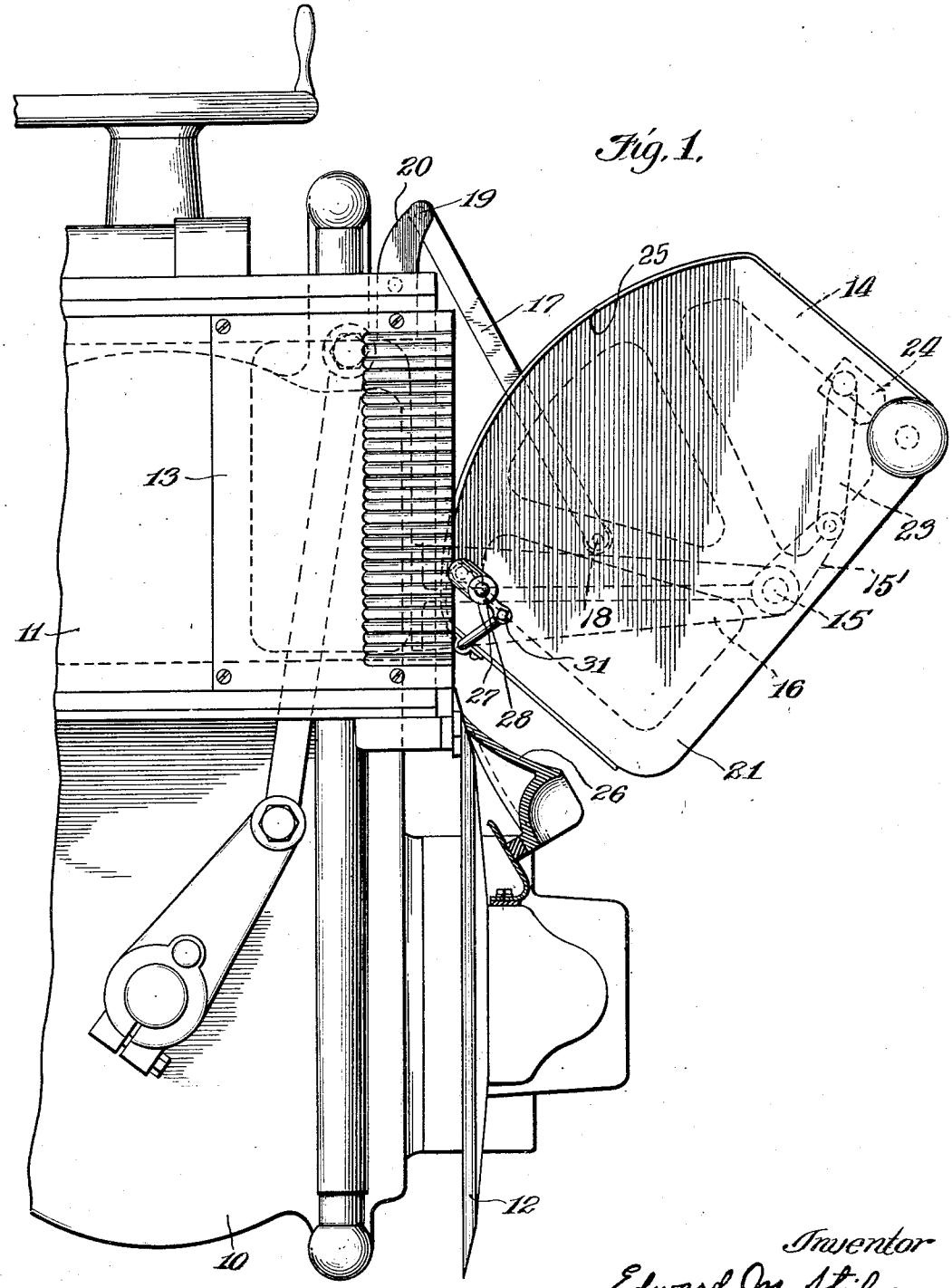
Aug. 11, 1931. E. M. STILES 1,818,243

SLICE COLLECTING DEVICE FOR SLICING MACHINES

Original Filed April 16, 1927 3 Sheets-Sheet 1

Fig. 1.



