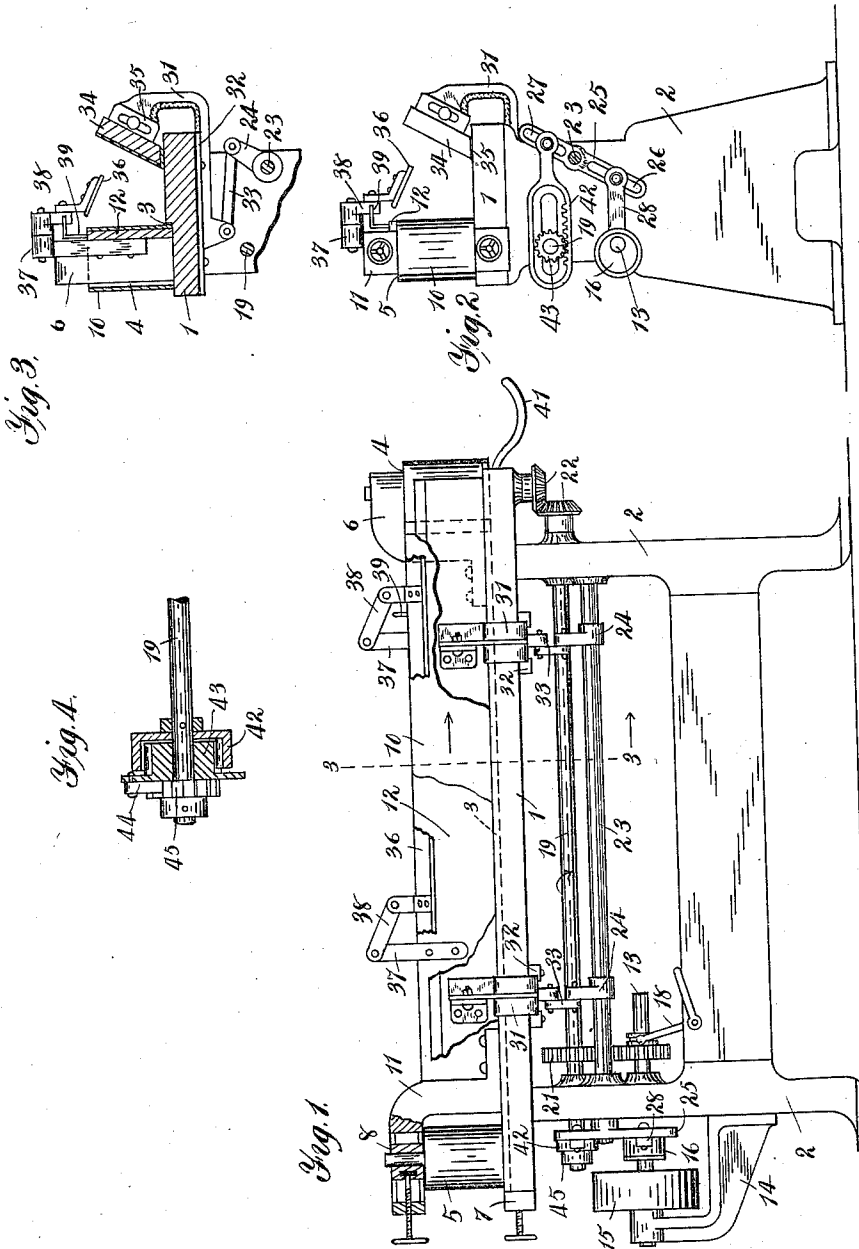


F. STREICH.
LOAF FORMING MACHINE.
APPLICATION FILED JULY 8, 1910.

Patented Nov. 12, 1912.

1,043,980.



Witnesses

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LOAF-FORMING MACHINE.

1,043,980.

Specification of Letters Patent.

Patented Nov. 12, 1912.

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To all whom it may concern.

Be it known that I, FRANK STREICH, citizen of the United States, residing at St. Louis, State of Missouri, have invented certain new and useful Improvements in Loaf-Forming Machines, of which the following is a specification.

My invention relates to loaf forming machines, and the chief objects of the improvements which constitute the subject matter of this application for patent are:—to provide means for shaping portions of dough of predetermined weight into forms suitable for producing round or spherical loaves; to provide mechanism for kneading the material while being shaped, to furnish interchangeable means for driving the endless apron continuously or intermittently, to arrange means for intermittently moving the forming board and the apron in unison, to provide means for adjusting the movement of the forming board and of the apron either simultaneously or independently, and to provide adjustable bearings for the apron guide roller.

I have attained the desired results by employing the apparatus illustrated in the accompanying drawing, the important details of construction being disclosed in the following views.

Figure 1 is a front elevation of a loaf forming machine embodying my improvements, some of the parts being broken away; Fig. 2 is an end elevation, with some of the parts removed; Fig. 3 is a sectional view on the line 3—3 of Fig. 1, and Fig. 4 is an elevation, partly in section, of the pawl and ratchet mechanism.

