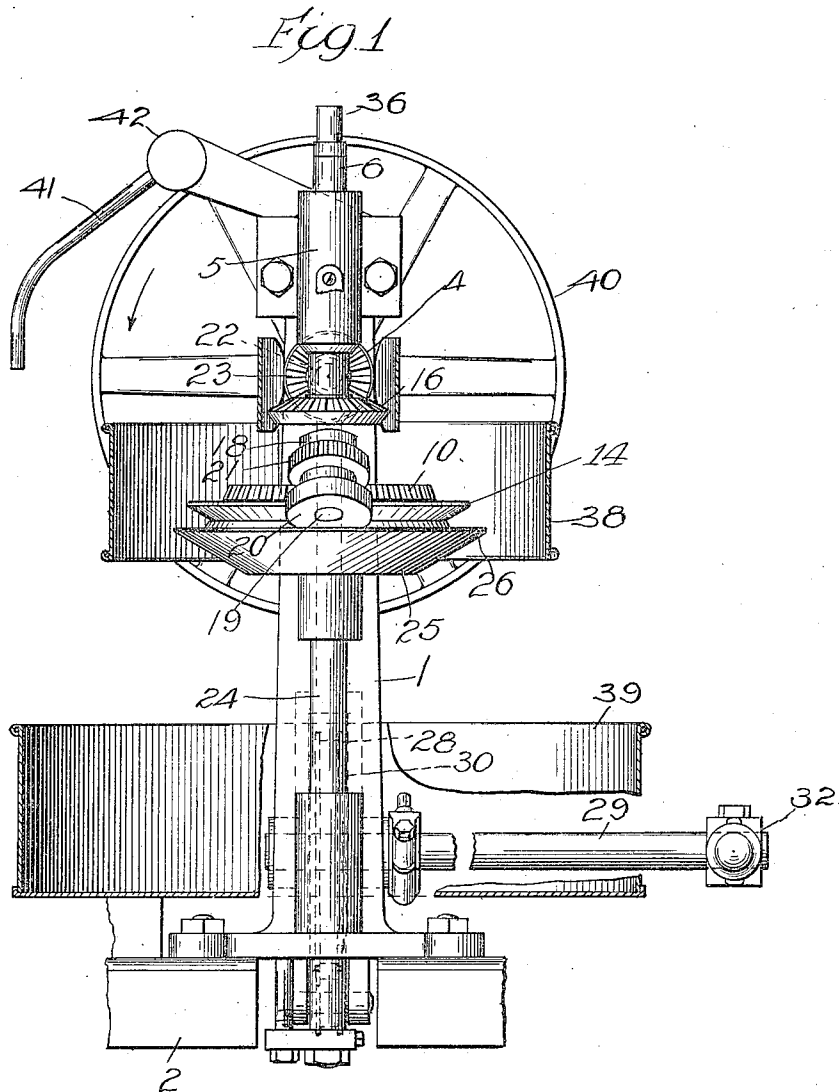


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PIE CRUST RIMMING MACHINE.
APPLICATION FILED MAR. 29, 1909.

Patented Jan. 11, 1910.
2 SHEETS—SHEET 1.