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Fig. 2.

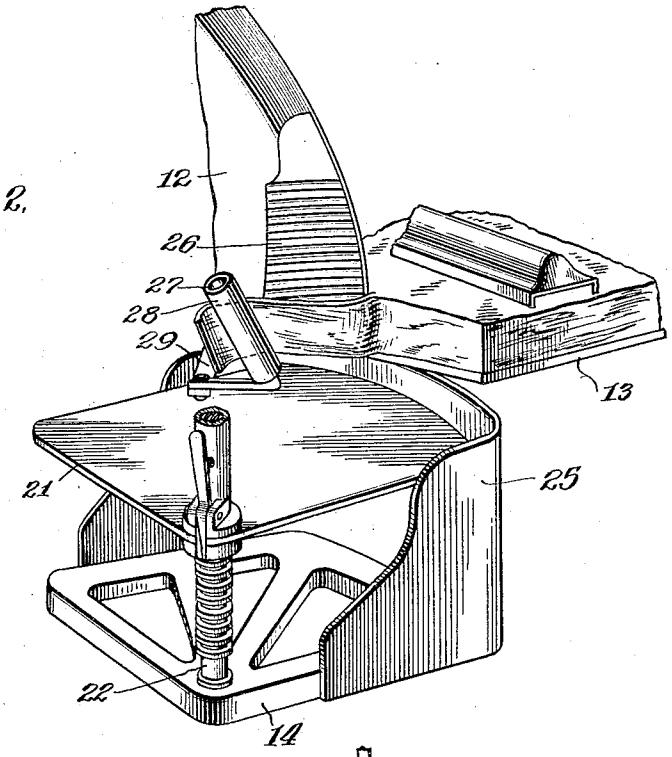
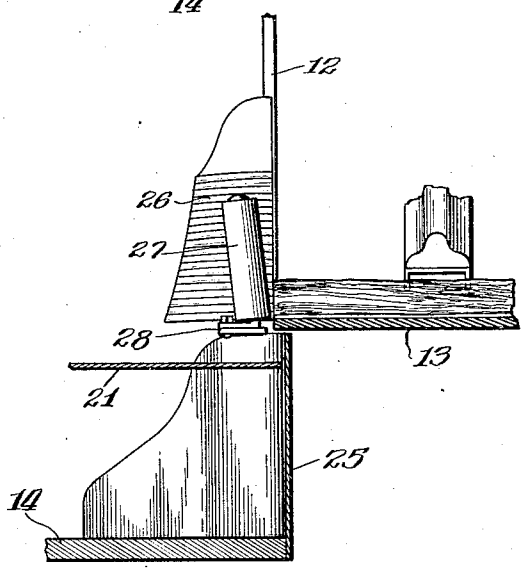


Fig. 3.



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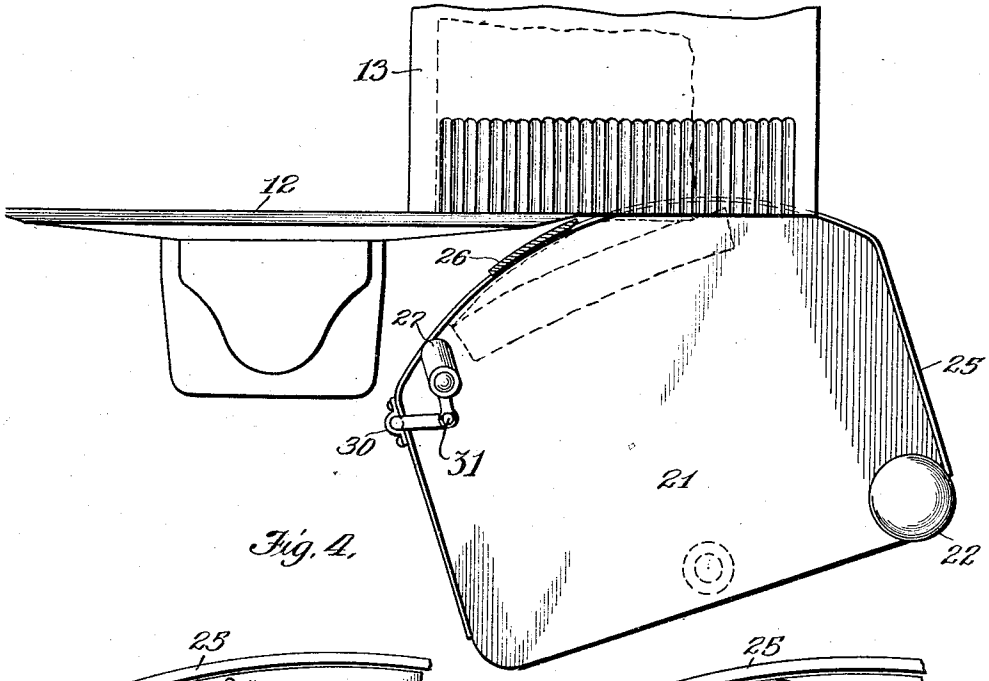


