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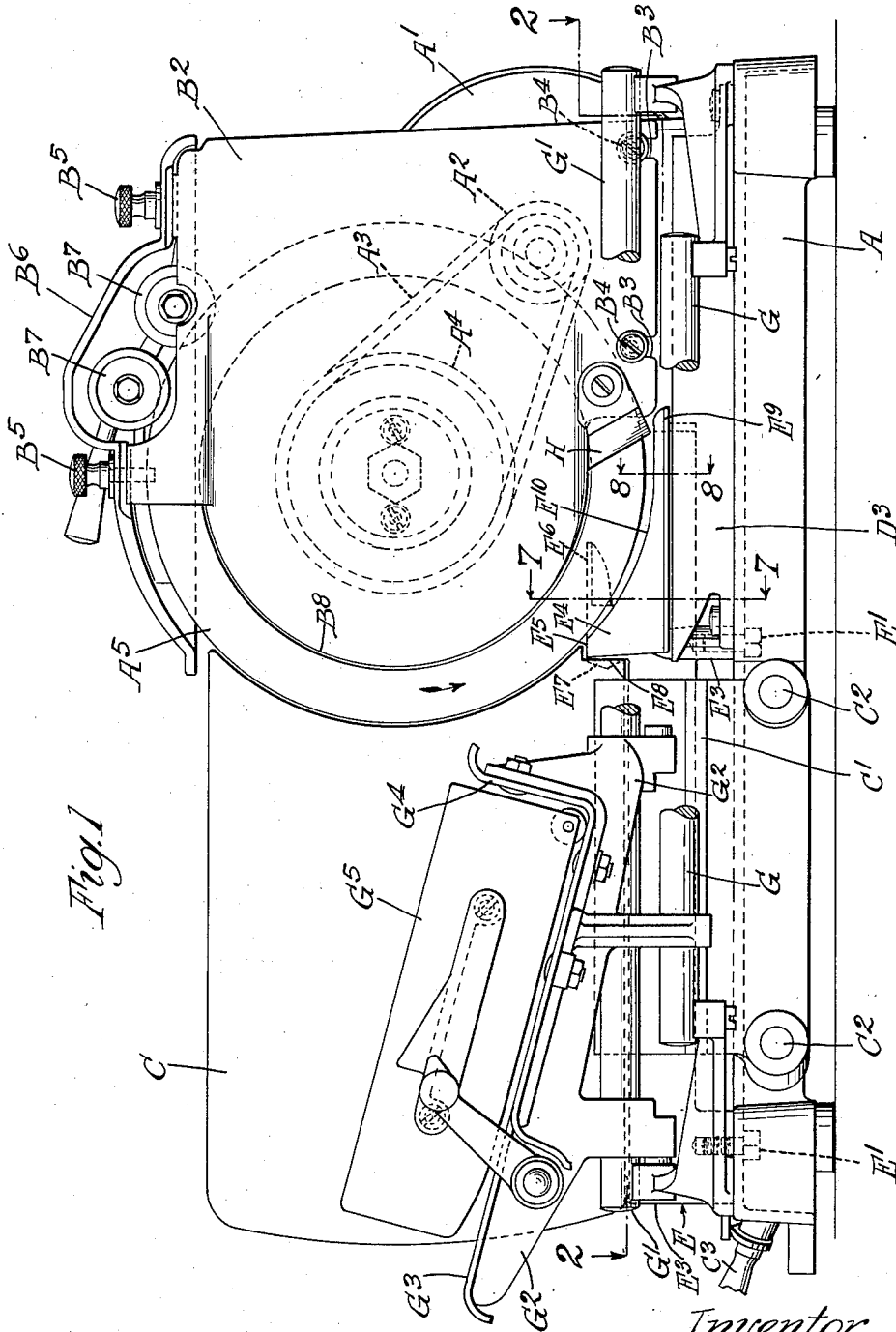
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2,010,943

