

## PASTRY MAKING MACHINE.

APPLICATION FILED DEC. 19, 1908.

Patented May 18, 1909.

3 SHEETS--SHEET 1.



Fig. 1.

Witnesses

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PASTRY MAKING MACHINE.

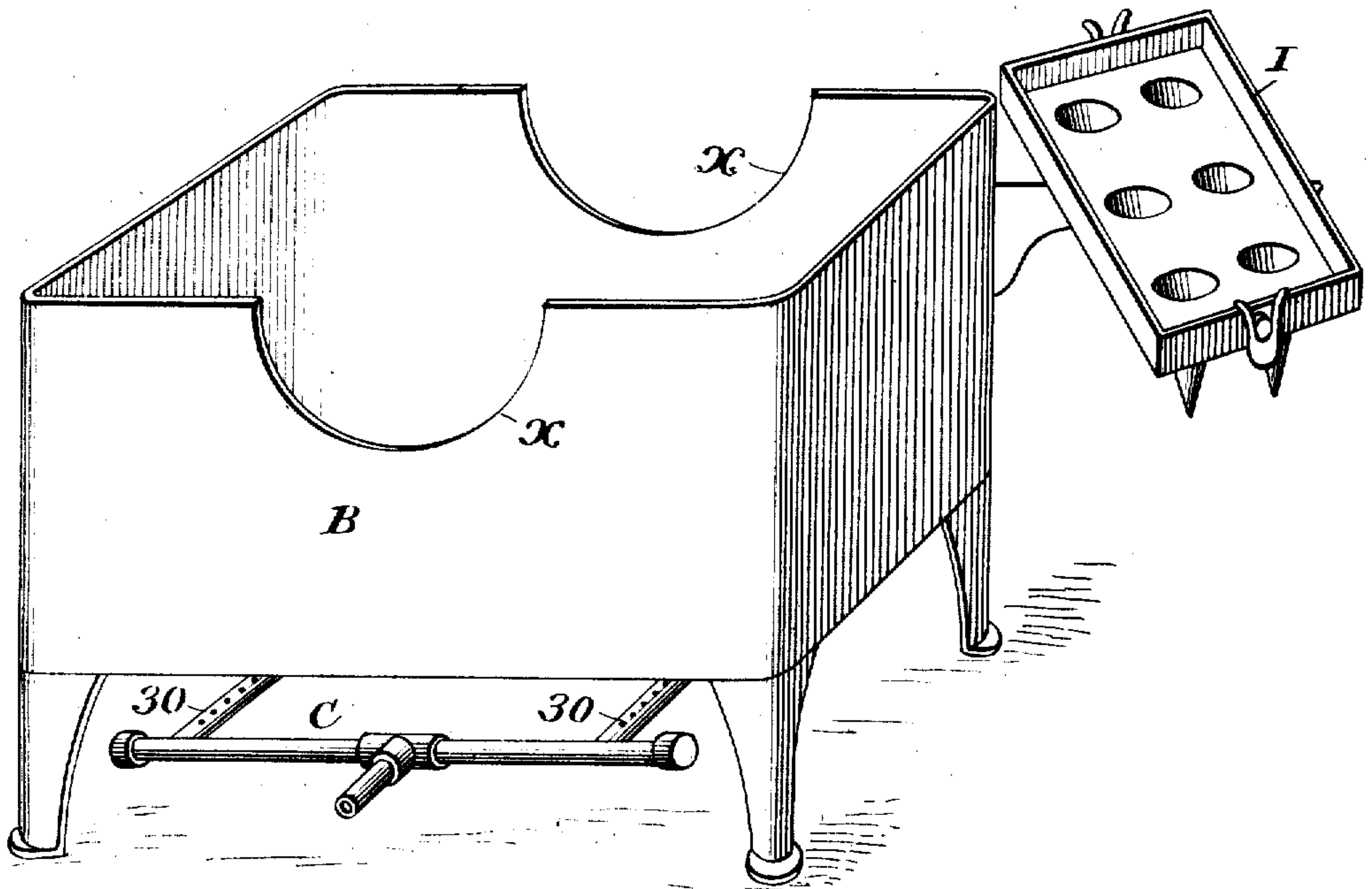
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3 SHEETS—SHEET 2.

Fig. 3.



