May 6, 1930. C. C. COMSTOCK 1,757,447

HAMBURGER MOLD

Filed March 5, 1928 2 Sheets-Sheet 1

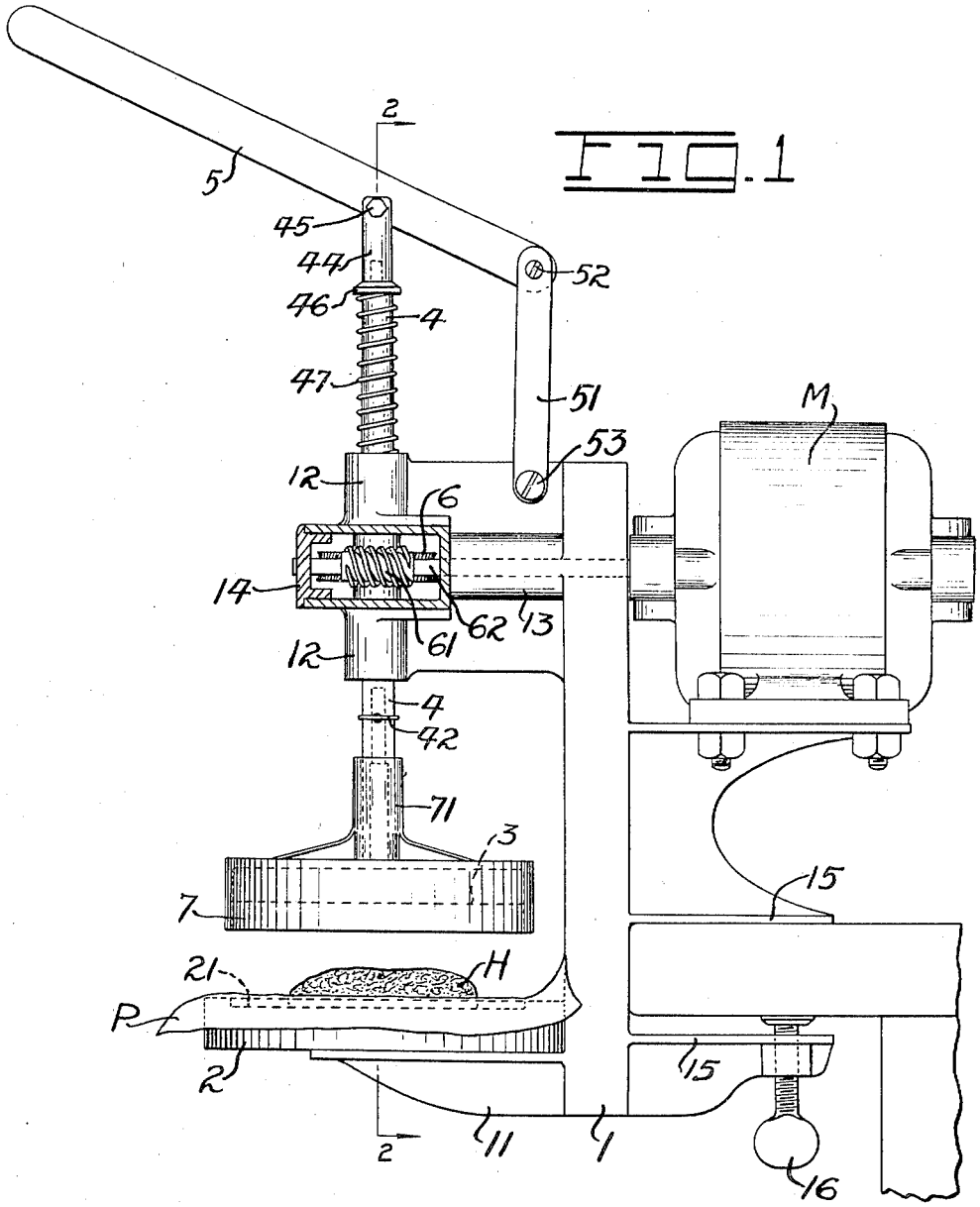


FIG. 1

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FIG. 3

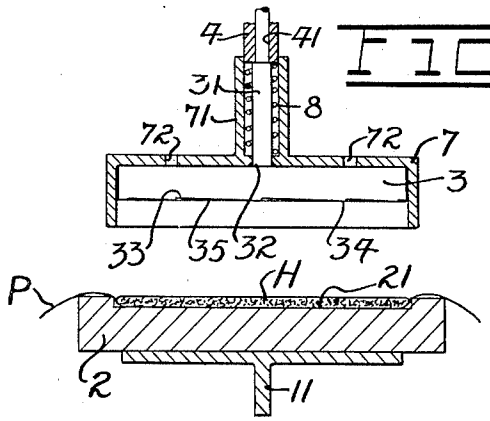


FIG. 2

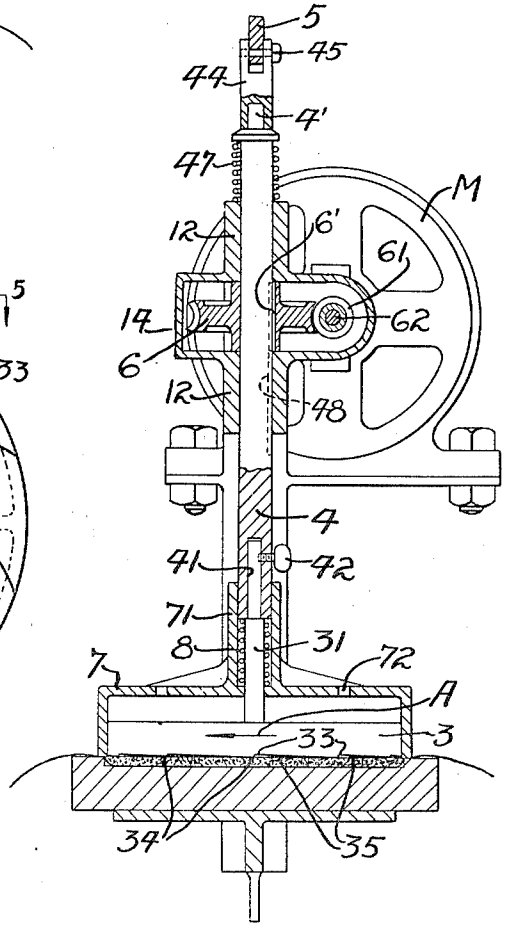


FIG. 4

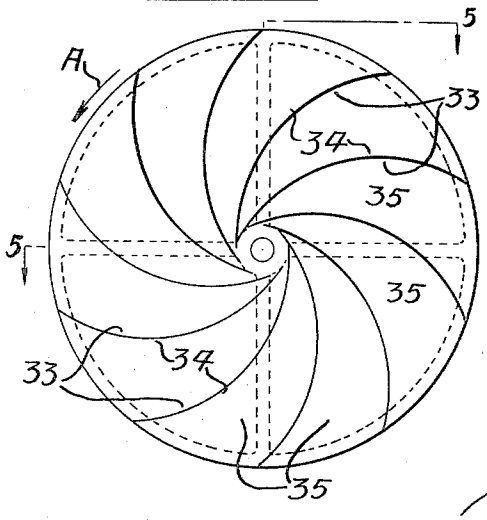
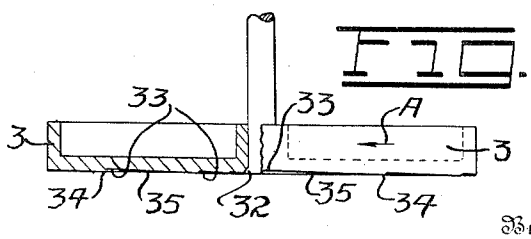


FIG. 5



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UNITED STATES PATENT OFFICE

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HAMBURGER MOLD

Application filed March 5, 1928. Serial No. 259,133.

My invention relates to an improvement in hamburger molds and particularly to a press for molding a quantity of hamburger into cakes of a desired size, such as are used in large numbers in roadside restaurants.

Another object is to provide a mold which may easily be withdrawn from the hamburger after pressing.

A further object is to provide means for preventing escape of hamburger from the sides of the mold.

With these objects and others, which will be ascertained from an inspection of the following specification and claims, my invention comprises the novel parts and combinations thereof, shown in the accompanying drawings, described in the specification, and particularly defined by the claims terminating the same.

In the accompanying drawings, I have shown my invention in the form which is now preferred by me, it being understood that the principles of this invention as defined in the claims may be embodied in various mechanical forms.