SLICING MACHINE

Filed Jan. 15, 1934

3 Sheets-Sheet 1



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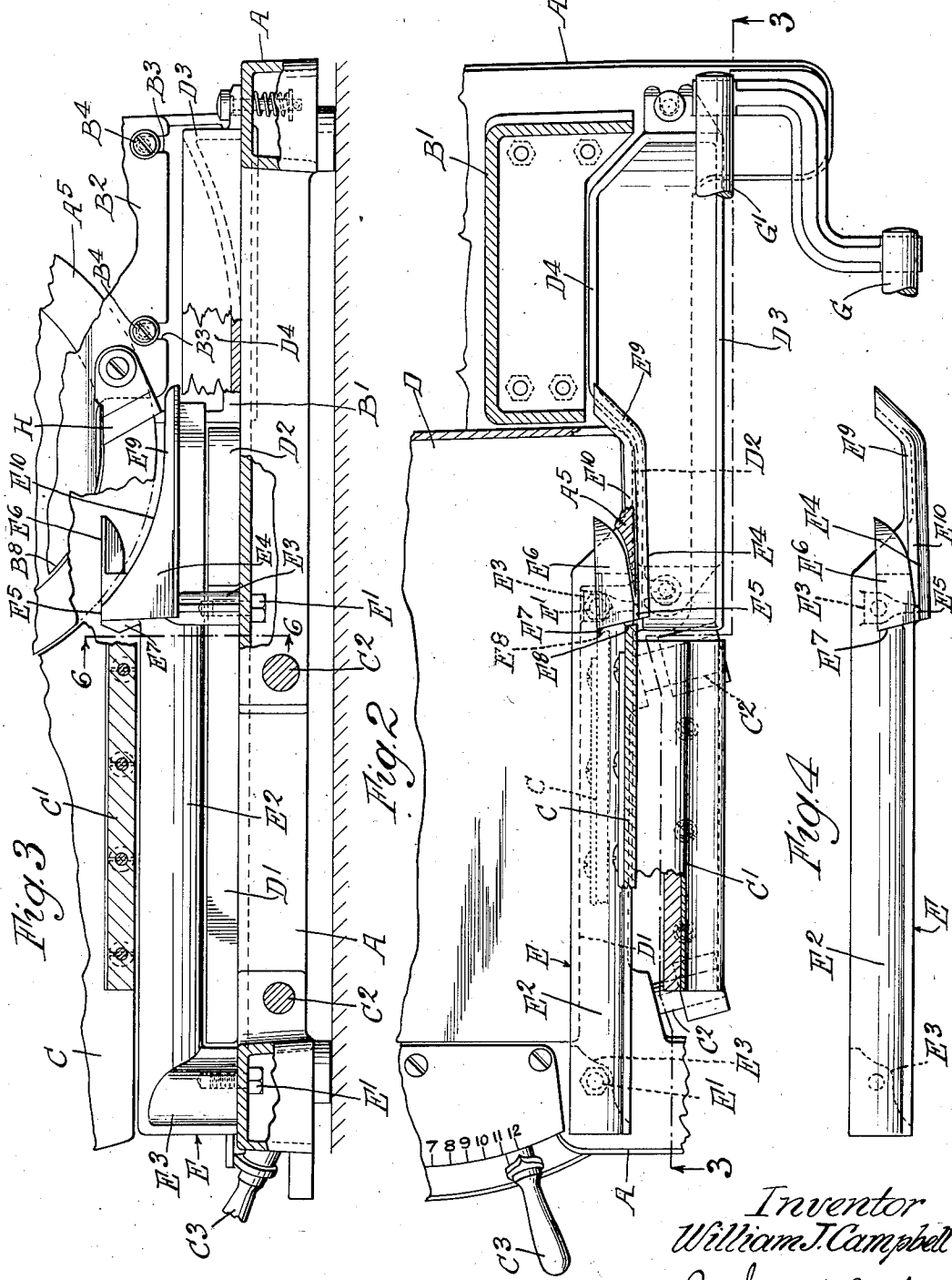
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3 Sheets-Sheet 2



