G. BECK.

BREAD MAKING MACHINE.

APPLICATION FILED DEC. 8, 1911.

1,055,600.

Patented Mar. 11, 1913.

4 SHEETS—SHEET 1.

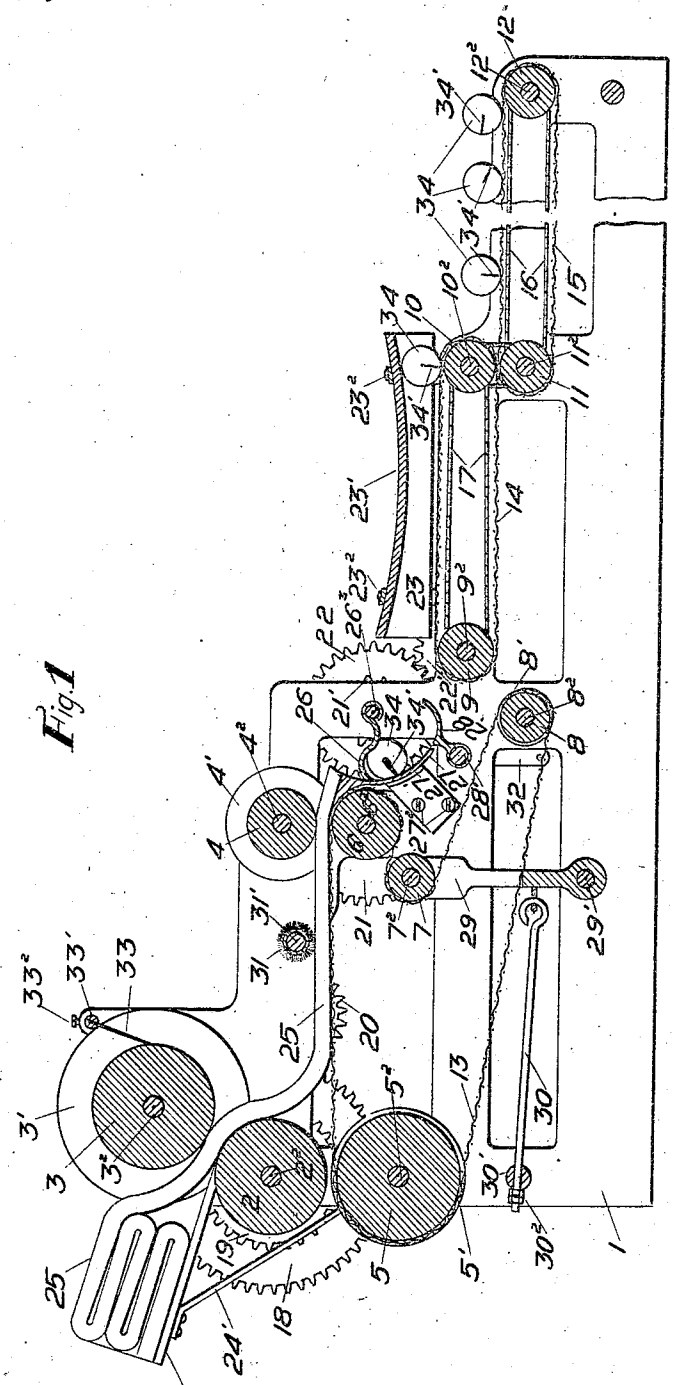

Fig. 1

Witnesses.

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M. E. Kinney.

Inventor.

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By his Attorney

Luther L. Mack

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4 SHEETS—SHEET 2.

