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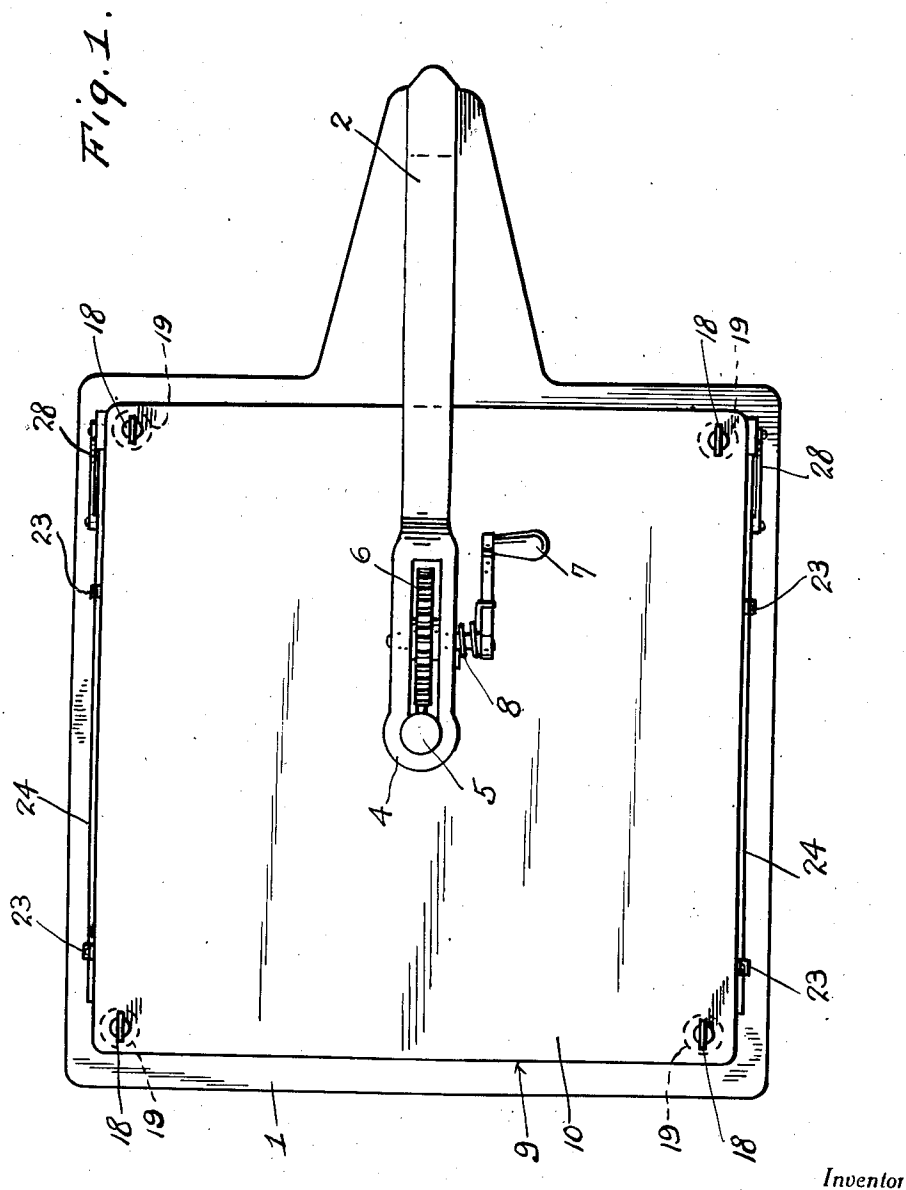
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2,069,696