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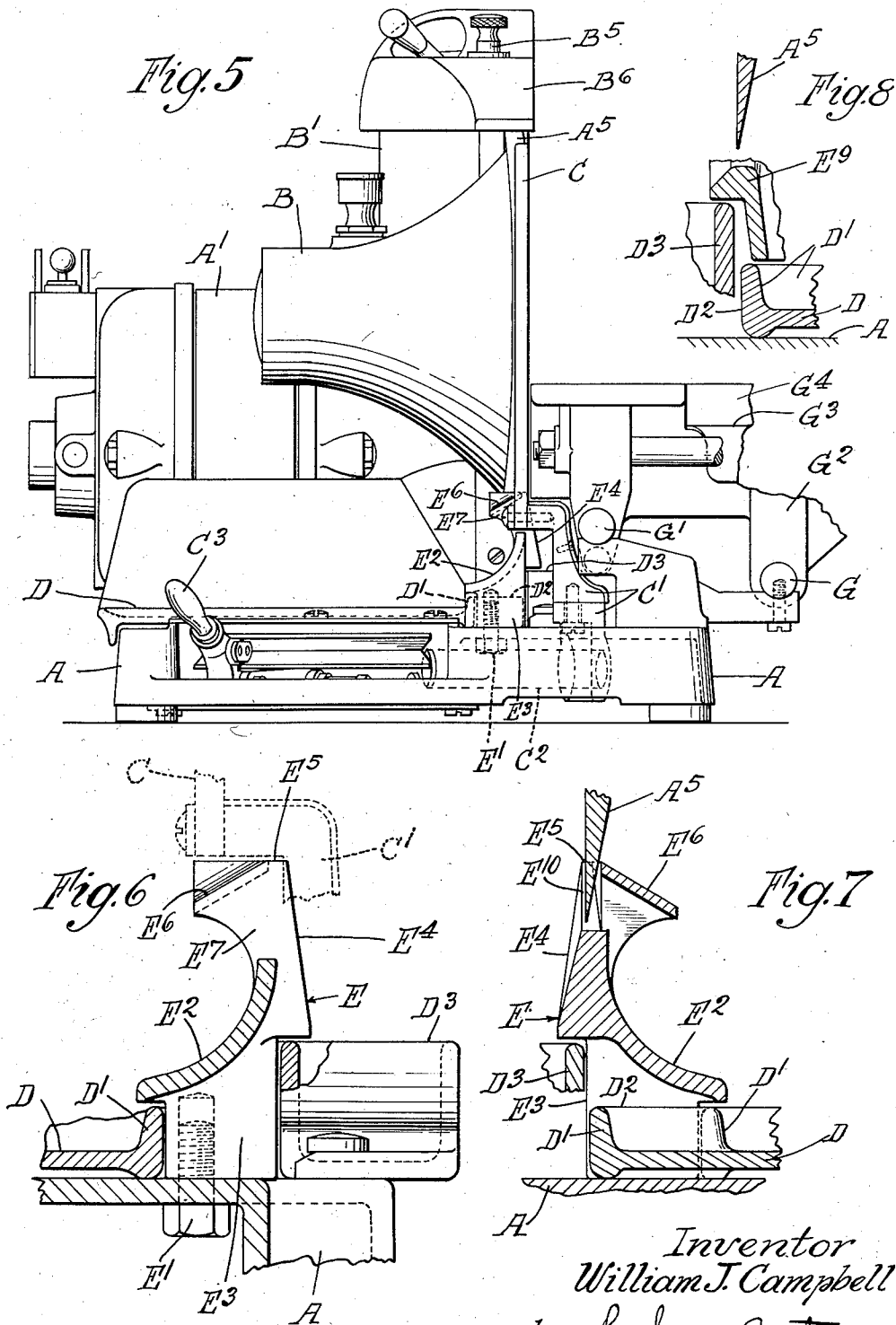
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UNITED STATES PATENT OFFICE

2,010,943

SLICING MACHINE

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11 Claims. (Cl. 146—102)

My invention relates to an improvement in slicing machines, and has for one purpose the provision of an improved slice deflecting means. Another purpose is the provision of slice supporting means effective at the point of severance of the slice. Another object is the provision of means for preventing the access of foreign material to the space in front of or beneath the slice receiver. Another purpose is the provision of means for deflecting material into the forward refuse trough. The last mentioned two means are preferably unitary. Other objects will appear from time to time in the course of the specification and claims.

