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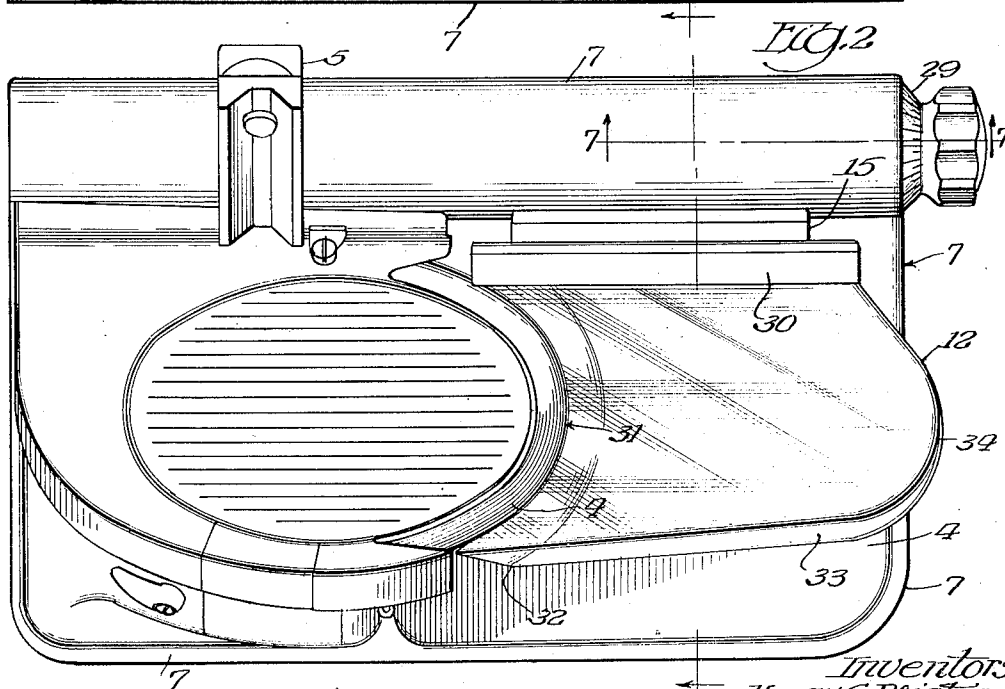
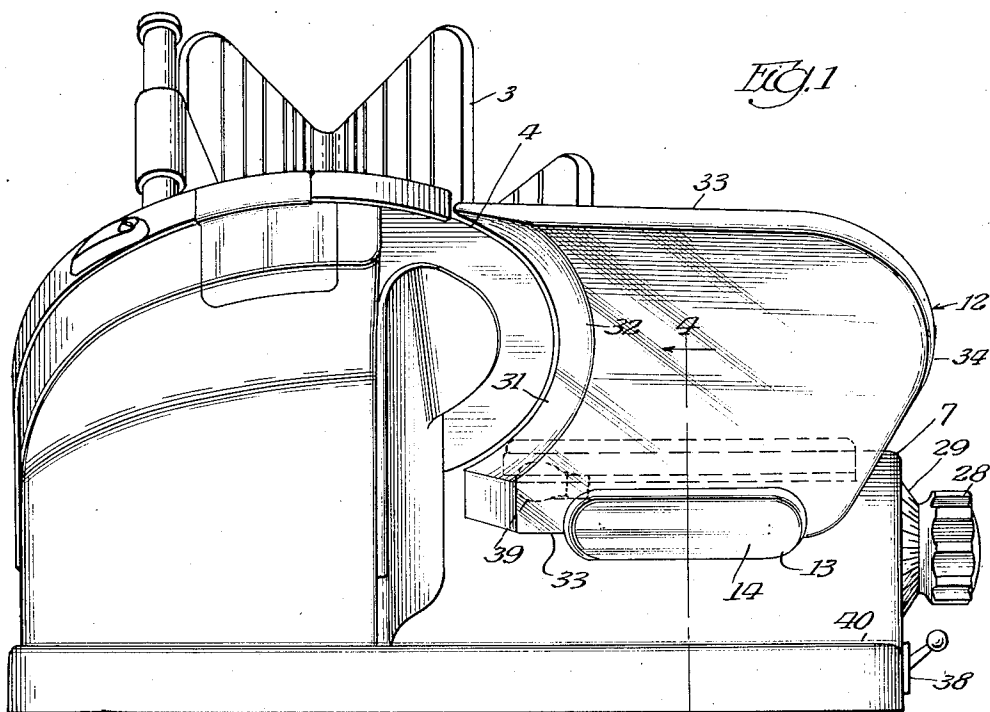
H. C. PFISTER ET AL