PATTY MACHINE

Filed Aug. 14, 1935

5 Sheets-Sheet 1



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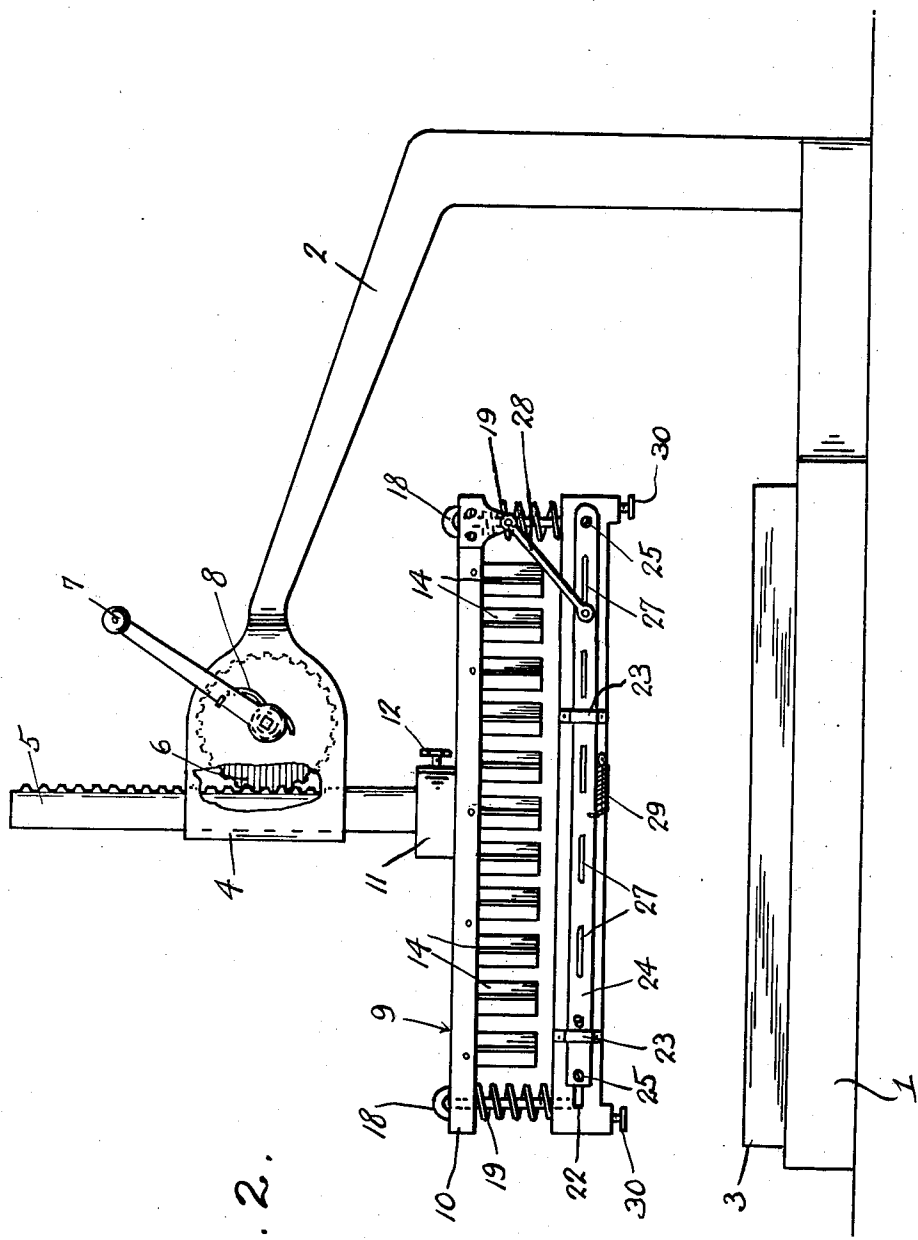


Fig. 2.