I illustrate my invention more or less diagrammatically in the accompanying drawings, wherein—

Figure 1 is a front elevation;

Figure 2 is a section on the line 2—2 of Figure 1;

Figure 3 is a section on the line 3—3 of Figure 2;

Figure 4 is a detail;

Figure 5 is an end elevation;

Figure 6 is a section on the line 6—6 of Figure 3;

Figure 7 is a section on the line 7—7 of Figure 1; and

Figure 8 is a section on the line 8—8 of Figure 1.

Like parts are indicated by like symbols throughout the specification and drawings.

Referring to the drawings, A indicates any suitable base upon which may be mounted a motor A¹ having a drive pulley A² about which passes a driving belt A³ which in turn passes about a pulley A⁴ which drives a knife A⁵.

B indicates any suitable sleeve assembly in which a knife shaft, not herein shown, might rotate. The sleeve assembly is associated with or mounted upon the base A upon an upstanding frame portion B¹. This upstanding frame portion is forwardly open, this open part being closed by a guard plate B². The guard plate may be held in position in any suitable manner, as by notches B³ which pass over any suitable supporting members B⁴. B⁵ are top locking members for the upper portion of the guard plate. They are associated with and pass through a cover plate B⁶ which also houses a knife sharpening assembly B⁷, the details of which do not form a part of the present invention. It will be realized that the knife axis is slightly tilted in relation to the plane of the guard plate so that the cutting edge of the knife is exposed, the guard plate terminating in an arcuate edge B⁸.

C indicates a gauge plate for gauging the thick-

ness of the slice. It is mounted upon any suitable support C¹ which is provided with rods C² slidably mounted in the base A. Movement of these rods and therefore of the entire gauge plate assembly is obtained by movement of the manual control lever C³. The details of this lever and of the driving connection between it and the gauge plate are not indicated, as they do not of themselves form part of the present invention. It will be understood that when the handle C³ is in the position in which it is shown in Figure 2 the gauge plate is advanced as nearly as it can be to the cutting plane of the knife and may even be set to mask the edge of the knife. When the handle C³ is moved to the opposite end of its possible excursion, the gauge plate and its assembly are moved to the left, referring to the parts in the position in which they are shown in Figure 5. The position of the gauge plate when withdrawn is shown in dotted lines in Figures 2 and 6. It will be noted, for example from Figure 2, that the rods C² are set at a slight angle so that the path of the gauge plate is inclined in relation to the cutting plane, the gauge plate being drawn laterally somewhat away from the cutting edge of the knife as it recedes.

A slice receiving tray D is removably positioned upon the base A and above the actuating means for the gauge plate C. It is provided with a forward flange D¹, clearly shown for example in Figures 6 and 7, and also in Figure 5, and it is forwardly offset at D² adjacent to the cutting edge of the knife, as shown for example in a dotted line in Figure 2. At that point it approaches very closely to the pan or refuse trough D³ which is removably positioned on the side of the cutting plane opposed to the slice receiver D. The contour of horizontal plane of the pan will be clear from Figure 2, part of the pan extending rearwardly of the cutting plane of the knife as at D⁴ in Figure 2.

In a slicing machine, which is currently used to slice foods such as meats and which may be in almost constant use, it is highly desirable that fragments and juices of the material being cut do not penetrate into parts of the machine where they are likely to gather and decay. In my present invention, I provide effective means for reducing to a minimum the tendency of particles, juices, grease and the like from penetrating into hidden corners of the machine. In the first place, I provide means for insuring that the slice and whatever other particles fall to the rear of the knife will be delivered to the slice receiving tray D and will not get beneath it or get into or

beneath the mechanism for actuating the gauge plate C. I also provide means for directing particles, grease and the like to the forward refuse pan D³. I find it advantageous to provide a unitary element which combines these functions with the function of the slice support for supporting the slice at the point of severance.

