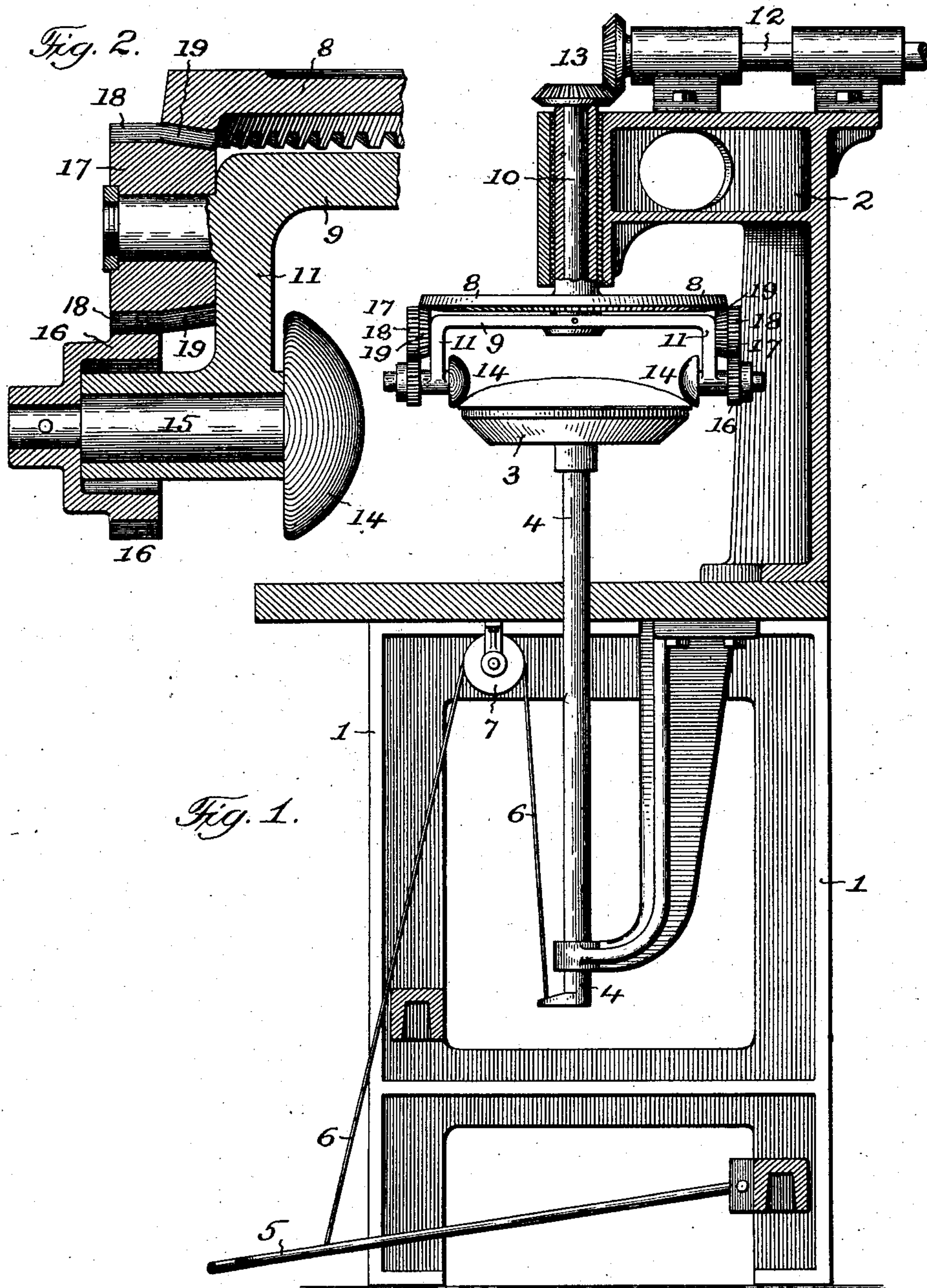


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PATENTED NOV. 17, 1903.

H. H. SPRING.
PIE MAKING MACHINE.
APPLICATION FILED AUG. 31, 1903.

NO MODEL.



Attest:

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PIE-MAKING MACHINE.

SPECIFICATION forming part of Letters Patent No. 744,638, dated November 17, 1903.

Application filed August 31, 1903. Serial No. 171,358. (No model.)

To all whom it may concern:

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

The present invention relates to that class of pie-making machines in which the upper crust is trimmed off even with the edge of the pie-plate by one or more rotating and orbitally-moving trimming rollers or heads, and has for its object to provide a simple and efficient structural arrangement and combination of parts adapted to perform such marginal trimming of the pie-crust without liability of adhesion of the crust to said rollers and without liability of tearing such crust.

In the accompanying drawings, illustrative of the present invention, Figure 1 is a vertical sectional elevation of a pie-making machine embodying the present improvements. Fig. 2 is an enlarged detail section of one of the orbitally-moving trimming-heads and the gearing connections for imparting rotation thereto during its orbital travel.

Similar numerals of reference indicate like parts in both views.