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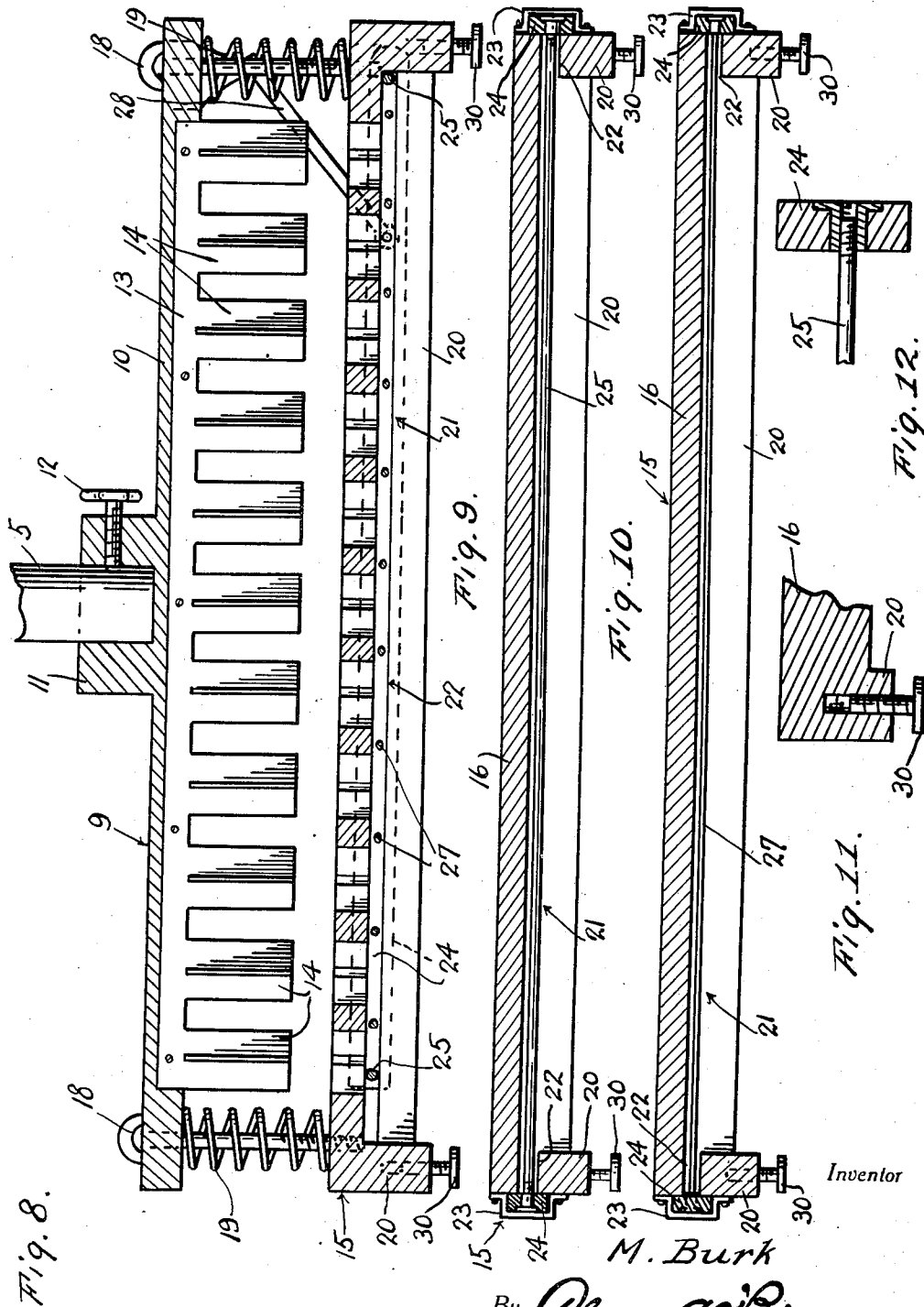


Fig. 8.

Fig. 9.

Fig. 10.

Fig. 11.

Fig. 12.