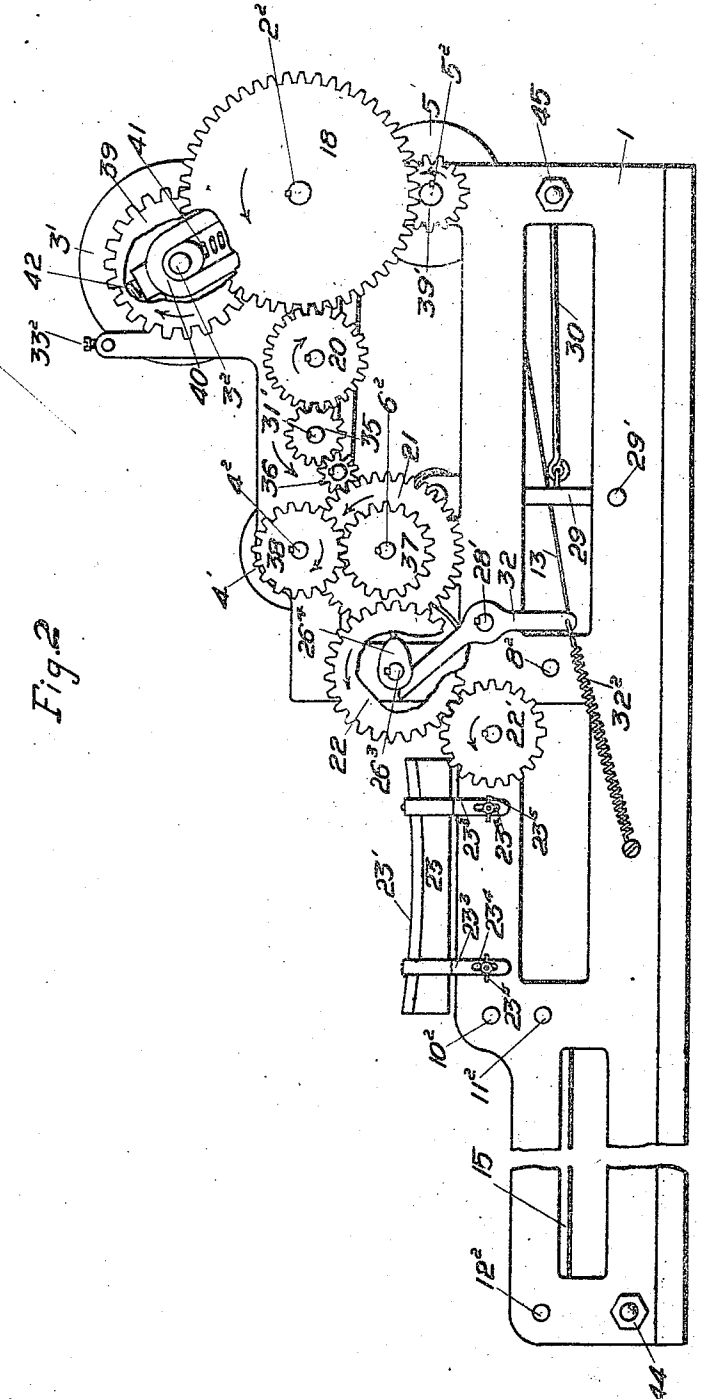

Fig. 2

Witnesses.

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4 SHEETS—SHEET 3.

Fig. 4

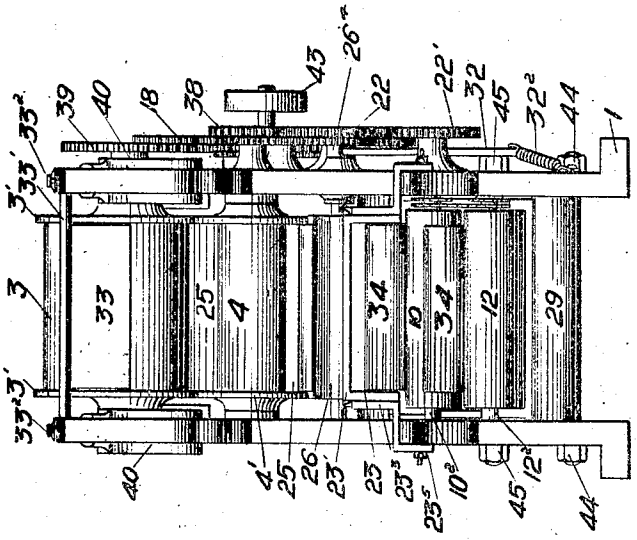
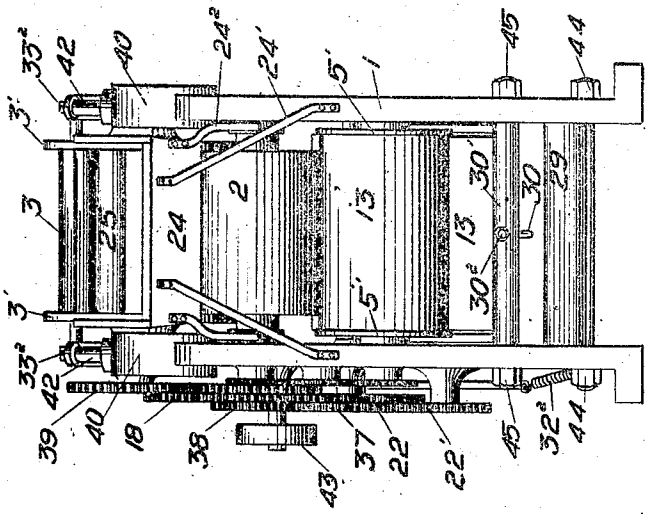


