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DISPENSING DEVICE FOR DISPENSING BATTER AND THE LIKE

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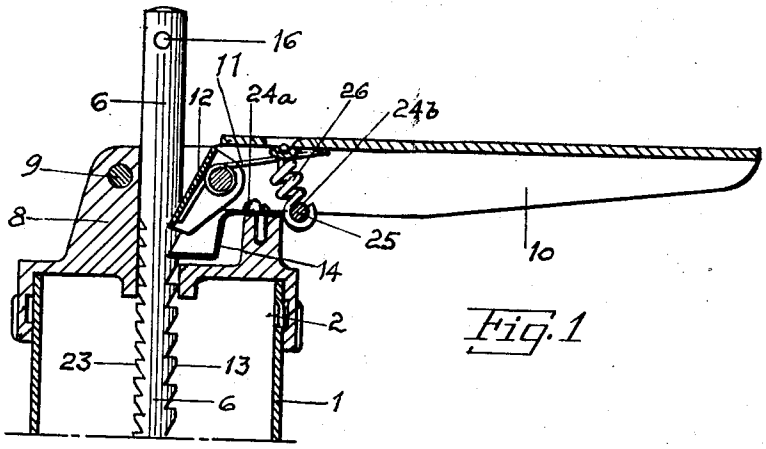


Fig. 1

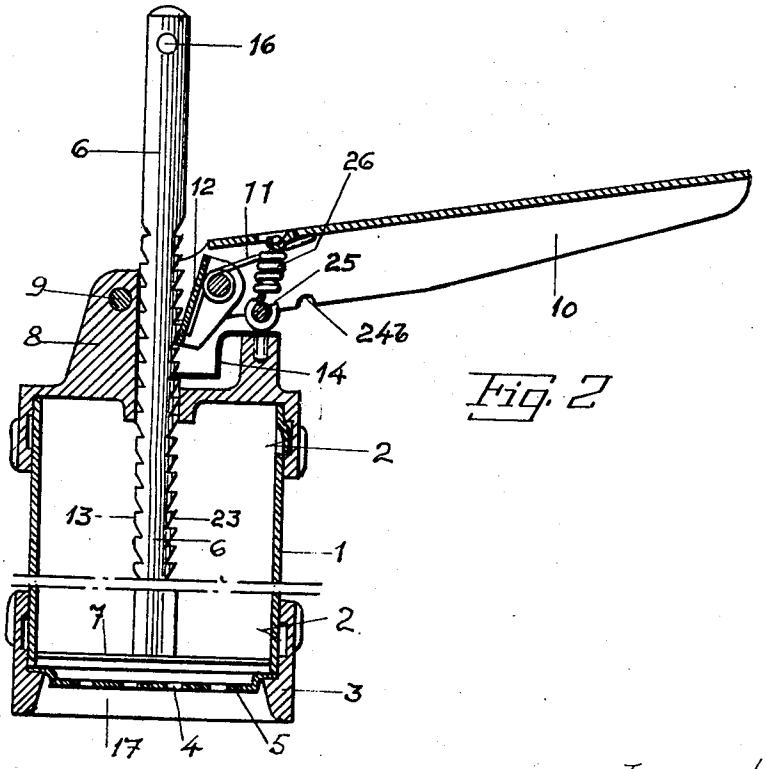


Fig. 2

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DISPENSING DEVICE FOR DISPENSING BATTER AND THE LIKE

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5 Claims. (Cl. 222—289)

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This invention relates to dispensing devices for dispensing batter and other substances for making cookies of exactly the same mutual volume. These known devices generally comprise a cylinder in which is slidable a piston for the extrusion through a mouth piece provided on the one end of the cylinder of batter filled in the cylinder. The piston is operated by means of a toothed piston rod which is adapted to co-operate with an actuating device pivotally journalled on the other end of the cylinder and provided with a pawl which engages the teeth and, when operated, forces the piston rod step by step into the cylinder. Means are also provided so as to engage after each step a tooth in order to prevent the undesired return of the piston. The mouth piece consists of a flange with interchangeable dies, through the apertures of which the batter is extruded.

The invention relates to dispensing devices of the said kind and consists of a device which is adapted to increase the capacity of the device and makes it possible to produce cookies of different size, shape and thickness. This is of great importance, as different cookies are to be made of different thickness or height.

The device according to the invention is principally characterized by the feature that the piston rod is provided with two or more rows of teeth with mutually different pitches so that it is possible, by using one or other of them and by changing the mouth piece and dies, to vary the shape, the size and the thickness of the produced cookies.

The invention will be better described in the following specification with reference to the annexed drawing which by way of example schematically shows an embodiment of the invention. Fig. 1 shows a longitudinal section of a dispensing device according to the invention, and Fig. 2 the same section with the lever handle in another position.

In the drawing, 1 denotes a cylinder, the anterior end of which is provided with a mouth piece cap 3 adapted detachably to be fixed to the cylinder, by means of a lock device 2, whereby interchangeable dies 5 may be inserted between the cylinder end and the cap. Said dies are provided with apertures 4, the number, size and configuration of each may be varied.

Reciprocably mounted in the cylinder 1 is a piston 7 having a central piston rod 6 provided with toothing consisting of two rows 13 and 23 of different pitch. The piston rod 6 is journaled in an end cap on the rear end of the cylinder,

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which cap is by means of a similar lock device 2 as for the mouth piece cap detachably fixed to the cylinder. The end cap 8 serves simultaneously as bearing for the actuating device for the piston rod 6.