Fig. 4.

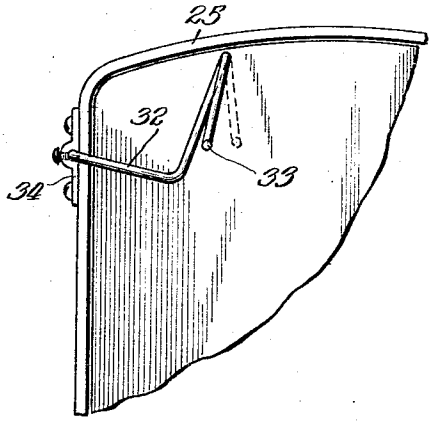


Fig. 3.

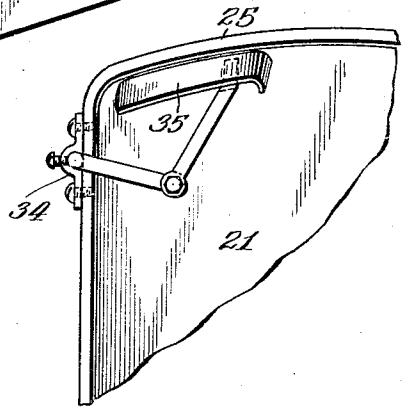


Fig. 6.

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UNITED STATES PATENT OFFICE

EDWARD M. STILES, OF BURLINGTON, IOWA, ASSIGNOR TO U. S. SLICING MACHINE COMPANY, OF LA PORTE, INDIANA, A CORPORATION OF INDIANA

SLICE COLLECTING DEVICE FOR SLICING MACHINES

Application filed April 16, 1927, Serial No. 184,193. Renewed December 5, 1930.

This invention relates to machines for slicing meat and other commodities, and has for one of its objects the provision of a device for collecting the slices as they are formed by depositing them in an orderly pile without the necessity of touching the slices with the hands.

Other objects will appear from the following description.

The invention is exemplified in the combination and arrangement of parts shown in the accompanying drawings and described in the following specification, and it is more particularly pointed out in the appended claims.

In the drawings—

Fig. 1 is a top plan view of a portion of a slicing machine showing one embodiment of the present invention applied thereto;

Fig. 2 is a perspective view of a part of the mechanism shown in Fig. 1, illustrating one position of the mechanism during operation;

Fig. 3 is a vertical sectional view showing a part of the mechanism in elevation;

Fig. 4 is a view similar to Fig. 1, but showing the parts in a different position; and

Figs. 5 and 6 are fragmentary top plan views showing modifications of the invention.