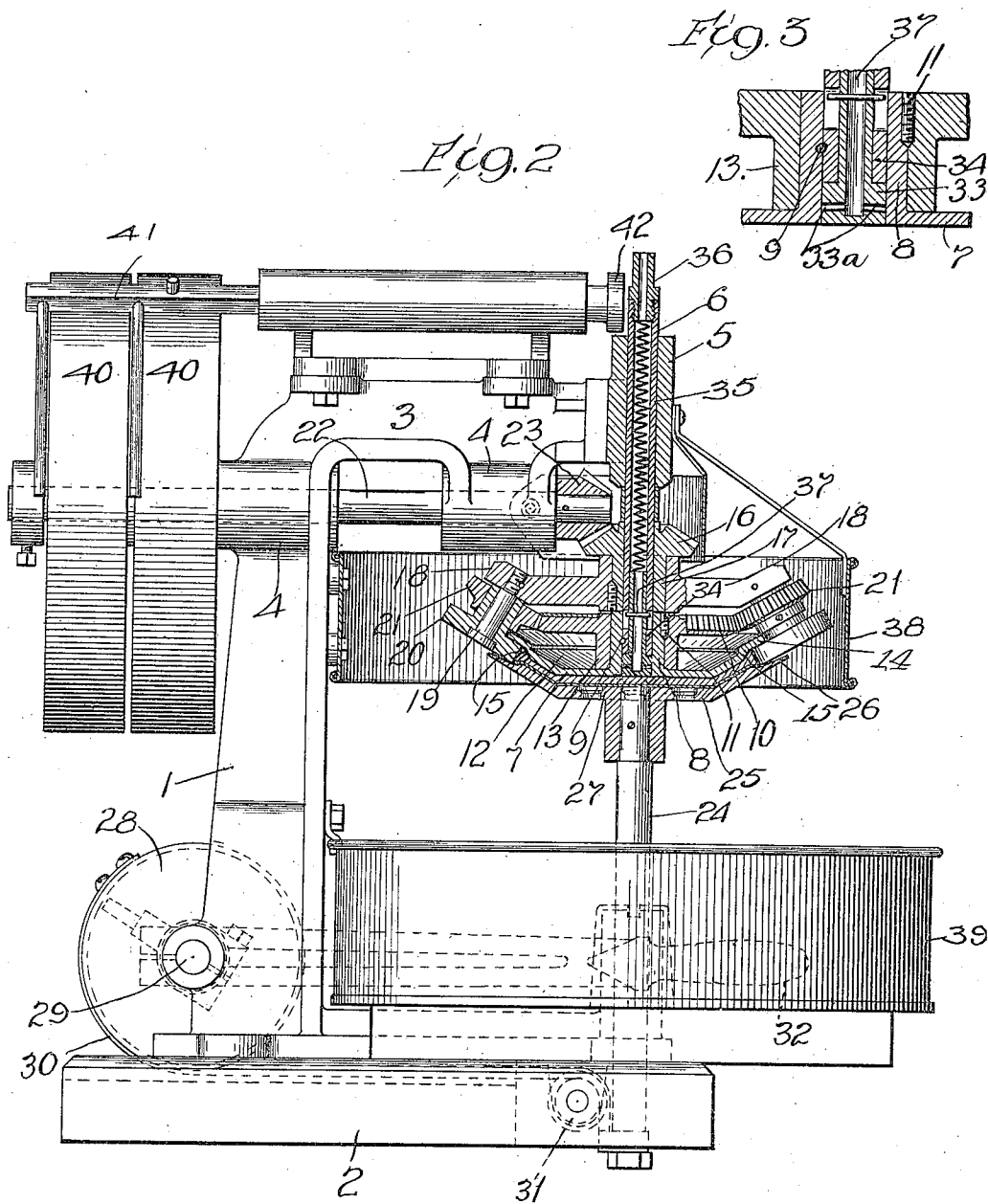
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UNITED STATES PATENT OFFICE.

OLIVER COLBORNE, OF CHICAGO, ILLINOIS.

PIE-CRUST-RIMMING MACHINE.

945,913.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed March 29, 1909. Serial No. 486,382.

To all whom it may concern:

Be it known that I, OLIVER COLBORNE, a citizen of the United States of America, and a resident of Chicago, Cook county, State of Illinois, have invented certain new and useful Improvements in Pie-Crust-Rimming Machines, of which the following is a specification.

The main objects of this invention are to provide improved mechanism for forming retaining rims on pie crusts, so that soft material may be filled in to a greater depth than that of the tins, and to provide improved means for insuring the separation of the pie crust from the form after the rim has been completed.

A specific construction embodying this invention is illustrated in the accompanying drawings, in which:

Figure 1 is a front elevation, partly in section, of a device embodying this invention. Fig. 2 is a side elevation, with the crust holding and forming mechanism shown in central vertical section. Fig. 3 is an enlarged detail of the plunger which serves both as a stripper and an air admission valve.