Referring to the drawings, 1 represents the supporting-frame of any usual and suitable construction, and which is provided with an upwardly-extending and forwardly-overhanging bracket 2, in which is journaled the operating mechanism of the present invention, as hereinafter more fully set forth.

3 is a tray or carrier for the reception of the pie-plates and the pie-crusts imposed thereon and adapted to carry the same between the trimming-rollers, hereinafter described. Such carrier has vertical movement in the supporting-frame 1 in any usual and suitable manner. In the construction shown the carrier is secured at the upper end of a vertically-sliding guide rod or bar 4, to which movement is imparted by a foot lever or treadle 5 and an intermediate flexible connection 6, passing over a sheave 7, as shown.

8 is a horizontally-arranged bevel gear or annulus secured in a stationary manner to the bracket 2 of the main frame and in a

position concentric with a vertical axial line passing through the aforesaid carrier 3.

9 is a horizontal flier or spider arranged immediately beneath the bevel-gear 8 and having a vertical shaft 10, by which it is mounted to rotate in a vertical bearing upon the aforesaid overhanging bracket 2, as shown. At its outer ends such flier or spider is provided with depending vertical arms 11, upon which are journaled the intermediate gears, by which rotary motion is imparted to the trimming heads or rollers of the present invention, as hereinafter more fully described.

12 is a horizontal driving-shaft journaled on the upper end of the bracket 2 and having operative engagement with the flier-shaft 10 by miter-gears 13 or other equivalent connection.

14 represents the trimming heads or rollers, which in the present invention are of a segmental spherical form, as shown, and which are journaled in a horizontal plane in the pendent arms 11 of the flier 9 by horizontal shaft 15, so as to be capable of rotation upon their axis.

16 represents pinions secured to the outer ends of the shafts 15 aforesaid, and 17 represents intermediate or idler gears journaled on the arms 11 of the flier 9, as shown, and each of which is formed with a straight-gear portion 18, gearing with an individual pinion 16 aforesaid, and a bevel-gear portion 19, gearing with the before-described stationary bevel-gear 8.

With the described arrangement and with a revolution of the flier 9 in a horizontal plane the stationary bevel-gear 8 will cause a revolution of the intermediate gears 17 as the same move around the gear 8 in an orbital path. Such intermediate gears 17 in turn impart rotation to the pinions 16 and to the trimming heads or rollers 14, so that said trimming-heads will in the practical operation of the mechanism have a combined orbital travel and a rotation upon their own axis.

From an extended practical trial it has been found that the spherical form of the trimming-rollers and their arrangement in a horizontal direction with relation to the vertically-moving carrier or tray 3, which carries

the pie-plate and imposed pie-crust to be trimmed, affords a very efficient structural combination of parts, in which all danger of tearing the pie-crust is avoided and a very perfect trimming operation effected in a continued use of the apparatus.

Having thus fully described my said invention, what I claim as new, and desire to secure by Letters Patent, is—

10 1. In a pie-making machine of the character herein described, the combination, of a supporting-frame, a reciprocable pie-plate carrier, revoluble trimming-heads arranged with their axis of revolution at substantially
15 right angles to the line of reciprocation of said carrier, and means for imparting orbital and rotary movements to said trimming-heads, substantially as set forth.

20 2. In a pie-making machine of the character herein described, the combination of a supporting-frame, a reciprocable pie-plate carrier, a flier journaled to have rotation in a plane above said carrier, revoluble trimming-heads journaled in said flier with their axis
25 of rotation at substantially right angles to the line of reciprocation of the aforesaid carrier, a stationary bevel-gear, and intermediate gear connections between said bevel-gear and the carrying-shafts of the trimming-heads,
30 substantially as set forth.

3. In a pie-making machine of the character herein described, the combination of a supporting-frame, a reciprocable pie-plate carrier, a flier journaled to have rotation in a
35 plane above said carrier, revoluble trimming-heads journaled in said flier with their axis

of rotation at substantially right angles to the line of reciprocation of the aforesaid carrier, pinions of the shafts of said heads, a stationary bevel-gear, intermediate combined bevel
40 and straight gears journaled on said flier and gearing respectively with the stationary bevel-gear and the pinions of said trimming-heads, substantially as set forth.

4. In a pie-making machine of the character herein described, the combination of a supporting-frame, a revoluble flier carried by said frame, trimming-heads having a segmental spherical shape and journaled in said
50 flier, means for imparting an orbital and rotative movement to said heads, and a pie-plate carrier adapted to have reciprocation with relation to said heads, substantially as set forth.

5. In a pie-making machine of the character herein described, the combination of a supporting-frame, a revoluble flier carried by said frame, trimming-heads having a segmental spherical shape and journaled in said
60 flier with their axis of rotation at substantially right angles to the line of reciprocation of the pie-plate carrier, means for imparting an orbital and rotative movement to said heads, and a pie-plate carrier adapted to have reciprocation with relation to said heads, sub-
65 stantially as set forth.

Signed at Chicago, Illinois, this 28th day of August, 1903.

HENRY H. SPRING.

Witnesses:

ROBERT BURNS,
M. H. HOLMES.