Jan. 8, 1935. W. F. SHELGREN 1,987,029

PATTY FORMING MACHINE

Filed Jan. 21, 1933 2 Sheets-Sheet 1

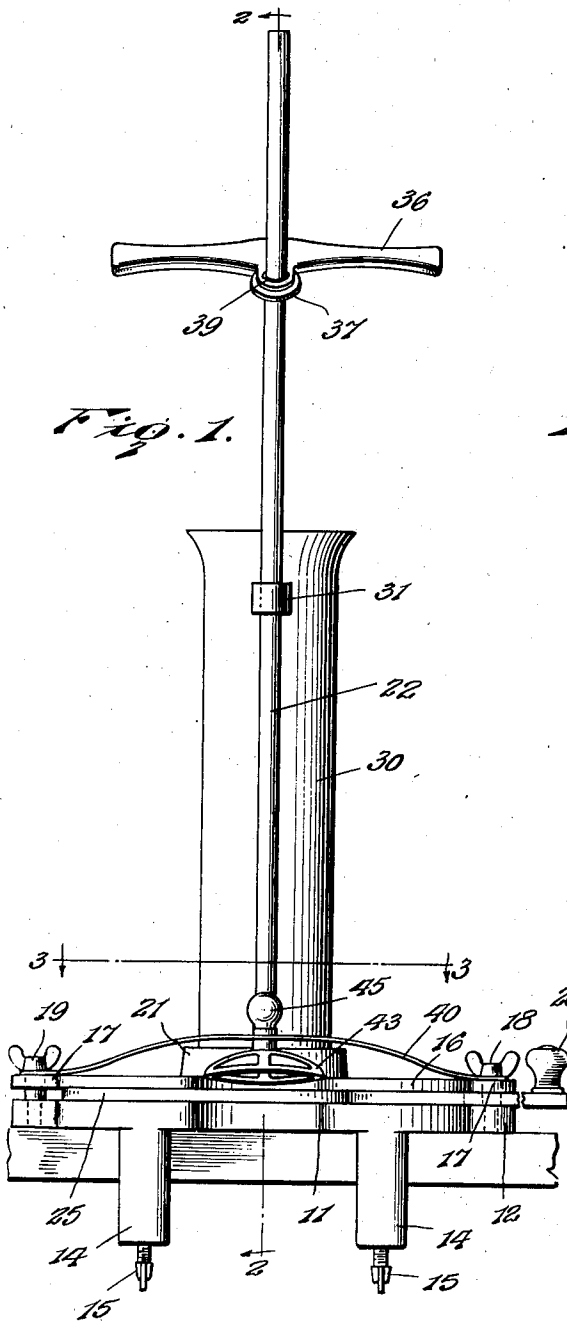


Fig. 1.