In the construction shown in said drawings, a standard 1 is secured to any suitable base or foundation 2 and is provided at its upper end with a horizontal arm 3 on which are bearings 4. At the outer end of said arm is the clamping head 5, in which is rigidly clamped the vertically disposed tubular shaft 6. Said shaft extends downwardly beneath the arm 3, and rigidly secured on its lower end is the form 7 which is shaped on its lower side to conform to the contour of the upper surface of the pie crust. The form 7 is provided with an upwardly directed sleeve 8 through which the shaft 6 extends and which is secured to said shaft by means of a key 9.

A stationary beveled gear 10 is rigidly secured to said sleeve 8 by means of a key 11. The form 7 is provided with an upwardly and laterally directed guard flange 14, and there is a shoulder 15 on the form inward of said flange, against which shoulder a thickened rim is formed on the crust. This shoulder is preferably of frusto-conical form, so as to permit the crust to be readily released therefrom. Journaled on said shaft 6 above the gear 10 is a beveled gear 16 which is provided with a downwardly extending hub 17, and rigidly secured on said hub and

adapted to rotate therewith is a member having laterally projecting arms or sweeps 18. Extending downwardly and laterally from the outer end of each sweep, at approximately a right angle to the adjacent part of the lower face of the guard flange 14, is an axle 19 on which is journaled a forming roller 20. Said roller projects beneath the guard flange into close proximity to the shoulder on the form 7, and its upper surface lies closely against said flange so as to prevent the escape of crust between the same and said flange. Rigidly secured on the hub of each roller 20 is a gear 21 which meshes with the stationary gear 10. These gears cause the rollers to rotate on their axles as said sweeps are revolved. For the purpose of revolving said sweeps, a drive shaft 22 is journaled in the bearings 4 and is provided on its inner end with a beveled pinion 23 adapted to mesh with the gear 16, and is provided on its outer end with tight and loose pulleys 40, by means of which it may be rotated at will.

Slidably mounted in the base 2 is the vertically disposed pillar 24, and on the upper end of said pillar is the tin-holder 25 which conforms to the shape of the tin and the sides 26 of which extend beneath the rollers 20 and, together with the flange 14, provide an enlarged rim channel in which said rollers operate. The tin 27 is carried in said holder, and its edges project into close proximity to the peripheries of the rollers 20. For the purpose of raising and lowering said holder, a drum 28 is secured on a shaft 29 which is journaled on the standard 1, and a belt 30 is secured at one end to said drum and extends over a pulley 31 journaled adjacent to the lower end of said pillar, and the other end of said belt is secured to the bottom of the pillar. An operating lever 32 is connected to said shaft 29 and is adapted to partially rotate the drum and raise or lower the pillar to move the tin into and out of operative position.

For the purpose of stripping the crust from the form 7, a cylindrical plunger or stripper 33 is slidably seated in a cylindrical bore in the bottom of the form and has a stem 34 thereon which is slidably engaged in the tubular shaft 6. A spring 35 housed within said shaft bears at one end on said stem and at its other end against a stop 36 in the top of said shaft, and normally acts to force said plunger downward when the

tin-holder is retracted and thereby remove the crust from the form. The movement of the plunger is limited by the pin 37 which extends through the stem 34 of the stripper and has its ends seated in slots in the shaft 6. Air holes 33^a extend through the sides of the plunger above the lower end, so that when the plunger is depressed air will be admitted through the hollow plunger in the space between the form and crust. The upward movement of the pie tin is limited by the rollers 20.

A guard or shield 38 is attached to the standard 1 and the head 5, and surrounds the forming mechanism and is adapted to catch any material which may fly outwardly from the form during operation, and a receptacle 39 is supported beneath the guard to receive the waste (if any) as it drops from the form.

The driving belt (not shown) is shifted between the tight and loose pulleys 40 by means of a shifter 41 having an operating handle 42.