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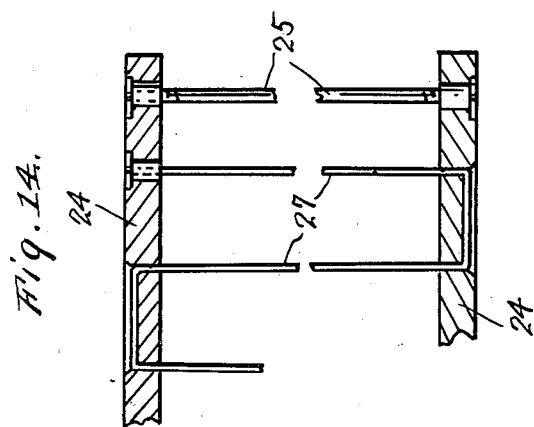
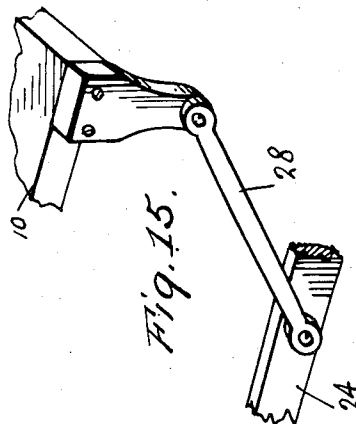
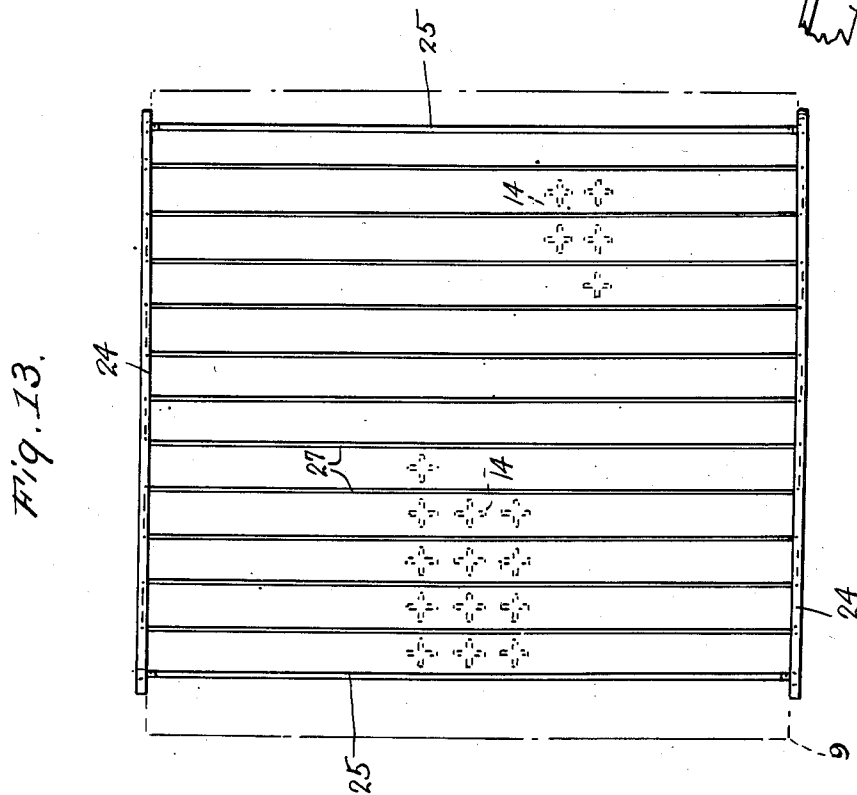
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UNITED STATES PATENT OFFICE

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PATTY MACHINE

Melvin Burk, Akron, Ohio

Application August 14, 1935, Serial No. 36,220

3 Claims. (Cl. 107—15)

The present invention relates to new and useful improvements in patty machines particularly for use in making patties or cakes from ground meat, although it will be understood that the apparatus may be used for making patties from any other foods desired.

The primary object of the present invention is to provide, in a manner as hereinafter set forth, a machine of the aforementioned character embodying a novel construction, combination and arrangement of parts through the medium of which patties or cakes having a more appetizing and attractive appearance may be rapidly formed.