2,492,885

ILLUMINATED GRAVITY FEED SLICING MACHINE

Filed March 24, 1945

3 Sheets-Sheet 1



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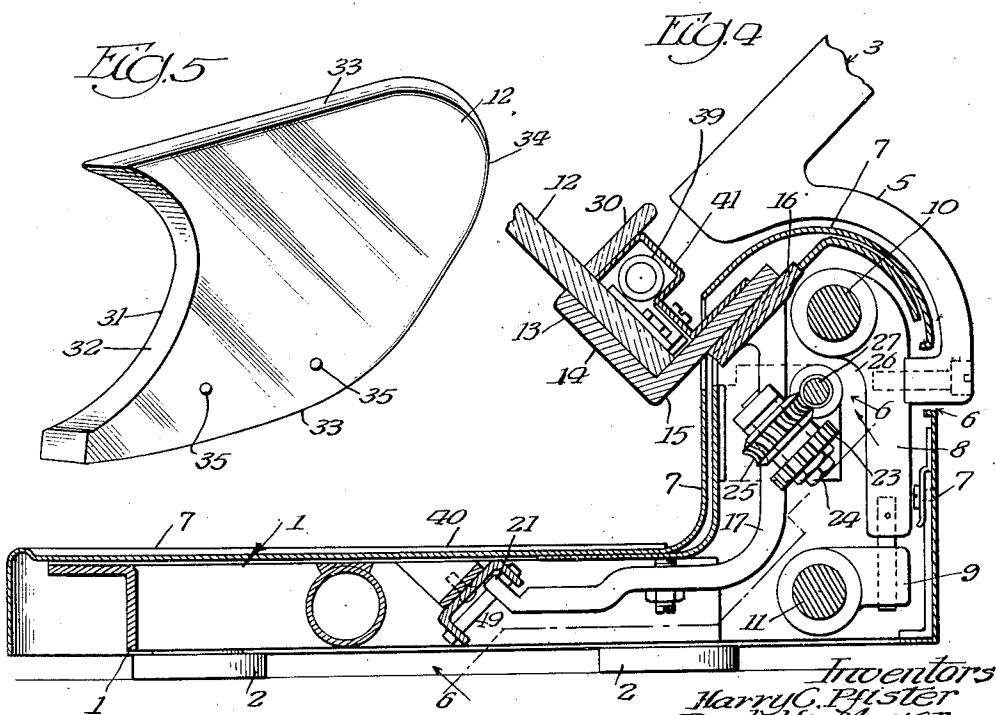
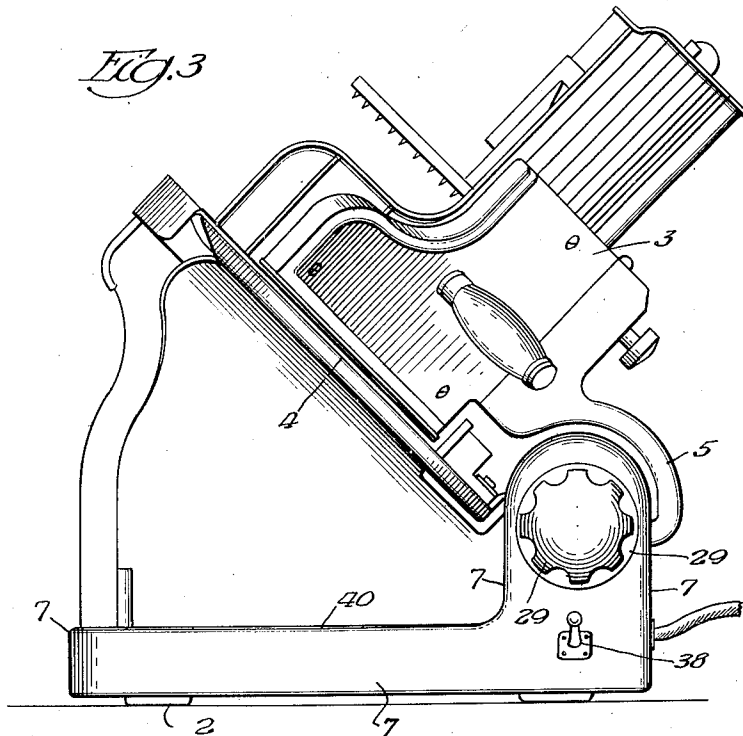
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3 Sheets-Sheet 2