The operation of the construction shown is as follows: The normal position of the holder, when the device is not in operation, is at the lower limit of its movement, the handle 32 being then raised. When the device is being operated the rimming rollers are continuously driven. While the holder is in its lowered position, a pie tin having thereon a sheet of dough of suitable size is placed on the holder. Then by lowering the handle 32, the holder will be forced upward and the crust will be carried into contact with the form. The upward movement of the holder is limited by the engagement of the pie tin with the rollers 20. The pressure causes some of the dough to be squeezed out around the edges of the tin, and the rapidly moving rollers build up the dough into a rim against the beveled edge of the form. The surplus dough is cut off by contact of the lower corner edge of the rollers 20 with the edge of the pie tin, but the action of the rollers 20 between the flanges on the form and holder insure that the rim is perfectly formed before any of the dough is lost. After the rim has been formed the holder is again lowered, and the stripper forces the crust away from the form and leaves it on the tin. The air admitted by the holes 33^a in the plunger insures ready separation of the crust from the form.

Although but one specific embodiment of this invention has been shown, it will be understood that numerous details of the construction shown may be altered or omitted without departing from the spirit of this invention.

I claim:

1. A pie crust rimming machine, comprising a tin-holder, a form above said holder, means supporting said form and holder and

adapted to permit one to move relatively to the other to carry a sheet of dough on the tin into engagement with the form, rollers adapted to enter the space between and travel around the edges of said holder and said form, and means for operating said rollers.

2. A pie crust rimming machine, comprising a tin-holder, a form above said holder, a guard flange at the edge of said form, rollers fitting closely between said flange and holder, and means adapted to move said rollers around the form.

3. A pie crust rimming machine, comprising a movable tin-holder, a form above the same and together therewith providing a rim forming channel, a tubular shaft supporting said form, means supporting said shaft, rim forming means journaled on said shaft and adapted to travel in said channel, a stripper on the form, and a spring in said shaft adapted to operate the stripper.

4. A pie crust rimming machine, comprising a movable holder adapted to support a pie crust, a tubular shaft supported above said holder, a crust form rigidly secured to said shaft and having a shoulder near its margin, a member journaled on said shaft, rollers journaled on said member and adapted to travel in the space between the edges of said holder and said form and build up a rim of crust against said shoulder, means for rotating said rollers, and stripping means carried in said shaft.

5. A pie crust rimming machine, comprising a tin-holder, a form above said holder, said form and holder being relatively movable toward and away from each other to carry a sheet of dough on the tin into and out of engagement with the form, means co-acting with said form for building up a rim of dough around the margin of the tin, and an air inlet extending through said form inward of such rim to admit air for facilitating the separation of the dough from said holder.

6. A pie crust rimming machine, comprising a tin-holder, a form above said holder, said form and holder being relatively movable toward and away from each other to carry a sheet of dough on the tin into and out of engagement with the form, means co-acting with said form for building up a rim of dough around the margin of the tin, a plunger mounted in said form and movable outward therefrom toward said holder, said holder having therein an opening fitting said plunger adjacent to the face of the form, and means limiting the outward movement of said plunger, said plunger being of substantially uniform cross-section throughout the part thereof which projects through said opening, said plunger being hollow and having an air inlet above the face of said form whereby when said plunger extends

beyond the face of said form, air will be admitted through said inlet below the face of said form.

5 7. A pie crust rimming machine, comprising a tin-holder, a form above said holder, said form and holder being relatively movable toward and away from each other to carry a sheet of dough on the tin into and out of engagement with the form, means co-
10 acting with said form for building up a rim of dough around the margin of the tin, a plunger mounted in said form and movable outward therefrom toward said holder, said holder having therein an opening fitting
15 said plunger adjacent to the face of the form, means limiting the outward movement of said plunger, said plunger being of substantially uniform cross-section throughout the part thereof which projects through said
20 opening, said plunger being hollow and having an air inlet above the face of said form whereby when said plunger extends beyond

the face of said form, air will be admitted through said inlet below the face of said form, and means normally urging said plunger toward its extended position. 25

8. A pie crust rimming machine, comprising a tin-holder, a form above said holder, said form and holder being relatively movable toward and away from each other to
30 carry a sheet of dough on the tin into and out of engagement with the form, means co-acting with said form for building up a rim of dough around the margin of the tin, and a valved air inlet extending through said
35 form inward of such rim to admit air for facilitating the separation of the dough from said holder.

Signed at Chicago this 25th day of March, 1909.

OLIVER COLBORNE.

Witnesses:

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MARY M. DILLMAN.