Fig 3



Witnesses.

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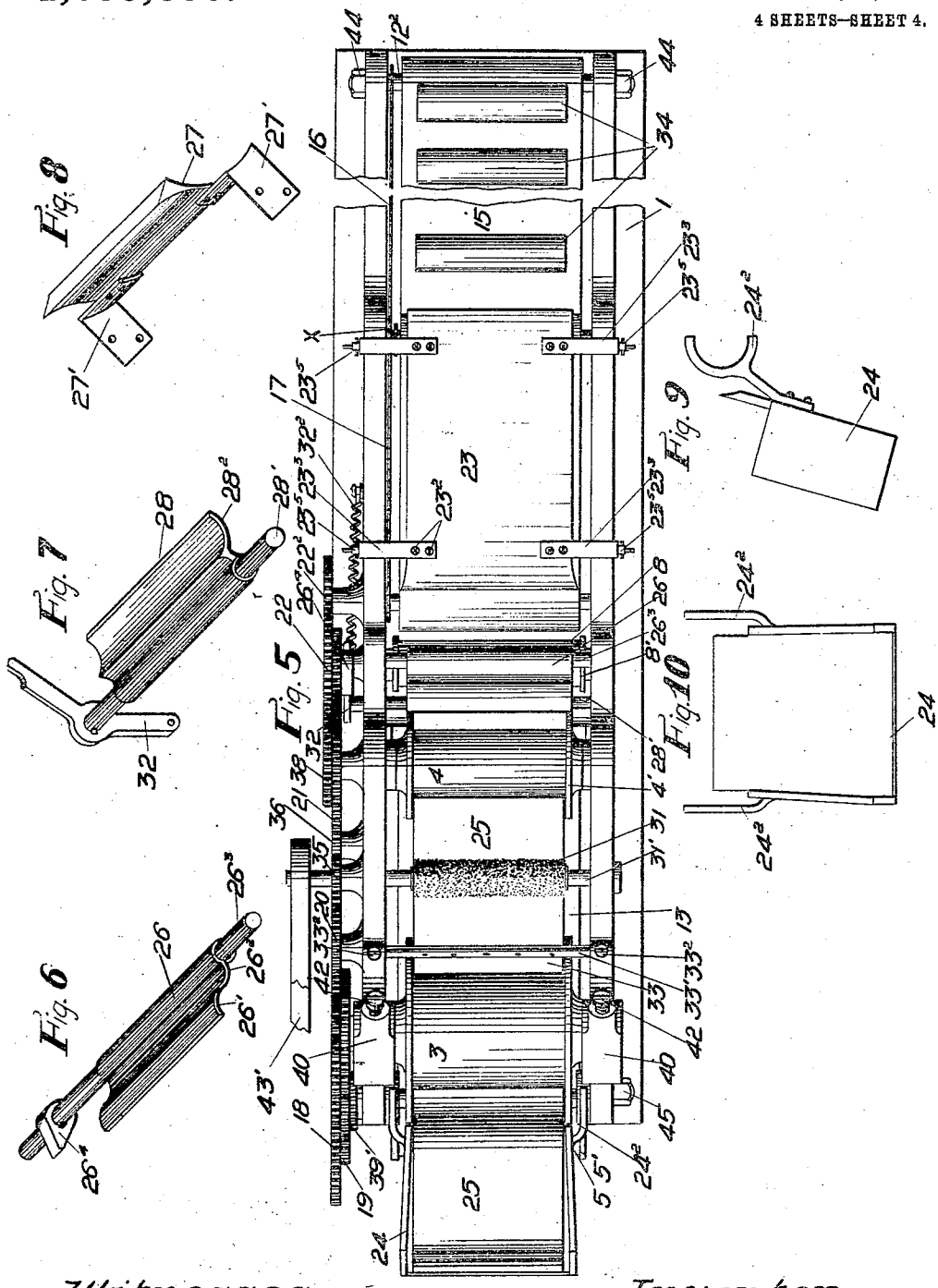

Fig. 8

Fig. 9

Fig. 7

Fig. 10

Fig. 6

Witnesses.