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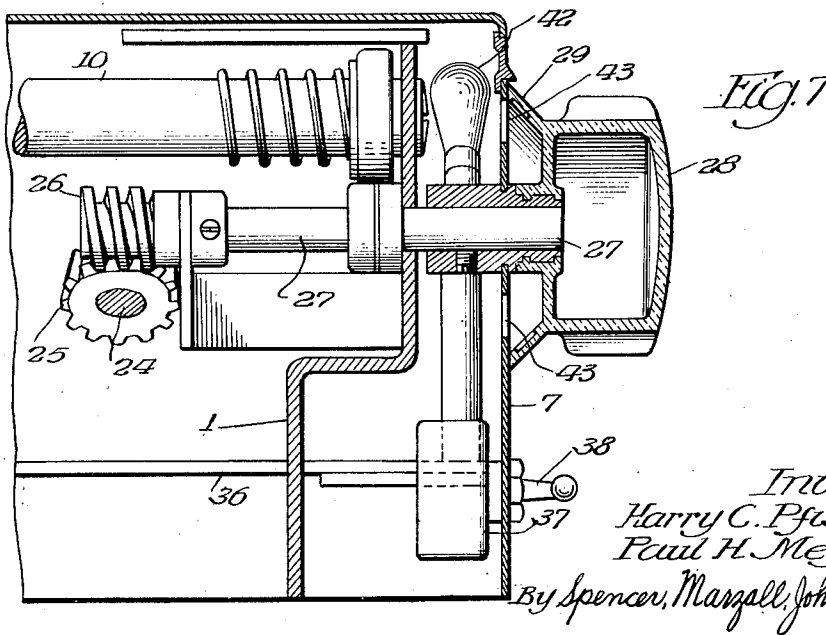
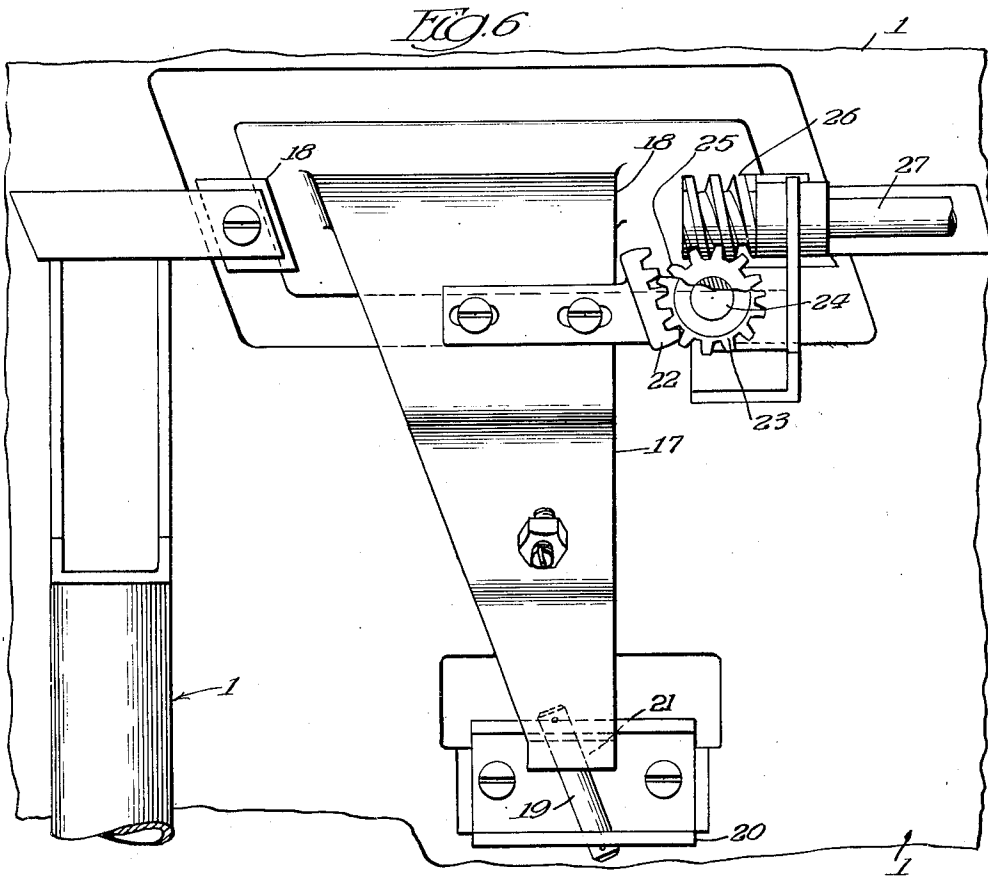
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3 Sheets-Sheet 3