Another very important object of the invention is to provide a machine of the character described embodying a press for flattening the patties or cakes, together with novel means for automatically severing the material from the press after said press has functioned.

Other objects of the invention are to provide a machine of the character set forth which will be comparatively simple in construction, strong, durable, highly efficient and reliable in use, compact, light in weight, portable, and which may be manufactured at low cost.

All of the foregoing and still further objects and advantages of the invention will become apparent from a study of the following specification, taken in connection with the accompanying drawings wherein like characters of reference designate corresponding parts throughout the several views, and wherein:—

Figure 1 is a top plan view of a machine constructed in accordance with the present invention.

Figure 2 is a view in side elevation thereof.

Figure 3 is a detail view in top plan of the press.

Figure 4 is a bottom plan view of the knife unit.

Figure 5 is a perspective view of a corner portion of the press.

Figure 6 is a perspective view of an end portion of one of the series of knives.

Figure 7 is a bottom plan view of an end portion of one of the series of knives.

Figure 8 is a vertical sectional view through the press and knife units.

Figures 9 and 10 are vertical sectional views, taken at different points through the press.

Figure 11 is a vertical sectional view through a corner portion of the press.

Figure 12 is a detail view in vertical section through one side of the wire knife unit, showing the means for anchoring the spacing rods in the side bars.

Figure 13 is a plan view of the wire knife unit. Figure 14 is a horizontal sectional view through a portion of the wire knife unit.

Figure 15 is a detail view in perspective of the drive connection between the wire severing knives and the knife unit.

Referring now to the drawings in detail, it will be seen that the embodiment of the invention which has been illustrated comprises a base 1 from which an angular arm 2 rises. Mounted on the base 1 is a plate or block of any suitable material which provides a platform 3. On the free end of the arm 2 is a housing 4 in which a rack bar 5 is mounted for vertical sliding movement. Journaled transversely in the housing 4 is a shaft 5 having fixed thereon a gear 6 which is operatively engaged with the rack bar 5. Also fixed on the shaft 5 is a hand lever 7. A spring 8 is engaged with the lever 7 for returning the rack bar 5 to raised position.

Mounted on the lower end of the rack bar 5 is a knife unit which is designated generally by the reference numeral 9. The unit 9 includes a plate 10 from which a socket 11 rises for the reception of the lower end portion of the rack bar 5. The plate 10 is removably secured to the rack bar 5 through the medium of a set screw 12. Removably secured in the lower side of the plate 10 is a plurality of spaced, parallel bars 13 from which substantially cross-shaped knives 14 depend. It may be well to here state that the knives 14 may be of any desired shape, according to the design which it is desired to make in the patties or cakes.

Mounted beneath the knife unit 9 is a press which is designated generally by the reference numeral 15. The press 15 comprises a plate 16 having openings 17 formed therein for the passage of the knives 14. It will be observed that the openings 17 conform substantially in shape to the knives 14. The plate 16 is suspended beneath the knife unit 9 for vertical movement relative to said knife unit through the medium of guides 18, said guides 18 being in the form of thumb screws threadedly engaged for adjustment in the plate 16 and extending slidably through the plate 16 of said unit 9. Coil springs 19 encircle the guides 18 and yieldingly urge the press 15 downwardly.

Extending upwardly into the plate 16 from the lower side thereof and in a manner to provide depending walls or flanges 20, is a pressing or molding chamber 21. In a pair of the walls 20 longitudinally extending slots 22 are provided which communicate with the chamber 21.

Mounted on the walls 20 in which the slots 22 are formed are guides 23 in which bars 24 are slidably mounted. Spacing rods 25 extend between the end portions of the bars 24, said rods passing through the slots 22 and traversing the chamber 21. Extending back and forth between the bars 24 is a wire which provides a plurality of spaced, parallel severing knives 27 in the upper portion of the chamber 21, the ends of said wire being anchored in the bars 24. This is shown to advantage in Figures 13 and 14 of the drawings. A pair of links 28 operatively connects the bars 24 to the plate 10 in a manner to actuate said bars against the tension of coil springs 29. Adjustable stops 30 are threadedly mounted in the lower portion of the plate 16 and depend therefrom for engagement with the platform 3.