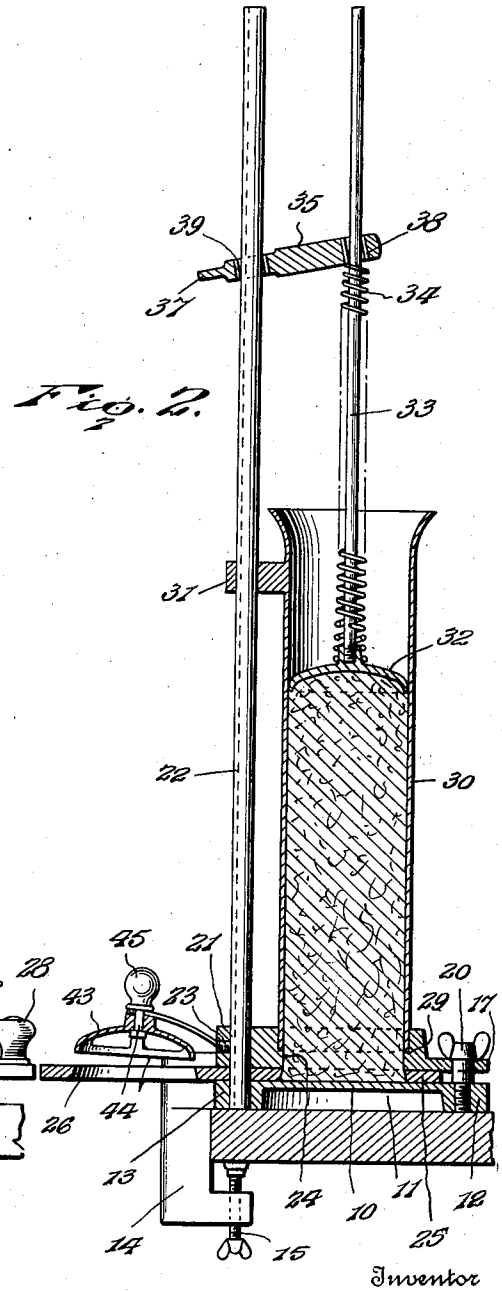


Fig. 2.

Inventor

W. F. Shelgren.

By Lacey & Lacey, Attorneys

Jan. 8, 1935. W. F. SHELGREN 1,987,029

PATTY FORMING MACHINE

Filed Jan. 21, 1933 2 Sheets-Sheet 2

Fig. 3.

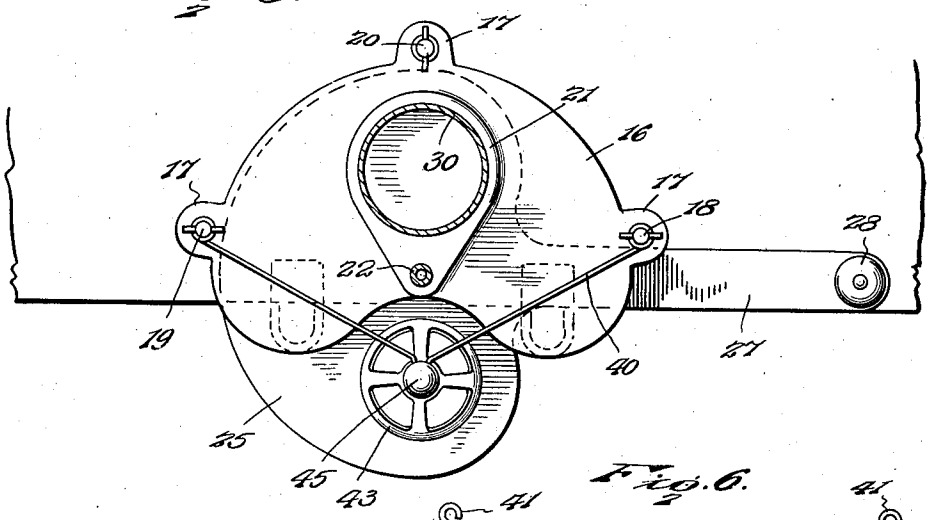


Fig. 6.

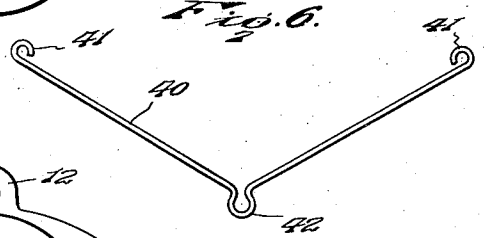


Fig. 4.