UNITED STATES PATENT OFFICE

2,492,885

ILLUMINATED GRAVITY FEED SLICING MACHINE

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Application March 24, 1945, Serial No. 584,572

2 Claims. (Cl. 146—102)

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This invention relates to slicing machines for slicing edible substances, such as meat. More specifically, the invention relates to a gravity feed slicing machine of the type disclosed in the copending application of Paul H. Meyer, Serial Number 576,633, filed February 7, 1945, and assigned to the present assignee.

The primary object of the present invention is the provision of a slicing machine which is provided with lighting means for illuminating that part of the machine adjacent the slicing knife and that part of the slice receiving tray adjacent the cutting plane of the knife so that the operator may see quickly and clearly slices as they are being cut and the slices as they are arranged on the slice receiving tray after being cut.

Another important object of the invention resides in the provision of a transparent or translucent, preferably transparent, gauge plate so that slices as they are being cut from the substance and arranged on the slice receiving tray, after being sliced, may be seen by the operator through the transparent gauge plate.

A further object of the invention is the provision of illuminating means juxtaposed with respect to a transparent gauge plate and the slicing plane of the machine so that the cutting operation may be clearly and readily viewed and the slices as they fall upon the slice receiving tray may be readily and quickly seen; and also there being means for illuminating a manually operated member for controlling the position of the gauge plate.

A still further object of the invention is the provision of illuminating means for illuminating the gauge plate control knob and a zone of the slicing machine during the cutting of a substance, the illuminating means cooperating with the electric circuit of the motor drive whereby the lighting means for illumination purposes will be on when the motor is on, but will be off when the motor is shut off.

A still further object of the invention resides in the provision of a slicing machine, particularly of the gravity feed type but not necessarily so, whereby there is provided a gauge plate of transparent material so that the operator may see, through the transparent gauge plate, the slices being cut and after they are cut, there being means for illuminating the slicing zone of the slicing machine, the said means passing light rays through the transparent gauge plate so as to light up the slice receiving tray at the point where the slices are being deposited as well as to provide a novel lighting effect from an appear-

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ance standpoint which tends to ornament the machine, as well as embodying practical lighting arrangement to assist the operator during the slicing operation and at the time the slices are deposited on the slice receiving tray.

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

The accompanying drawings illustrate a selected embodiment of the invention and the views therein are as follows:

Fig. 1 is a left hand elevational view of a gravity feed slicing machine and embodying the invention;

Fig. 2 is a top plan view of the improved slicing machine, the substance support or feed trough being removed;

Fig. 3 is a front elevational view of the improved slicing machine;

Fig. 4 is a detail transverse sectional view on the line 4—4 of Figs. 1 and 2;

Fig. 5 is a detail perspective view of the transparent gauge plate;

Fig. 6 is a detail sectional view on the line 6—6 of Fig. 4; and

Fig. 7 is a detail sectional view on the line 7—7 of Fig. 2.

The particular slicing machine herein shown for the purpose of illustrating the invention is of the gravity feed type disclosed and claimed in the copending application of Paul H. Meyer, Serial Number 576,633, filed February 7, 1945, and assigned to the present assignee.