Referring first to Figs. 1 to 4, inclusive, the numeral 10 designates the frame of a slicing machine having a table 11 mounted to reciprocate thereon and a rotary slicing knife 12 disposed adjacent the path of the reciprocation of the table 11. A meat plate or work support 13 is mounted on the reciprocating table 11 and is fed transversely of the direction of reciprocation of the table toward the cutting plane of the slicing knife in a manner well known in the art. A support or spider 14 is pivotally mounted at 15 on a bracket 16 projecting from the frame 10. A link 17 is pivoted at 18 to the spider 14 and the opposite end of the link is pivoted at 19 to a bracket 20 secured to the reciprocating table 11. As the table 11 is moved back and forth the spider 14 will be oscillated upon its pivot 15. The pivot point 18 is spaced inwardly from the periphery of the spider 14 so that the portion of the spider adjacent the table 11 will be given a greater rate of movement than the table. A plate or tray 21 is mounted to move vertically on a feed screw 22, the feed screw being rotated to feed the tray downwardly by a link 23 and pawl 24. The link 23 is pivoted to the pawl mechanism 24 which in turn is pivoted about the axis of the feed screw 22. The opposite end of the link 23 is pivoted to an arm 15′ rigid with the bracket 16. It will be seen that rotation of the spider 14 tends to straighten the toggle formed by the link 23 and pawl mechanism 24 and the consequent rotation of the pawl mechanism 24 turns the feed screw 22 to lower the tray 21. A slight downward movement is imparted to the tray at each oscillation of the spider 14. A retaining plate or wall 25 extends about the periphery of the spider 14 and projects beneath the outer edge of the reciprocating table 11. A deflector 26 is positioned adjacent the cutting edge of the knife 12 to deflect slices as they are formed onto the tray 21. The construction thus far described is similar to that of application, Serial No. 129,327, filed August 16, 1926.

The present invention provides means for engaging the side of the slice opposite the deflector to hold the end of the slice from curling and to assist in spreading the slice smoothly and evenly upon the receiving tray 21. For this purpose a contact member shown in the form of a roller 27 in Figs. 1, 2, 3 and 4 is mounted to oscillate with the tray 21. The roller may be carried on a spindle 28 supported by a bracket 29 secured to the guard plate 25. The bracket 29 may be adjusted in a socket 30 attached to the outer surface of the guard plate 25 and the roller may be further adjusted by means of a joint 31 in the bracket itself. By rotating the bracket in its socket 30 and by adjusting it up or down in the bracket and by adjusting the joint 31, the position of the roller may be changed to accommodate various sized pieces of meat and slices of different character. As will be seen from Fig. 3, the roller is set close to the deflector 26 so that as the stack receiver is rotated the roller will travel adjacent the surface of the deflector. The roller passes the

cutting edge of the slicing knife somewhat later during the formation of a slice than does the front side of the material being sliced. This will position the roller slightly back of the forward edge of the slice, as shown in Fig. 2. The movement of the roller is somewhat more rapid than the forward movement of the slice since the receiver travels faster than the work supporting table of the slicing machine. This will cause the roller to slide forwardly relative to the slice and tend to keep the slice stretched so that it will be prevented from curling or wrinkling. The roller preferably passes from the front edge of the slice just before the rear end of the slice is severed from the main body of the material. The central portion of the top edge of the slice will be deflected outwardly so that the main body of the slice will lie flat upon the tray 21 and the front end of the slice will be spread out by the passage of the roller therefrom just prior to complete severance of the slice from the piece. It has been found in practice that this expedient will cause the slices to be deposited very regularly and without objectionable wrinkling or buckling so that a neat stack will be formed.

In some cases the roller may be omitted and the bracket made in one piece, as shown in Fig. 5. In that figure the bracket is shown as a wire or rod 32 bent to bring a portion 33 into a position similar to that occupied by the roller 27. For adjustment the wire may be bent to various directions, as shown in broken lines in Fig. 5. The wire may also be adjusted in its socket member 34.

In Fig. 6 the roller is replaced by a plate 35 which has a greater extent than either of the previously described forms of contact devices. This enables the plate to engage the front end of the slice and remain in engagement therewith a sufficient length of time to stretch the slice and prevent curling of the front end, even though the position of the piece of meat on the reciprocating table may be varied.

I claim:—

1. In a slicing machine, a slicing knife and a work support movable relative to each other for presenting material to said knife to sever slices therefrom, a slice receiver, and means for engaging the side of each slice opposite the slicing knife as the slice is severed to assist in depositing said slice smoothly on said slice receiver, said means being actuated by said machine to move out of contact with the slice before it is severed.