Figure 1 is a side elevation of my invention, showing a quantity of hamburger in place before being pressed.

Figure 2 is a section on line 2—2 of Figure 1, showing the hamburger being pressed.

Figure 3 is view similar to Figure 2 showing the hamburger after being pressed and with the upper mold unit raised.

Figure 4 is a face view of my presser plate.

Figure 5 is an elevation partly in section on line 5—5 of Figure 4.

In providing a suitable mold to form the hamburger H into cakes, I may provide a base 2 having a circular recess 21 of a size equal to the size of the hamburger cake desired. This base 2 may be supported by an integral flange 11, projecting from the main frame 1. The base, which may be made of wood, may be secured to the flange in any suitable manner.

In order to place the hamburger in position in the recess 21, it has been found desirable to employ a sheet of wax paper to support the hamburger, and in the operation of the press this paper will stand the strain without tearing.

As a means of pressing the hamburger and spreading it, I provide a circular presser plate 3, which I desire to rotate as well as press in order to release the hamburger from the presser 3. In carrying out this idea I may provide a shaft 4, mounted in suitable spaced guides 12 cast integral with the main frame 1. It is desired to stop the shaft 4 short of the presser 3 and I therefore provide an axial bore 41 in the lower end of the shaft 4. A shaft 31, of a size less than that of shaft 4, is secured to the presser in any suitable manner, and is shown in Figure 5, as having an enlarged head 32. The upper end of the shaft 31 is received in the bore 41 of the shaft 4, and held secure by a set screw, 42.

In providing means for pushing the shafts 4 and 31 and the presser 3 downward, I may provide a lever 5 pivotally connected to one end of a link 51, as at 52, and with the other end of the link pivoted on the main frame as at 53. As it is desired to rotate the shaft 4, direct connection between the lever 5 and shaft 4 is not possible, but a thimble 44 is provided therefor, which is adapted to fit on the reduced end 4′ of the shaft 4. The upper end of the thimble 44 may then be pivotally secured to the lever 5, as at 45. To return the lever 5, shaft 4 and presser 3 to upraised position, I may provide an enlarged bead 46 on the upper end of the shaft 4, with a spring 47 surrounding the shaft 4 and interposed between the upper guide 12 and the bead 46.

The rotating of the shaft 4 may be accomplished by any suitable means, as for example a worm gear 6 and pinion 61 connected by a shaft 62 through a bearing 13 in the main frame to an electric motor M. The main frame may be cast so as to enclose the worm drive on five sides. The sixth side, as for example the plate 14, may be secured to the closed sides in any suitable manner. The plate 14 may carry a bearing for the shaft 62. In order to slidably secure the worm gear 6 on the shaft 4, I may provide a vertical slot 48 in the shaft 4 and a key 6′ in the

gear 6, the slot being of sufficient length to correspond with the extreme up and down movement of the shaft 4.

To prevent escape of the hamburger when the presser 3 is in operation, an inverted cup 7 of greater depth than the thickness of the presser 3 is provided. The cup 7 has an integral boss 71 surrounding the shaft 4 with a free sliding fit. A spring 8, interposed between the end of shaft 4 and the cup 7 within the space between shaft 31 and the boss 71, tends to force the cup down against the upper surface of the presser 3. In operating position the cup 7 comes in contact with the base 2, which tends to hold the cup against rotation, while the presser 3 continues downward, rotating and pressing the hamburger into the recess 21. To prevent particles of hamburger from getting between the side walls of the cup and presser, a sliding fit is necessary. In addition, the inner surface of the cup and the outer surface of the presser wall are made of a diameter less than that of the base recess 21 to help prevent hamburger being forced between the cup and presser. To allow free movement of the cup and presser vents 72 in the head of the cup are provided.

Ordinarily, if a flat bottomed presser was used to press the hamburger into the mold, a suction would be created when the presser is withdrawn from the hamburger. To prevent this, radially extending, or spiral grooves 33, are provided to break and eliminate suction. In addition, between each groove 33 and the following ridge 34 (see Figures 2, 3 and 5) an inclined surface 35 is formed, which acts to force or spread the hamburger outwardly as the presser advances in the direction of the arrow A.