The slicing machine of the invention comprises a suitable supporting structure or base 1 which is mounted on rubber feet or supports 2. A removable substance support or food trough 3 is adapted for longitudinal rectilinear movement past the cutting plane of a revolubly mounted knife 4. The food trough or substance support 3 includes a bracket 5 which passes through a longitudinal slot 6 formed in the casing 7 which covers the base and certain operating parts of the machine. The bracket 5 is operatively connected to cooperating bearing members 8 and 9 which slide on longitudinal rods 10 and 11, respectively.

A gauge plate 12, of transparent material for determining the thickness of slices to be cut from the substance, is arranged between the operator's stance and the cutting plane of the knife, and is adapted to be moved angularly away from the cutting edge of the knife but in a plane parallel thereto.

The transparent gauge plate 12 has secured

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thereto an angle bracket or support 13 having legs 14 and 15. The leg 14 is secured to the transparent gauge plate 12 and the leg 15 is secured to a face plate of a bracket member 17, Fig. 4. The face plate 16 of the bracket member 17 engages a rigid part on the supporting frame 1 and is guided for movement in a plane parallel to the cutting plane of the knife 4 between side guide members 18, 18, Fig. 6. The lower end of the bracket member 17 is guided by a pin 19 carried by a supporting member 20 which is secured to a part on the base 1, the said lower end of the bracket member 17 having a hole 21 formed therein to receive the pin 19, Fig. 6. The bracket 17, Fig. 6, has an inclined rack 22 secured thereto, which has its teeth engaging the teeth on a gear 23 fixed to a stub shaft or pin 24, Fig. 6. The rack 22 is inclined as shown, being in a straight line with the bracket pin 19 whereby the gauge plate 12 will have outward angular movement. The transparent gauge plate 12 is thus provided with a receding movement away from the knife 4 to provide a relatively great amount of clearance. The shaft or pin 24 also has fixed thereon a worm gear 25 which meshes with a worm 26 on a rotatably mounted rod 27, Figs. 4, 6 and 7. The rod 27 is mounted on a part of the base and extends through the casing 7 and carries an operating knob 28. The knob may carry a rigid skirt part 29 carrying graduations cooperating with indicator means, the graduations being indicative of slice thicknesses. The rotation of the knob 28 rotates the rod 27 and its worm 26. The worm 26, fixed to a shaft or pin 24, will, therefore, rotate the gear 23 which is also fixed to the shaft or pin 24. The gear 23 has meshing relationship with the rack on the bracket member 17 and, therefore, the bracket member 17 will have slidable movement. The bracket 17 is connected rigidly to the gauge plate 12 whereby the gauge plate will be moved angularly toward or away from the knife cutting plane upon rotative movement of knob 28.

The gauge plate 12 is made of transparent material, such as case hardened glass, skin hardened plastic, or any other transparent material, capable of performing the function intended, and which will not chip, flake, or break readily. A provision or ledge 30 extends from the substance engaging face of the gauge plate 12 to support a piece of substance, such as bacon, so that the bacon may be derinded easily and readily, particularly when the removable trough 3 is removed. The provision or ledge 30 also keeps meat juices from getting into the machine as this ledge 30 will cause meat juices to be drained from either end of the gauge plate.

The gauge plate 12 is relatively thick so as to prevent deflection of the plate during operation of the machine. The forward edge of the gauge plate is concaved, as indicated at 31, Fig. 5, adjacent the cutting edge of the knife, the curvature conforming generally to the knife periphery. The forward end 31 is inclined or beveled, as at 32, Fig. 5, but on its rearward side, so as to permit slices as they are being cut to pass through the space between the knife and the curved end of the gauge plate.

The upper and lower ends of the gauge plate 12 may be relatively straight, as indicated at 33, 33, while the rear end 34 of the gauge plate may be curved, as indicated in the various figures.

The gauge plate 12 may also be provided with spaced holes 35, 35, Fig. 5, for attaching means

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to secure the gauge plate to the bracket 13, and to secure the projecting ledge 30 in position.

The slicing knife 4 is operatively mounted on a suitable knife supporting bearing carried by the knife bracket and is driven by an electric motor (not shown), all as disclosed in the aforesaid copending application.