On the end cap 8 there is by means of a bolt 9 pivotally journalled a lever handle 10 which actuates an actuating pawl 12 which is pivotally journaled in the end cap 8 and pressed by spring 11. Said actuating pawl 12 is adapted to engage with one of the tooth rows 13 or 23 on the piston rod 6. In order to prevent the rod from a return movement when it is fed by means of the actuating pawl 12, in the cap 8 there is disposed a spring means 14 which, when the piston rod is fed towards the mouth piece, is sliding on the teeth 13 or 23 respectively, but, as soon as the feeding movement has ceased, will engage that tooth on the rod which actually happens to be above the lock spring 14. The lever handle 10 is provided with notches 24*a* and 24*b* which a stop device 25 is adapted to engage, the stop device 25 being urged therein by means of a spring 26 which at its opposite end is connected to the handle 10. The piston rod 6 is on its external free end provided with a handle, for instance a transversal pin 16. By means of this pin the piston rod may be turned so that it selectively may engage with the one or the other of the tooth rows 13 or 23 respectively and the feeding pawl 12. The piston rod may be provided with two rows of teeth, or with a plurality of such tooth rows. By turning the rod in such a position that the lock spring 14 is disengaged from the tooth rows and slides on a plane surface provided on the rod, the latter may be easily retracted to the initial position of the piston at the rear end of the cylinder.

The pitch of the tooth rows on the rod may conveniently be chosen thus that the length of two teeth on the one tooth row 13 is equal to the length of three teeth on the other row 23. If in this case the stop device 25 is positioned as per Fig. 1 with the coarser tooth row engaging the lock spring 14, the rod 6 will at each pivoting movement of the lever handle 10 be fed one tooth in forward direction.

If, however, as shown in Fig. 2, the narrow tooth row 23 is in operating position, the piston rod will be fed one tooth forwards, provided the stop device 25 engages the notch 24*a*. When placing the said stop device in the notch 24*b*, the handle 10 will perform a larger angular movement, and the rod will be fed two teeth forward.

By means of these different feeding movements it is possible to obtain different volumes of the cookies extruded from the mouth piece. In order to give them the correct shape, the space 17 between the inside of the mouth piece die 5, the external edge of the cap 3 and the baking plate or the like must be adapted exactly to suit the volume of the extruded batter material. This may be done either by using mouth piece caps with different spaces 17 and plane dies 5, or by using one and the same mouth piece cap with cup-shaped dies as per Fig. 2, either the concave or the convex surface of which may be directed outwards. For the same purpose the depth of the cup-shaped portion of the die may be varied.

The dispensing device according to the invention is used in the following way: After having inserted a die with appropriate apertures, and after having filled up the cylinder with a suitable quantity of batter, the piston is placed in its initial position and the external edge of the mouth piece is placed upon a baking plate. By means of the handle 10 the piston is then fed forwards and a suitable quantity of batter is extruded into the space between the baking plate and the mouth piece die. Thus, there is formed a cooky of a certain shape and size containing an exactly controlled quantity of batter in dependance of the shape of the apertures in the die and the pitch of the tooth row on the piston rod. No manual treatment of the extruded cookies is necessary after they have been extruded, and the batter extrusion is performed without touching the batter by hand, which ensures the greatest possible hygienic treatment of the cookies at the same time as the work can be done with the greatest possible exactitude and at a speed far higher than that obtained with dispensing devices of the hitherto known kind.

The invention shall not be restricted to the embodiment shown in the drawing and described in the above specification, but may be varied in different respects without departing from the spirit of the invention or restricting its scope.

What I claim as new and wish to protect by Letters Patent is:

1. A dispensing device for dispensing pasty substances for making cookies, comprising in combination a cylinder, a mouth-piece mounted on said cylinder, a piston slidably disposed in said cylinder for extruding through said mouth piece batter and the like from the cylinder, a piston rod connected to said piston and provided with toothing along its surface, an actuating means pivotally journaled on the rear end of said cylinder and operatively engaging said toothing, said actuating means including a lever handle and a pawl thereon engageable with the toothing in such a way that the piston is fed step by step, a locking device engageable after each actuating step with a tooth on the piston rod to prevent the undesired return of said piston, said mouth piece comprising a mouth piece die with extrusion apertures therein and a mouth piece cap adapted to secure said mouth piece die to the cylinder, said piston rod toothing including a plurality of tooth rows of different tooth pitch, said piston rod being rotatable around its longitudinal axis to bring said tooth rows of different pitch selectively into engagement with said actuating and locking devices whereby to feed the piston by steps of various length according to the pitch of the particular tooth row being used.

2. Dispensing device according to claim 1, characterized by the feature that a stop device is provided for selectively controlling the length of stroke of the lever handle causing the forward movement of the piston rod.

3. Dispensing device according to claim 1, characterized by the feature that a handle is provided on the external free end of said piston rod for rotating said piston rod to disengage said locking device for preventing the undesired return of the piston from the toothing of the piston, whereupon the rod together with the piston may be retracted from the cylinder.

4. Dispensing device according to claim 1, characterized by the feature that a plurality of said mouth piece dies of different configurations are selectively and interchangeably insertable in said mouthpiece cap and adapted to be combined in respect of their height, apertures and pitch whereby, when moving the piston forward one step, a quantity of batter is extruded which corresponds to the volume of the space within the inner wall of the mouth piece cap, the die and the surface upon which the extruded batter is deposited.

5. Dispensing device according to claim 1, characterized by the feature that cup-shaped dies are insertable into said cylinder whereby to modify the space within the mouth piece cap and the mouth piece die, said cup-shaped dies being selectively insertable into the cylinder with either the concave or the convex side directed outwards.

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