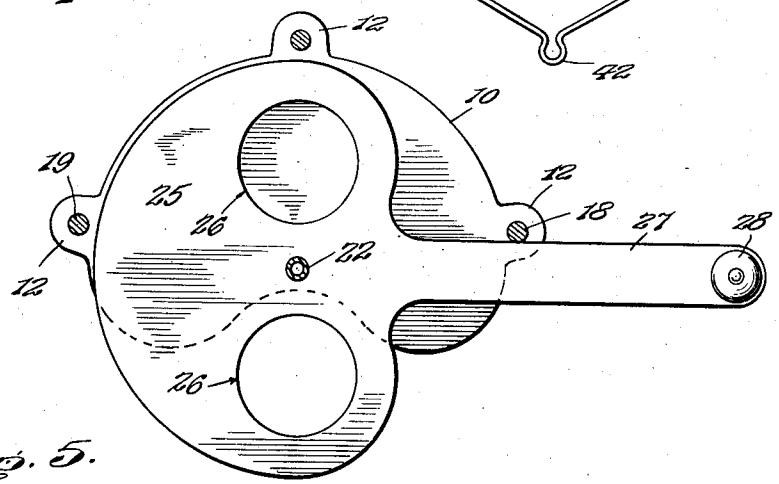
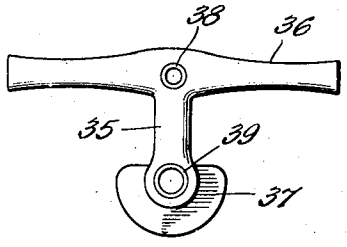


Fig. 5.



Inventor

W. F. Shelgren.

By Lacey & Lacey,

Attorneys

Patented Jan. 8, 1935 1,987,029

UNITED STATES PATENT OFFICE

1,987,029

PATTY FORMING MACHINE

Walter F. Shelgren, Bradford, Pa.

Application January 21, 1933, Serial No. 652,916

5 Claims. (Cl. 107—8)

This invention relates to an improved patty forming machine and while being particularly designed for forming raw hamburg patties, still, I do not wish to be limited in this respect as the machine is well adapted for the dispensing of other edibles.

The invention seeks, as one of its principal objects, to provide a machine which may be used in restaurants or lunchrooms or on lunch wagons or the like for easily and quickly dispensing raw hamburg patties ready to be cooked, without the necessity for manually forming the patties.

The invention seeks, as a further object, to provide a machine which will dispense raw hamburg patties of uniform size and weight, wherein the ground meat will be protected against contamination and wherein the machine may be readily taken apart and cleaned so as to be maintained in a thoroughly sanitary condition.

And the invention seeks, as a still further object, to provide a machine which will be characterized by structural simplicity, sturdiness and durability as well as ease of operation.

Other and incidental objects of the invention, not specifically mentioned in the foregoing, will be apparent during the course of the following description.

In the drawings, Figure 1 is a front elevation of my improved machine,

Figure 2 is a vertical sectional view on the line 2—2 of Figure 1,

Figure 3 is a transverse sectional view on the line 3—3 of Figure 1,

Figure 4 is a transverse sectional view particularly showing the forming knife,

Figure 5 is a detail plan view of the tension lever for the follower spring of the device, and

Figure 6 is a detail plan view of the ejector spring employed.

In carrying the invention into effect, I employ a flat substantially semi-circular lobate base 10 having a base flange 11 at its perimeter, and projecting from said flange, flush with the upper face of the base, are equi-distantly spaced radial ears 12. At a point midway of the concave portion of the front edge of the base, the flange 11 is thickened to form a boss 13 and depending from said flange, at the front lobes of the base, are L-shaped brackets 14. As shown in the drawings, the base is adapted to rest flat upon a table or the like with the brackets 14 abutting the adjacent edge of the table so that the midpoint of the concave portion of the front edge of the base will be flush with the adjacent edge of the table, and screwed through said brackets are clamp screws 15 for rigidly securing the base to the table. By thus employing a pair of brackets to coact with the edge of the table at spaced points, skewing of the base relative to the table will be obviated.

Overlying the base, in spaced parallel relation thereto, is a top plate 16. This plate is of the same shape as the base, being provided with ears 17 registering with the ears 12, and extending freely through the ears of the top plate but screwed into the ears of the base are wing bolts which, for convenience, have been indicated at 18, 19 and 20. These bolts serve, of course, to rigidly connect the top plate with the base. Formed on the top plate 16, at its upper side, is an upstanding medially disposed boss 21 tapered toward the midpoint of the concave portion of the front edge of the base, and extending through the apex of said boss 21 is a vertically disposed tubular post 22 fixed at its lower end in the boss 13 of the base. Fitted in the apex of the boss 21, at its forward edge, is a set screw 23 which impinges against the post to secure the same in the top plate.