2. In a slicing machine, a slicing knife and a work support movable relative to each other for severing slices from material on said work support, a slice receiver, a deflector for directing slices as they are severed onto said receiver, and means for engaging the side of each slice opposite that engaged by said deflector to assist in depositing the slices smoothly on said slice receiver, said means being actuated by said machine to move out of contact with the slice before it is severed.

3. In a slicing machine, a slicing knife and a work support movable relative to each other for severing slices from a piece of material on said work support, a receiver for the slices, means for engaging the side of each and every slice opposite the slicing knife while said slices are being severed and before the same are deposited on said receiver, and means for moving said engaging means relative to said slices to smooth said slices.

4. In a slicing machine, a slicing knife and a work support movable relative to each other for severing slices from a piece of material on said work support, a slice receiver movable relative to said knife for receiving the slices as they are severed, means for engaging the side of a slice opposite said slicing knife while said slice is being severed to hold said slice in extended position, and means for moving said engaging means out of contact with said slice to permit said slice to be deposited on said receiver.

5. In a slicing machine, a slicing knife and a work support movable relative to each other for severing slices from a piece of material on said work support, a slice receiver movable past the cutting edge of said knife for receiving slices as they are severed by said knife, means carried by said receiver for engaging the first portion of the slice severed at the side thereof opposite said slicing knife to hold said slice in extended position, and means for moving said engaging means out of contact with said slice to permit said slice to be deposited upon said receiver.

6. In a slicing machine, a slicing knife, a reciprocating table for presenting material to said knife to be sliced, a slice receiver having a slice receiving portion, means for moving said slice receiving portion at a greater speed than with said table past the cutting edge of said slicing knife, a deflector for directing slices as they are severed onto said slice receiver, and means mounted on said receiver adjacent to said slice receiving portion in position to pass adjacent the surface of said deflector for retaining slices in extended position during a slicing operation and to smoothly deposit the slices on said receiver by the movement of said last mentioned means out of contact with the slices at the end of the slicing operation.

7. In a slicing machine, a slicing knife and a support for material to be sliced movable relative to each other for severing slices from a piece of material on said support, a slice receiver movable past the cutting edge of said knife for receiving slices as they are severed, means for feeding said slice receiver transversely to the slices deposited thereon for accommodating additional slices, a contact member for engaging the sides of the slices opposite the slicing knife as they are formed

to hold said slices in extended position, said contact device being moved out of engagement with the slices prior to the deposit of said slices on said receiver, and means for suporting said contact device free from the feeding movement of said receiver.

8. In a slicing machine, a slicing knife, a table movable past the cutting edge of said knife, a slice receiver, means for moving said receiver past the cutting edge of said knife simultaneously with the movement of said table but at a greater rate of speed than said table, means for directing slices as they are formed on to said receiver, a contact device mounted on said receiver for engaging the side of every slice opposite said slicing knife, and means for feeding the slices on said receiver away from said contact device transversely to the broad sides of the slices.

9. In a slicing machine, a slicing knife, a table movable relative to said knife, a slice receiver having a slice support and a retainer disposed about the edge of said slice support, means for feeding said slice support relative to said retainer, and a contact device mounted on said retainer for engaging the sides of the slices opposite the slicing knife as they are severed by said knife.

10. In a slicing machine, a slicing knife, a reciprocating table movable relative to said slicing knife, a slice receiver having a slice support thereon movable past the cutting edge of said knife, a contact device mounted on said receiver for engaging the sides of the slices opposite said slicing knife as they are severed, means for moving said slice receiver at a greater rate of speed than said reciprocating table to withdraw said contact device from the slices engaged thereby, and means for feeding said slice support away from said contact device.

11. In a slicing machine, a slicing knife, a work support movable relative to said knife, a slice receiver movable past the cutting edge of said knife for receiving slices severed thereby, said slice receiver having a slice support, a contact device for engaging the sides of the slices opposite said knife as the slices are severed, means for moving said contact device relative to said slices to withdraw said contact device from said slices, and means for feeding said slice support on said slice receiver while said contact device remains stationary relative to said receiver.