I illustrate such a member generally as E, this member being shown in plan view, for example in Figures 2 and 4. It is mounted on the base by any suitable bolts or screws E¹. It includes an extended body portion in the form of an inclined or downwardly and outwardly curved eave E² mounted upon bosses E³ into which penetrate the screws E¹. The curved eave E² underlies the gauge plate support at all positions of the gauge plate, as will be clear for example from Figure 5. In other words, no matter where the gauge plate and its support may be the downwardly curved eave E² bridges the gap between the gauge plate support or the lower edge of the gauge plate C and the upstanding flange D¹ of the slice receiver D. The eave E² extends outwardly and rearwardly beyond the face of the gauge plate even when the gauge plate C is at its most rearwardly position. This will be clear from the position of the gauge plate C in dotted lines as illustrated in Figures 2 and 6. Associated with the member E at the right hand end referring to the parts in the position in which they are shown in Figures 2, 3 and 4 is an upward projection generally indicated as E⁴ which is provided with a small flat edge E⁵ lying generally in the plane of the carriage later to be described. Associated with it is an angular portion E⁶ extending rearwardly from the cutting plane and conforming generally to the contour of the knife blade. The slices, as they are severed, slide down along the member E⁶ and are directed thereby away from the knife so that they fall upon the slice receiver D. It will be noted that the upright edge of the member E⁴ is inclined as at E⁷ to conform to the path of movement of the gauge plate. The gauge plate also is cut away as at E⁸ to conform to this surface E⁷. E⁹ is an extension from member E which bridges the gap between the adjacent opposed edges of the slice receiver D and the pan D³. The shape changes at different points along its length but this bridging function will be clear, for example, from the sections Figure 7 and Figure 8. The upper portion of this member E⁹ also conforms generally to the arc of the knife as at E¹⁰ although the gap opens slightly as is clear from Figures 1 and 3, the two arcs being eccentric.

G, G¹ indicates a plurality of tracks upon which is slidably mounted any suitable work supporting carriage generally indicated as G². It has also a work supporting surface G³ shown as forwardly inclined and terminating at its forward edge in a flange G⁴. G⁵ is a pusher plate, the details of which do not form a part of the present invention.

It will be realized that whereas I have shown a practical and operative device, nevertheless many changes may be made in size, shape, number and disposition of parts without departing from the spirit of my invention. I, therefore, wish my description and drawings to be taken as in a broad sense illustrative or diagrammatic rather than as limiting me to the precise details disclosed.

The use and operation of my invention are as follows:

The operator puts a piece of food such as meat

on the supporting surface G³ of the carriage G². He may press it forward against the gauge plate C by urging the pusher plate G⁵. The gauge plate C is set to gauge the desired slice thickness. The operator then urges the carriage G² as a whole toward the cutting edge of the knife and the knife cuts a slice of the gauged thickness. The rest of the meat passes forwardly across the guard plate B². Any grease which is deposited on the knife A⁵ is picked up by the scraper H which is shown as mounted upon the guard plate B². The grease or material from this scraper drops into the refuse pan D³ which at that point extends beneath the scraper and well to the rear of the cutting plane of the knife as shown at D⁴ in Figure 2. The severed slices are deposited upon the slice receiver D. The work and slice is supported at the point of severance by the member E⁴. This tends to reduce the formation of fringes on the meat and the larding of the meat on knife or gauge plate.

The portion E² of the member E serves to prevent the penetration of foreign material beneath the lower edge of the gauge plate C or the space beyond the flange D¹ of the slice support D. As is clear from Figure 7 this eave portion E² is also inclined outwardly over the edge of the refuse pan and bridges the gap between the refuse pan and the slice receiver. This bridging portion is continued as at E⁹ throughout the entire portion of the opposed edges of the two receivers.

I claim:

1. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, and a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, said slice receiving member terminating to the rear of the gauge plate, and means for bridging the gap between the slice receiving member and the gauge plate, including an eave member, one edge of which overhangs an edge of the slice receiving member, another of which underlies the gauge plate or its support at all positions of the gauge plate, said eave being arcuate in form, and having a substantially downward slope toward the slice receiver.

2. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, a refuse receiving member positioned forwardly of and adjacent to the slice receiving member, and independent means for bridging the gap between the slice receiving member and the refuse receiving member, including an eave member having a substantial downward slope toward the slice receiver, its lower edge terminating above and closely adjacent the inner edge of the slice receiver along a substantial proportion of the width of the slice receiver.

3. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, and a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, said slice receiving member terminating to the rear of the gauge plate, and means for bridging the gap between the slice receiving member and the gauge plate, a refuse receiving member positioned for-

wardly of the slice receiving member, and means for bridging the gap between the slice receiving member and the refuse receiving member, said last mentioned bridging means being unitary with the first mentioned bridging means, including an independent and normally fixed member having edge portions overhanging and terminating closely adjacent the opposed edges of the slice receiving member and the refuse receiving member.

4. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, a refuse receiving member positioned forwardly of the adjacent to the slice receiving member, and a unitary member, extending in general parallelism with the cutting plane, including a portion adapted to bridge the gap between the slice receiving member and the gauge plate and a portion adapted closely to overlie the opposed edges of the slice receiving member and the refuse receiving member.

5. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, a refuse receiving member positioned forwardly of and adjacent to the slice receiving member, and a unitary member, extending in general parallelism with the cutting plane, including a portion adapted to bridge the gap between the slice receiving member and the gauge plate and a portion adapted closely to overlie the opposed edges of the slice receiving member and the refuse receiving member, and a slice supporting portion associated therewith and positioned adjacent to the cutting edge of the knife.

6. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, a refuse receiving member positioned forwardly of and adjacent to the slice receiving member, and a unitary member, extending in general parallelism with the cutting plane, including a portion adapted to bridge the gap between the slice receiving member and the gauge plate and a portion adapted closely to overlie the opposed edges of the slice receiving member and the refuse receiving member, and a slice supporting portion associated therewith and positioned adjacent to the cutting edge of the knife and overlapping the rear face of the knife.

7. In a slicing machine having a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate, a refuse receiving member positioned forwardly of the slice receiving member, the refuse receiving member and the slice receiving member having opposed adjacent walls, and independent means for bridging the gap between said opposed adjacent walls, including a member adapted to overhang both walls, said member including a portion closely adjacent

to and conforming generally to the cutting arc of the knife, the separation between said member and the cutting edge of the knife increasing in the direction of the rotation of the knife.

8. In a slicing machine having a knife and means for actuating it, a gauge plate and means for actuating it, a work supporting carriage and means for guiding it across the face and past the cutting edge of the knife, a removable slice receiving member positioned to the rear of the cutting plane of the knife, a removable refuse receiving member positioned to the front of the cutting plane, and an independent and normally fixed member mounted upon the slicing machine between the slice receiving and refuse receiving members and including inclined eave portions overhanging the opposed edges of the two said members and terminating closely adjacent them.

9. In a slicing machine having a knife and means for actuating it, a gauge plate and means for actuating it, a work supporting carriage and means for guiding it across the face and past the cutting edge of the knife, a removable slice receiving member positioned to the rear of the cutting plane of the knife, a removable refuse receiving member positioned to the front of the cutting plane, and an independent and normally fixed member mounted upon the slicing machine between the slice receiving and refuse receiving members and including inclined eave portions overhanging the opposed edges of the two said members and terminating closely adjacent them, said normally fixed member being provided with a work supporting portion positioned adjacent the supporting surface of the carriage, and terminating closely adjacent the cutting edge of the knife.

10. In a slicing machine, a base, a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate and terminating rearwardly of the plane of the gauge plate, and a deflector member mounted upon said base and underlying the gauge plate at all positions of travel of the gauge plate, said deflector including a portion overlying the edge of the slice receiving member closest to the gauge plate, and a refuse receiving member positioned forwardly of the slice receiving member, the edge of the refuse receiving member nearest the cutting plane underlying an edge of said deflector.

11. In a slicing machine, a base, a knife and means for actuating it, a carriage and means for guiding it across the face and past the cutting edge of the knife, a gauge plate and means for actuating it, a slice receiving member positioned to the rear of the gauge plate and terminating rearwardly of the plane of the gauge plate, and a deflector member mounted upon said base and underlying the gauge plate at all positions of travel of the gauge plate, said deflector including a portion overlying the edge of the slice receiving member closest to the gauge plate, and a refuse receiving member positioned forwardly of the slice receiving member, the edge of the refuse receiving member nearest the cutting plane underlying an edge of said deflector, said deflector including a portion closely adjacent to and conforming generally to the cutting arc of the knife.

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