Referring to the details of the drawing, the numeral 1 indicates a table, supported upon legs 2 and having a longitudinal offset 3 in its surface along the rear margin. An endless canvas apron 10 is mounted upon vertical driving and guide rollers, 4, 5, and arranged with its lower front edge in contact with the offset 3. The opposite ends of the driving roller are respectively journaled in the table and a bracket 6 secured to the table, and the guide roller 5 has bearings 7 and 8 adjustable by means of screws 9, the upper bearing 8 being supported on a bracket 11. A guide board 12, secured to the table prevents the front portion of the apron from yielding under the pressure of the dough. A shaft 13 journaled in one of

the legs and in a bracket 14 carries a pulley 15 and an eccentric 16, splined on said shaft is a spur gear 17, moved longitudinally by means of a yoke lever 18. A main shaft 19 journaled in one of the legs 2, has a spur gear 21 which engages the gear 17, and transmits motion to the roller 4 through miter gears 22.

A rock shaft 23 is journaled in the legs 2 and furnished with crank arms 24, and a rocker arm 25 which extends in opposite directions from its supporting shaft and is provided with longitudinal slots 26, 27, in its respective ends. An eccentric rod 29 connects the eccentric 16 with the lower end of the rock arm and is adjustable in the slot 26. Brackets 31 are slidably mounted in guides 32 secured to the underside of the table, and are operatively connected to the crank arms 24 by means of connecting rods 33. Adjustably secured to the said brackets 31, so that it may be placed at various angles with the table, is a forming board 34, preferably covered with canvas, and provided with a knife 35 in movable contact with the table. A gravity forming board 36 pivoted to brackets 37 by means of links 38 is free to swing in a vertical plane and in positions parallel with both table and apron. This board is inclined laterally so that its face is over and substantially perpendicular to a plane which bisects the angle between the face of the apron and the forming board 34. A stop 39 engages with one of the links 38 to limit the downward swing of the board 36. Secured to the discharge end of the table is a stationary apron 41 to receive the formed loaves. A rack 42, adjustably secured in the slots 27 of the rocker arm 25 meshes with a flanged pinion 43 loosely mounted on the main shaft 9. This pinion has a pawl 44 which engages a ratchet 45 mounted on the shaft. By this means the said shaft is intermittently rotated, driving the apron in unison with the rearward movement of the forming board.

To operate the apron continuously the pawl can be secured out of engagement with its ratchet, or the rack and pinion disconnected and the gear 17 engaged with the gear 21. To drive the apron intermittently, the rack and pinion are used and the gear 17 disengaged from the gear 21 by moving the lever 18. The dough having been divided

into predetermined portions these are placed in succession upon the front end of the table and will be repeatedly pressed against the apron by the intermittent action of the forming board, the movement of the apron causing them to be gradually rolled rearwardly while subject to a kneading process from the weight of the gravity forming board, thus producing completely formed loaves of spherical shape which are discharged upon the receiving apron. The apron is kept at the required tension by adjusting the apron guide roller and the movement of the forming board varied by adjusting the attachment of the eccentric rod in the slot 26, while the intermittent movement of the apron may be regulated by adjusting the rack in the slot 27 of the rock arm.

Having thus described my invention, what I claim as new, is:—

1. A loaf forming machine comprising an endless apron, means for moving it intermittently, a forming board longitudinally parallel with and laterally inclined in relation to the apron, and means for reciprocating the board in a direction perpendicular to the apron and in unison with its movements.

2. In a loaf forming machine, the combination of a driven shaft, an endless apron, interchangeable means actuated by the shaft for driving the apron either continuously or intermittently, a forming board parallel with the apron, and means for reciprocating it in a direction perpendicular thereto.

3. In a loaf forming machine, the combination of a table, vertical rollers thereon, an endless apron carried by the rollers, a forming board parallel therewith and adjustable in different vertical angles, and mechanism for simultaneously moving the apron and reciprocating the board in a direction perpendicular thereto.

4. The combination of a table, a forming board movable thereon, a rock shaft pro-

vided with an arm, connections between the shaft and the board, a driven shaft, an eccentric thereon and connections therewith adjustably secured on the arm.

5. The combination of a horizontal table, a vertical roller thereon, an endless apron carried by the roller, an inclined forming board mounted on the table parallel with the apron, a gravity board swingingly depending from fixed points and between the apron and said forming board, and adjustable driven mechanism for driving the roller with the apron and simultaneously reciprocating the forming board laterally in a horizontal plane.

6. A loaf forming machine comprising parallel walls, the one being vertical, the other adjustable in different vertical angles, means for moving the former wall longitudinally in a horizontal plane and for reciprocating the latter wall laterally in a horizontal plane.

7. A loaf forming machine comprising a horizontal table, a vertical wall movable longitudinally thereon, an inclined wall parallel therewith and movable laterally on the table, and means for moving said walls simultaneously.

8. A loaf forming machine comprising parallel vertical and inclined walls and means for moving the one longitudinally and simultaneously reciprocating the other laterally.

9. A loaf forming machine comprising a table, a vertical apron movable longitudinally thereon, an inclined wall parallel with the apron and means for moving the apron intermittently and reciprocating the wall laterally and in unison therewith.

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK STREICH.

Witnesses:

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