To facilitate supporting of my device upon tables, benches, shelves, etc., the frame 1 may be provided with lugs 15 adapted to span the above mentioned supporting members. To hold the device in place a set screw 16 may be employed.

What I claim as my invention is:

1. In a hamburger mold, in combination, a base, a cup, and a presser plate within said cup, means for rotating said plate, and means for advancing said cup and plate towards the base, the cup being normally held against rotion upon its contact with the base, and the plate being free to continue its rotation independently of the cup.

2. In a hamburger mold, in combination, two cooperating mold units, a rotative plate within and movable axially relative to one of said units, means for continuously rotating said plate, and means for causing said units to approach and recede from each other.

3. In a hamburger mold, in combination, two cooperating mold units, a rotative plate within one of said units, means for continuously rotating said plate, and means for causing said units to approach and recede from each other, said rotative plate being further movable towards the opposite mold after closing of the mold.

4. In a hamburger mold, in combination, a base, a cup, and a rotative presser plate within said cup, means for rotating said plate, means for advancing said cup and plate towards the base, the cup being normally held against rotation by contact with the base, but the plate being free to continue its rotation, and means associated with the presser plate to prevent the sticking of hamburger thereon when the plate is retracted.

5. In a hamburger mold, in combination, a base, a cup, and a rotative presser plate within said cup, means for rotating said plate, means for advancing said cup and plate towards the base, the cup being normally held against rotation by contact with the base, but the plate being free to continue its rotation, and the side of said plate towards the base having spiral grooves therein adapted to prevent suction on the hamburger when the plate is retracted.

6. In a hamburger mold, in combination, a base, a circular cup, and a presser plate within said cup, a circular recess of predetermined depth in said base on the side facing the cup, the periphery of said recess being slightly larger than the inner periphery of said cup, means for continuously rotating said plate, and means for advancing said cup and plate towards the base, the cup being normally held against rotation by contact with the base.

7. In a hamburger mold, in combination, a base, an upper mold unit cooperating therewith and comprising a cup and a rotative presser plate within said cup, a drive shaft having its lower end axially bored, a stub shaft projecting from said presser plate and having an end removably secured within the bore of said main shaft, a spring surrounding said stub shaft and interposed between the main shaft and the cup, means for rotating the two shafts, and means for advancing the upper mold unit towards the base.

8. In a hamburger mold, in combination, a base, an upper mold unit, comprising a cup and a rotative presser plate within said cup, means for continuously rotating said plate, means for advancing said cup and plate towards the base, the side of the plate towards the base having surfaces slightly inclined in the direction of rotation to spread the hamburger evenly against the base.

9. In a hamburger mold, in combination, a base, a cup, and a rotative presser plate within said cup, the cup being normally held against rotation by contact with the base, means for rotating said presser plate including a vertical drive shaft secured to said presser plate, a frame having guide bearings supporting said shaft, rotatable driving means on said shaft, means for advancing

the cup and presser plate towards the base, comprising a thimble mounted on the upper end of said shaft, a lever pivotally supported by one end from the frame, said lever being pivoted to said thimble, a bead on the upper end of said shaft and a spring interposed between said bead and said guide bearing to raise the cup and presser plate.

10. In a hamburger mold, in combination, a base, a vertical shaft and means for rotating it, a plate secured to the lower end of said shaft, an inverted cup loosely supported on the shaft and normally depending below the plate, and means for depressing the shaft, plate and cup, the cup contacting with the base and the plate continuing its downward movement independently of the cup.

11. In a mold for plastic substances, in combination, a plate and means for rotating it continuously in one direction, a cup inverted over and extending below said plate, and means to depress said cup and plate to permit the cup to contact with a surface beneath it, and said plate to engage a plastic substance upon such surface, and to move axially relative to the cup, to approach and recede from such surface.

12. In a mold for plastic substances, a plate and means for continuously rotating it, the the plate having its under surface generally smooth, but having air channels extending generally radially thereof.

13. In a mold for plastic substances, a plate and means for continuously rotating it, the plate having its under surface generally smooth, but having air channels extending generally radially thereof, the sides of said channels facing in the direction of rotation being of gradual inclination, and the opposite sides being abrupt, but of slight depth.

Signed at Seattle, King County, Washington, this 28th day of February, 1928.

CHARLES C. COMSTOCK.