Witnesses  
*J. J. Stinkel*  
*J. J. McCarthy*

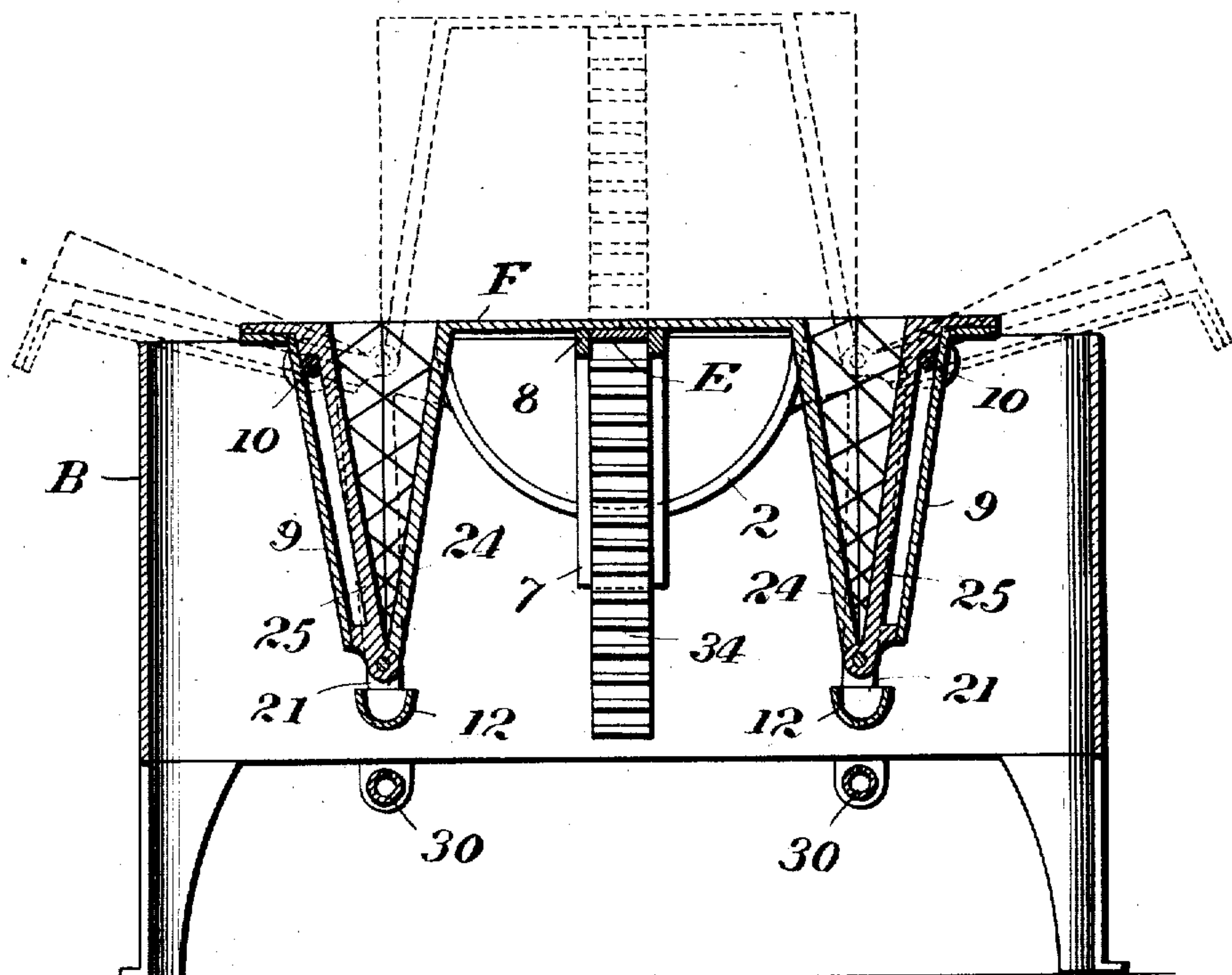
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 3 SHEETS—SHEET 3.

*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

EDWARD H. LANIER AND FRANK K. DRIESBACH, OF CINCINNATI, OHIO.

## PASTRY-MAKING MACHINE.

No. 922,004.

Specification of Letters Patent.

Patented May 18, 1909.

Application filed December 19, 1908. Serial No. 468,337.

*To all whom it may concern:*

Be it known that we, EDWARD H. LANIER and FRANK K. DRIESBACH, citizens of the United States, and residents of Cincinnati, Ohio, have invented certain new and useful Improvements in Pastry-Making Machines, of which the following is a specification.

Our invention relates to that class of pastry-making machines in which hollow articles are molded between dies, and consists in the combination with a die having any desired number of cores, of a female die having corresponding recesses and composed of two sections hinged together, with means for automatically opening and closing the sections and for supporting the parts so as to coat the cores and expose the dies properly to a heater and facilitate the manipulation of the parts, as fully set forth hereinafter and illustrated in the accompanying drawing, in which:

Figure 1 is a part-sectional perspective view illustrating our improved apparatus, the sectional dies removed in order that the other parts may be more fully exposed; Fig. 2 is a perspective sectional view showing the sectional dies drawn to a larger scale than Fig. 1; Fig. 3 is a perspective view of the heater casing. Fig. 4 is a cross-sectional elevation.