Briefly, the operation of the machine is as follows:—

The desired quantity of ground meat or other material is placed on a sheet of paper and mounted on the platform 3. The hand lever 7 is then pulled forwardly and downwardly against the tension of the spring 8 to lower the rack bar 5. As the press 15 moves downwardly the chamber 21 therein receives the meat and substantially flattens and otherwise molds said meat to the desired form. When the press 15 reaches the limit of its downward movement and is arrested by the adjustable stops 30, the unit 9 may continue to move downwardly against the tension of the coil springs 19. As the unit 9 moves downwardly relative to the now stationary press 15 the links 28 shift the bars 24, together with the knives 27, against the tension of the springs 29. The knives 14 then pass through the openings 17 in the plate 16 and make the desired ornamental indentations or designs in the meat or other material. Any suitable means may, if desirable or necessary, be provided for limiting the depth to which the knives 14 may penetrate the meat or other material. When the rack bar 5 moves upwardly, the knives 14 are withdrawn from the openings 17. After the knives 14 clear the chamber 21 the knives 27 are moved back across the openings 16 and sever the meat or other material which may otherwise cling or adhere to the lower side of the plate 16. The press 15 is then picked up by the guides 18 and said press is elevated with the knife unit 9, thus completing the operation.

It is believed that the many advantages of a machine constructed in accordance with the present invention will be readily understood, and although a preferred embodiment of the device is as illustrated and described, it is to be understood that changes in the details of construction and in the combination and arrangement of parts may be resorted to which will fall within the scope of the invention as claimed.

What is claimed is:—

1. A patty machine comprising a base for supporting the material from which the patty is

made, a vertically movable knife unit mounted above said base, means for raising and lowering said knife unit, a press yieldingly suspended beneath the knife unit and operatively engageable with the material, horizontally movable knives on the press for removing the material therefrom, the vertically movable knife unit including a gang of knives operatively engageable with the material for making indentations therein, the press having openings therein for the passage of the vertically movable knives, and means on the knife unit for actuating the horizontally movable knives.

2. A patty machine comprising a base, said base being adapted to support the material from which the patty is made, a vertically movable knife unit mounted above the base, means for raising and lowering the knife unit, a press yieldingly suspended beneath the knife unit and operatively engageable with the material, said press including a plate having a chamber therein for the reception of the material, certain of the walls of the chamber having slots therein, bars slidably mounted on said certain walls, severing knives extending between the bars for removing the material from the plate, resilient means for actuating the bars in one direction, the vertically movable knife unit including a gang of depending knives operatively engageable with the material for making indentations therein, the plate having openings therein communicating with the chamber for the passage of the vertically movable knives, and links operatively connecting the bars to the vertically movable knife unit for actuating said bars against the tension of said resilient means.

3. A patty machine comprising a base, a platform mounted on said base for receiving the material from which the patty is made, an arm rising from the base, a housing on the free end of said arm, a rack bar mounted for vertical sliding movement in the housing, means in the housing for raising and lowering said rack bar, a vertically movable knife unit mounted on the lower end of the rack bar, said knife unit including a plate, a gang of knives depending from the plate and operatively engageable with the material, a press yieldingly suspended beneath the knife unit and operatively engageable with the material, said press including a plate having a chamber therein for the reception of the material, said plate further having openings therein for the passage of the severing knives, a plurality of knives slidably mounted on the second-named plate and traversing the chamber for severing the material from said second-named plate, links operatively connecting the first named plate to the severing knives for actuating said second-named knives in one direction, and springs operatively connected to the knives for moving the severing knives in the opposite direction.

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