Electric conductors, arranged in a cable 36, Fig. 7, electrically connect the motor to an electric switch 37. A switch operating handle 38 is provided to operate the switch 37. An electric light 39 is mounted on the frame adjacent the cutting edge of the knife and in juxtaposition with respect to the transparent gauge plate 12 so that there will be illumination at the point where the cutting operation takes place. This electric lamp or light 39 is arranged on the substance engaging side of the gauge plate 12 near the concaved end 31 thereof but near the bottom as clearly shown in Figs. 1 and 4 so that the cutting zone will be illuminated. Also, the lamp 39 will shine through the transparent gauge plate and illuminate the part 40 of the machine housing which acts as the slice receiving tray. The lamp 39 also will cause the gauge plate, particularly its periphery, to have a somewhat subdued lighting effect and thereby enhance the ornamental appearance of the machine. The lamp 39 is operatively connected to the electric switch 37 and is turned on when the handle 38 is operated to turn on the current to the electric motor. Therefore, when the electric motor is running and the knife is rotating, the lamp 39 will be lit, but when the switch 37 is turned off to stop the motor, the light 39 will be turned off. A suitable cover or reflector 41 encases the lamp 39 as clearly shown in Fig. 4 so as to direct the light rays properly at the desired points.

An electric light 42, Fig. 7, is arranged inside of the casing 7 and is located adjacent the skirt 29 and the gauge plate operating knob 28. The outer casing 7 is provided with suitable openings 43 therethrough so that rays from the light 42 will pass through the openings and illuminate the circular skirt portion 29.

The skirt 29 is preferably made of translucent material, such as a suitable plastic, and carries suitable graduations cooperating with a fixed pointer indicating sliced thicknesses to which the gauge plate 12 may be set. The skirt portion 29, having the graduations thereon and being translucent, will be lit up by the electric lamp 42, the lamp 42 being electrically connected with the switch 37 so that the light 42 will be illuminated when the switch is on, but will be out when the switch is off.

The operating knob 28 is also made of plastic and is preferably made integral with the skirt 29. The inside of the knob 28 is preferably coated with an opaque material so that rays of light from the lamp 42 will not show through the knob. The rays of light, therefore, will show through the skirt 29 only and bring the graduations around the skirt in full plain view.

The invention provides a slicing machine having a transparent gauge plate so that the operator can see through the gauge plate during the cutting operation as well as having a full view of the slices as they are received on the slice receiving tray. The advantage of a transparent gauge plate is particularly inherent in slicing machines of the gravity type, as a gauge plate if made of a material other than translucent, would obscure the operator's view. The particular position of the light at the cutting zone

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illuminates the cutting zone as well as the slice receiving tray where the slices are received after being cut. The lighting arrangement for the gauge operating means and slice thickness indicating means not only enhance the appearance of the machine considerably but brings the full view of the graduations to the operator so that it may be conveniently read and set.

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 the advantages thereof, 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 embodying a knife rotatable about an axis inclined to the horizontal, an inclined reciprocable carriage, a transparent gauge plate imperforate except for one or more openings to secure it in position, a ledge disposed adjacent but spaced from the lower edge of the gauge plate, a light disposed beneath said ledge and protected thereby and in proximity to the gauge plate, for illuminating the slicing zone of the knife, and means for adjusting said gauge plate, ledge and light.

2. A slicing machine embodying a knife rotatable about an axis inclined to the horizontal, an inclined reciprocable carriage, a transparent gauge plate imperforate except for one or more openings to secure it in position, a ledge disposed

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adjacent but spaced from the lower edge of the gauge plate, a light disposed beneath said ledge and protected thereby and in proximity to the gauge plate, for illuminating the slicing zone of the knife, means for adjusting said gauge plate, ledge and light, a light disposed adjacent said adjusting means, a motor for reciprocating said carriage, and a switch device common to all of said lights for controlling them.

HARRY C. PFISTER.

PAUL H. MEYER.

REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,675,360	Lang	July 3, 1928
2,079,891	Wood	May 11, 1937
2,091,632	Friedman	Aug. 31, 1937
2,123,396	Barnes	July 12, 1938
2,167,015	Waage	July 25, 1939
2,182,708	Shlevin	Dec. 5, 1939
2,196,725	Folk	Apr. 9, 1940
2,294,560	Bennett	Sept. 1, 1942
2,388,588	Wood	Nov. 6, 1945

FOREIGN PATENTS

Number	Country	Date
443,382	Great Britain	Feb. 27, 1936
505,331	Great Britain	May 9, 1939