Formed medially in the top plate 16 is a discharge opening 24 and pivoted medially upon the post 22 is a substantially semi-circular forming knife 25 snugly but rotatably accommodated between the top plate and the base. As seen in Figure 4, the knife 25 is provided with spaced patty forming openings 26 and extending from the forward edge of said knife is an operating lever 27 equipped at its outer end with an upstanding handle 28. In the present instance, I have shown the openings 26 as being circular. However, the exact shape of these openings may be varied as desired as may also the size of the openings in accordance with the size and weight of the patty which it is desired to form. As shown in Figure 2, the walls of the openings 26 are inclined downwardly, the diameter of the openings being slightly greater at the bottom of the knife than at the top thereof so that meat patties formed in said openings may be readily discharged downwardly therefrom. The openings 26 are of the same diameter as the discharge opening 24 and are so positioned that when the lever 27 is swung to the right to engage the bolt 18, as shown in Figure 4, one of the openings 26 will register with the discharge opening while, when the lever 27 is swung to the left to engage the bolt 19, the other of the openings 26 will register with the discharge opening. The bolts 18 and 19 thus provide stops for limiting the movement of the forming plate.

At the upper end of the discharge opening 24, the boss 21 of the top plate 16 is recessed to pro-

vide an annular shoulder 29 and fitting at its lower end in said recess to abut said shoulder is a cylindrical hopper 30. This hopper is preferably flared at its upper end and projecting laterally therefrom is a lug 31 which receives the post 22 therethrough, the lug thus serving to brace the upper end portion of the post and hold the hopper thereto. Slidable in the hopper is a concavo-convex follower 32, the concave face of which is presented downwardly so that the edge of the follower will more or less closely coact with the wall of the hopper to prevent the contents of the hopper from forcing itself upwardly past the follower, and screwed at its lower end into the follower, centrally thereof, is a stem 33 surrounding which is a spring 34. Slidable on the post 22, as well as on the stem 33 of the follower, is a tensioning lever 35 which is substantially T-shaped to provide handles 36 at one end of the lever while at its opposite end the lever is provided, as seen in Figure 5, with a semicircular fin 37. At one extremity, this lever carries a hardened bushing 38 which freely receives the stem 33 therethrough while, at its opposite extremity, the lever carries a hardened bushing 39 which freely accommodates the post 22. Thus, by grasping the handles 36 with the fingers and placing the thumbs beneath the fin 37 the lever may be rocked to a horizontal position whereupon it may be freely shifted downwardly along the post 22 as well as along the stem 33 of the follower for compressing the spring 34. Then, by tilting the lever to the position shown in Figure 2, the bushing 39 will be caused to grip the post 22 for securing the lever in adjusted position and maintaining the tension of the spring.

Fixed at its ends to the bolts 18 and 19 is a substantially V-shaped spring 40 bent at its extremities to provide loops 41 which accommodate the bolts therethrough while at its apex the spring is bent to provide an eye 42. This spring carries a cup-shaped ejector 43 which is preferably of skeleton construction, and connecting the ejector with the spring is a bolt 44 which extends through the eye 42 of the spring and is equipped at its upper end with a handle 45. The concave side of the ejector is, as particularly seen in Figure 2, presented downwardly and the major diameter of said ejector is slightly less than the diameter of the openings 26 at the upper side of the forming knife 25, the ejector being supported by the spring 40 in such position that when the lever 27 is swung to abut the bolt 18 the ejector will be disposed over one of the openings 26 while, when the lever is swung to engage the bolt 19, the ejector will be disposed over the other of said openings.