J. E. Bookstaver

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UNITED STATES PATENT OFFICE.

GEORGE BECK, OF LOS ANGELES, CALIFORNIA.

BREAD-MAKING MACHINE.

1,055,600. Specification of Letters Patent. Patented Mar. 11, 1913.

Application filed December 8, 1911. Serial No. 664,692.

To all whom it may concern:

Be it known that I, GEORGE BECK, a citizen of the United States, residing at Los Angeles, in the county of Los Angeles and State of California, have invented a new and useful Bread-Making Machine, of which the following is a specification.

My invention relates to a machine for rolling the dough, cutting it in pieces of certain weight, and forming it into loaves; and my object is to accomplish this result in an improved and more perfect manner than has heretofore been possible in such machines. I attain these objects by the mechanism illustrated in the accompanying drawing, in which—

Figure 1 is a broken sectional elevation of my machine. Fig. 2 is the same view in side elevation. Fig. 3 is a plan view of the rear elevation. Fig. 4 is a plan view of the front elevation. Fig. 5 is a plan view from the top. Fig. 6 is a perspective view of the knife. Fig. 7 is a perspective view of the movable shaper. Fig. 8 is a perspective view of the rigid shaper. Fig. 9 is an elevation of the tray. Fig. 10 is a plan view of the tray.

In Fig. 1, 1 is a frame; 2, 3 and 4 pressure rollers; 3′, 4′, and 5′, 8′ flanges on rollers; 2^2, 3^2, 4^2, 5^2, shafts; 5, 6, 7, 8, 9, 10, 11 and 12 conveyer rollers; 6^2, 7^2, 8^2, 9^2, 10^2, 11^2, and 12^2 shafts; 13, 14 and 15 canvas; 16 and 17 chains; 18, 19, 20, 21, 21′, 22 and 22′ gears; 23 pressure block; 23′ curved top of block; 23^2 bolts; 24 feed tray; 24′ brace; 25 dough; 26 cutter; 27 rigid shaper; 27′ rigid shaper support; 27^2 screws; 28 movable shaper; 28′ shaper shaft; 29 adjusting lever; 29′ shaft; 30 adjusting rod; 30′ shaft; 30^2 nut; 31 brush; 31′ shaft; 32 shaper lever; 33 scraper; 33′ shaft; 33^2 screw; 34 bread loaves; 34′ seam in loaves.

The same numerals refer to the same parts in other figures, and in Fig. 2. 32^2 is a spring; 35, 36, 37, 38, 39 and 39′ are gears; 23^3 pressure block supports, 23^4 slots, 23^5 thumb screws; 40 a yoke in the frame; 41 a spring; 42 adjusting screws.

In Fig. 3, 24^2 is a brace; 43 a power pulley; 44 and 45 nuts. In Fig. 5, 43′ is a belt, and X a sprocket chain.

In Fig. 6, 26′ is a concave curve in the cutter; 26^2 a convex curve; 26^3 the shaft; 26^4 the cam.

In Fig. 7, 28^2 is a concave curve.

My machine consists of a frame 1, in which are journaled the gears, 18, 19, 20, 21, 22, 22′, 34, 35, 36, 37, 38 and 39, which combine to operate the pressure rollers 2, 3 and 4, and the conveyer rollers 5, 6, 7, 8, 9, and 10.