12. In a slicing machine, a slicing knife and a work support movable relative to each other, a slice receiver, means for moving said receiver past the cutting edge of said knife for receiving slices as they are severed, a slice support carried by said slice receiver, a contact device mounted on said slice receiver for engaging the sides of the slices opposite said slicing knife as the slices are severed, means for moving said slice receiver and contact device at a greater rate of speed than said work support to withdraw said contact device from engagement with the slices, and means for feeding said slice support transversely to the slices deposited thereon and relative to said contact device.

13. In a slicing machine, a slicing knife, a work support movable relative to said slicing knife, a slice receiver having a slice support mounted thereon, a contact device for engaging the sides of the slices opposite said slicing knife during a slicing operation, said contact device being adjustably mounted on said slice receiver, means for moving said slice receiver past the cutting edge of said knife at a greater rate of speed than said work support, and means for feeding said slice support relative to said contact device.

14. In a slicing machine, a slicing knife, a work support movable relative to said slicing knife, a slice receiver having a slice support mounted thereon, an abutment plate extending about the periphery of said slice support, a bracket adjustably mounted on said abutment plate, a contact device mounted on said bracket for engaging the sides of the slices away from said slicing knife as the slices are severed, means for moving said slice receiver past the cutting edge of said knife at a greater rate of speed than the work support, and means for feeding said slice support downwardly to accommodate additional slices as they are severed.

15. In a slicing machine, a slicing knife, a work support, means for moving said knife and work support relative to each other to sever slices, a slice receiver having a slice support adjustably mounted thereon, an abutment plate extending about the periphery of said slice support, means for feeding said slice support downwardly relative to said abutment plate, and a contact device mounted on said abutment plate in position to engage the sides of the slices opposite said slicing knife as the slices are severed.

16. In a slicing machine, a slicing knife, a work support, means for relatively moving said work support and slicing knife to sever slices, a slice receiver having a slice support adjustably mounted thereon, means for moving said slice receiver past the cutting edge of said slicing knife simultaneously with said work support but at a greater rate of speed, a deflector for directing slices onto said slice support, a contact device mounted on said slice receiver independently of said slice support for engaging the sides of the slices opposite said deflector, and means for moving said slice support downwardly relative to said contact device.

17. In a slicing machine, a slicing knife, a work support, means for moving said work support relative to said slicing knife, a slice receiver having a slice support adjustably mounted thereon, means for moving said slice receiver past the cutting edge of said

knife at a greater rate of speed than said work support, and a contact device mounted on said slice receiver in position to engage a slice as it is severed near the first portion of the slice to be severed, said contact device being movable out of engagement with the end of said slice during the severing operation because of the greater rate of movement of said slice receiver relative to the movement imparted to said slice by said work support.

18. In a slicing machine, a slicing knife and a work support movable relative to each other for presenting material to said knife to sever slices therefrom, a slice receiver, and means for engaging the side of each slice opposite the slicing knife as the slice is severed to assist in depositing said slice smoothly on said slice receiver, and to assist in depositing each successive slice smoothly on the preceding slice to stack the slices one upon the other in substantially the same position relative to each other as before the slices were cut from the material by said knife.

19. In a slicing machine, a slicing knife, a reciprocating table for presenting material to said knife to be sliced, a slice receiver having a slice receiving portion, means for moving said receiver with said table past the edge of said knife, a deflector for deflecting slices as they are severed onto said slice receiver, and means mounted on said receiver adjacent to said slice receiving portion in position to pass adjacent the surface of said deflector for retaining each slice in extended position during a slicing operation and to assist in depositing each successive slice upon the preceding slice to form a stack.

20. In a slicing machine, a slicing knife, a reciprocating table for presenting material to said knife to be sliced, a slice receiver having a receiving portion actuated by said machine to move past said knife at a greater speed than said table and engaging each and every slice as it is severed, and a slice holding and stacking member mounted adjacent said slice receiving portion for movement therewith.

In testimony whereof I have signed my name to this specification on this 12th day of April, A. D. 1927.

EDWARD M. STILES.