In use, the hopper 30 is filled with ground meat, the follower 32 is disposed within the upper end of the hopper and the lever 35 adjusted downwardly on the post 22, as previously explained, for tensioning the spring 34 so that the spring will thus function to force the follower downwardly within the hopper and compress the meat. The concave face of the follower will, of course, tend to gather the meat toward the center of the follower and thus overcome any tendency of the ground meat to force past the edge of the follower, thereby eliminating the necessity for the use of any tight fitting sealing ring. Thus, when the lever 27 of the forming knife 25 is swung to the position shown in Figure 4, so that said lever abuts the bolt 18, the opening 26 of said knife disposed in register with the discharge opening 24 of the top plate 16 will be filled with meat. When the lever 27 is next swung to engage the bolt 19, the other of the openings 26 in the forming knife will be moved to a position in register with the discharge opening 24 to be filled with meat while the filled opening will be moved to a position at the front of the machine beneath the ejector 43. Accordingly, by striking the handle 45 the ejector will be depressed for dislodging the meat from the filled opening of the forming knife and, of course, the meat so dislodged will be in the form of a circular cake or patty. Due to the fact that the ejector is of concavo-convex construction, the ejector will strike the formed meat patty at its edge only where it clings to the wall of the forming opening of the knife. The thin edge of the patty is not sufficient to cause the patty to hang to the ejector so that the dislodged patty freely falls from the ejector. Thus, the forming knife 25 may be oscillated back and forth to deliver formed hamburger patties until the supply of meat in the hopper 30 is exhausted and, of course, the lever 35 may be shifted downwardly from time to time for renewing the tension on the spring 34 so that the follower 32 will effectively feed the meat supply into the openings of the forming knife.

Having thus described the invention, I claim:

1. A device of the character described including a base, a hopper carried thereby for containing a supply of material, means pivoted upon the base to oscillate over the base and under the hopper and at its limit of movement in either direction to receive a charge from the hopper and simultaneously deliver a previously received charge at a point of discharge a follower for the material within the hopper, a spring acting on the follower, and means for adjusting tensioning said spring.

2. A device of the character described including a base, a top plate carried thereby and provided with a discharge opening, a post upstanding from the base, a hopper carried by the top plate to communicate with said opening, a forming knife pivoted upon the post between the base and top plate and provided with a patty forming opening, the knife being movable in one direction to dispose said patty forming opening in register with said discharge opening to receive a predetermined quantity of material from the hopper and in the opposite direction to deliver said quantity of material for use, a spring retracted ejector movable to dislodge said quantity of material from said patty forming opening after the forming knife has been shifted in the latter direction, a follower for the material within the hopper and provided with a stem, a spring surrounding said stem, and a lever mounted upon the post to coact with said spring and adjustable for tensioning said spring.

3. A device of the character described including a base, a top plate carried thereby, bolts detachably connecting the top plate with the base, the top plate being provided with a discharge opening, a hopper carried by the top plate to communicate with said opening, a forming knife pivoted to oscillate between the base and top plate and provided with a patty forming opening, the knife being movable in one direction to dispose said patty forming opening in register with said discharge opening to receive a predetermined quantity of material from the hopper and in the opposite direction to deliver said quantity of material for use, a lever

carried by the forming knife and engageable with said bolts selectively for limiting the oscillatory movement of the knife, a spring carried by said bolts, and an ejector carried by said spring and movable to dislodge said quantity of material from said patty forming opening after the knife has been shifted in said last-mentioned direction.

4. In a device of the character described, a base, a post upstanding therefrom, a hopper, a follower, a spring for advancing the follower within the hopper, and means adjustable upon the post for tensioning said spring and angularly movable to grip the post for securing said means in adjusted position.

5. In a device of the character described, a base, a post upstanding therefrom, a hopper, a follower having a stem, a spring surrounding said stem, and a lever adjustable upon the post for tensioning said spring to advance the follower and angularly shiftable to grip the post for locking the lever in adjusted position.

WALTER F. SHELGREN. [L. S.]