The feed tray 24 is secured to the frame 1 by means of the braces 24′ and 24^2. In front of the tray are the pressure rollers 2 and 3, the roller 3 having the flange 3′, the roller 3 being adjustable in relation to the roller 2 by means of the yoke 40, the spring 41 and the screws 42. On the shaft 3^2 of the roller 3 is fixed the gear 39 and meshing with this gear 19 turns the gear 18, which meshes with the gear 20, meshing with the gear 35. The gear 19 also meshes with the gear 34. On the shaft 31′ is the pulley 43 to which power is transmitted through the belt 43′. The gear 36 meshes with the gears 35 and 21 and the gear 37 on the same shaft as 21 meshes with the gear 38; the gear 21 meshes with the gear 21′ on the same shaft as gear 22 which meshes with the gear 22′. When the power pulley is driven forward in the direction of the arrow, gear 20 is driven backward, gears 18 and 34 forward, and gear 39 backward. At the same time gear 36 is driven backward 21 and 37 forward, 38 and 22 backward, and 22′ forward, with different speed according to their diameters. The pressure rollers 2 and 3 being on the same shaft respectively as the gears 18 and 39 revolve with them in the same direction, and preserve a distance between the rollers regulated by the adjusting screws 4. On the same shaft 5^2 with the gear 34 is the conveyer roller 5, around which revolves the conveyer canvas 13, and which also revolves around the conveyer rollers 6, 7 and 8, the tension of the canvas 13 being adjusted by means of the lever 29 on the pivot 29′, and having a concave bearing on the roller 7. The rod 30 is hooked onto the lever 29 and its opposite end runs through the pin 30′, an adjusting nut 30^2 being screwed on the end beyond the pin. A second canvas conveyer 14 revolves around the two rollers 9 and 10 and a third 15 around the rollers 11 and 12. The conveyer 14 is revolved by means of the sprocket chain 17 on sprocket on the rollers 9 and 10, which are actuated by the gear 22′. The conveyer 15 is revolved by means of the rollers 11 and 12, which are actuated by a third sprocket chain X. A pressure block 23 having a convex flange 23′

is clamped above the conveyer 14 by the adjustable clamps 23^3, and having the slots 23^4, through which are fixed the thumb screws 23^5.

The shaper 27 is concave in form and is secured to the frame 1 by the flanges 27′ and the screws 27^2. The movable shaper 28 is also concave in form in the same arc as the shaper 27, and is pivoted on the pivot 28′, on which is also fixed the shaper lever 32, to the lower end of which is attached the tension spring 32^2, the upper end resting against the cam 32^3, which is fixed on the shaft of the cutter 26.

The cutter 26 is in form concavo-convex, the concave end having a cutting edge, and is fixed on the same shaft bearing the gears 21′ and 22. In its action it revolves toward the rear and its edge follows the concave arc of the two shapers 26 and 28. The brush 31 is fixed on the shaft 31′ on which is also fixed the gear 35. It is raised above the conveyer 13 sufficient to allow the dough to pass under it and still be in contact with it, and is designed to brush the flour off the dough. The shaper 33 is slotted at one end into the pin 31′ in the frame 1, and the thumb screw 33^2 serves to adjust its pressure on the roller 3.

In operation the dough 25, after being pressed into a sheet of the proper thickness, is placed on the feed tray 26 and one end of it inserted between the rollers 2 and 3. The machine is started and the dough passes through said rollers and drops down upon the conveyer 13, which carries it along under the brush 31, and under the roller 4. As it comes out on the other side of the roller the cutter 26 revolves toward it and cutting a portion, carries said portion against the shaper 27. At the same time the shaper 28 actuated by the cam 32^3, moves upward and folds the sheet of dough 34 into a cylindrical shape. The cam 32^3 in its revolution then releases the shaper 28, which returns to its normal position and the cylinder of dough in loaf form passes to the conveyer 14, and under the convex flange of the pressure block 23, which serves to weld the two edges of the loaf together and it then passes to the third conveyer 15, which delivers it ready for baking.

By this machine I can make a better loaf of more certain weight, and more economically, than it can be done by any other bread making machine. The operation is continuous and the machine comparatively cheap. The edges of the loaf are welded together in one tight seam, and the shape is clean and neat.

What I claim is—

1. In a bread making machine, the combination of a revolving cutter and loaf shaping member; of a rigid shaping member, and a cam-actuated movable shaping member, and means to convey dough through shaping members.

2. In a bread making machine, the combination with a frame of a series of pressure rollers, a series of gears in train to operate said rollers in coöperation at different speeds, means for adjusting said rollers, conveyer rollers, canvas on said conveyer rollers, a revolving brush for brushing flour from the dough, a loaf shaper comprising a revolving cutter, a rigid member, a movable member and a loaf presser acting coordinately, a power pulley, and means for applying power to operate said machine.

GEORGE BECK.

Witnesses:
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