The dies employed for molding the pastry—shown as adapted to mold and bake what are ordinarily termed ice-cream cones—consist essentially of a male die G composed of a carrier 40 and any suitable number of cores or cones 4, supported thereby, and a female die F consisting of two sections 24, 25, hinged together at the lower ends and having sockets to receive the aforesaid cores. As shown there are two female dies and a corresponding number of cores of the male die, but hereinafter we shall generally refer to the dies as consisting of a single male die and a single sectional female die, although it is obvious that a plurality may be employed.

The female die is supported by a carrier E of such construction and combined with such operating appliances that it may be raised and lowered to secure the automatic opening and closing of the sectional die, a result which is effected by providing suitable bearings that will coact to separate the sections of the die F as the latter is raised, and bring them together and hold them as and after the die is lowered. To this end we prefer to provide the die F with a suitable inclined bearing

adapted to a fixed bearing in such manner as to secure the desired operation upon the vertical movement of the die F. Although the inclined bearing of the die F may be formed by means of the side of a groove at the end of the hinged member or section of the die, as shown it consists of an inclined bar or blade 9 arranged sufficiently beyond the side of the die to permit the intermediate passage of a fixed bearing in the form of a rod 10. With this arrangement when the die F is raised the action of the bearings will be to open the dies, thus permitting the withdrawal of the material baked therein and upon lowering the die the hinged section will be closed against the other section which is rigidly attached to its support. In the construction shown the support consists of a carrier E provided with a rack 34 for engaging the teeth of a curved rack 5 upon an operating lever D fulcrumed at 3 upon a suitable support. As shown the support is in the form of a frame A having side bars 20 between which extend the bearing rods 10, which further act to brace the bars 20 and form part of the frame, and the rack 34 slides in a groove in and is guided by a bracket 7 on an axial rod 8 of the frame A, the pivot or bearing of the lever D being in one of the cross bars 20. As shown each of the cross bars has a semicircular projection 2 constituting an end bearing adapted to the curved recesses x in the heater casing B, so that the frame A may be inserted in said casing to be swung therein, as hereinafter described, turning upon the said bearings x.

The male die carrier 40 is connected by an arm or rod 31 to a swivel 32 swinging at the outer end of the axial bar 8, which extends beyond the cross bar 20, the arrangement being such that the male die may swing to one side to introduce its cores into batter in a suitable batter receptacle I, supported by a bracket at the outside of the casing B, and the carrier 40 may, after the cores are thus coated, be raised and swung to a position over the female die, and then lowered to introduce the cores into the sockets of the die F.

To aid in supporting the male die the bar 8 is provided with a standard 15, which may be connected to swing with the swivel 32 and between which and the arm 31 extends a supporting spring 33, which tends to maintain the male die in its elevated position but will yield to permit it to be depressed.



The cores are introduced into the female die when the latter is in its depressed position, and when the cores have thus been fully introduced an arm 34, which extends from one of two curved projections 35, 35 at the end of the carrier 40, is brought parallel to the lever D, and may then be connected thereto by a link 16, and this permits the frame A to be swung upon its bearings  $x$  in the casing D, the semicircular projections 2 and 35 coinciding, and forming together at each end of the frame a circular bearing which can rotate in the bearings  $x$  of the casing B as the frame A is rotated. This permits the dies to be subjected at all portions to the action of a heater C, which, as shown, consists of perforated gas pipes 30, but may be of any suitable construction. After the material has been properly baked the frame A is brought to the position shown in Fig. 1; the male die is elevated and carried to one side as shown in said figure, and the carrier E is raised, when the sections of the die F will be separated to permit the removal of the baked material.

In order to hold the baked material in the die F rather than have it adhere to the cores, the interior of each socket of said die may be serrated.

In order to protect the ends of the sectional dies from excessive heat, inasmuch as they are nearer to the heater than the other portions, we provide suitable guards in the form of curved cross plates 12 supported by arms 21 on the frame A in such a position as to be below the ends of the sectional dies.

Inasmuch as our invention may be embodied if but a single sectional die and a carrier having a number of cores corresponding to the sockets in the said die is employed, we shall in our claims hereinafter generally refer to a single die only, but it will of course be understood that a plurality of dies may be combined to operate in like manner as shown in the drawing.

Without limiting ourselves to the construction shown, we claim:

1. The combination in a pastry making machine of a frame, a series of cores, a core carrier connected to be carried into positions over and away from the frame a die carrier and means for raising and lowering it in respect to the frame, a die section rigidly connected with the carrier, a die section hinged to the other section, and bearings on the hinged section and frame arranged to swing the hinged section out and in as the carrier is raised and lowered after the core carrier is moved from above the die.

2. The combination in a pastry making machine, of a swinging frame, a die carrier and means for raising and lowering it in respect to the frame, a die section rigidly connected with the carrier, a die section hinged to the other section, and bearings on the

hinged section and frame arranged to swing the hinged section out and in as the carrier is raised and lowered.

3. In a pastry making machine, the combination of a swinging frame, a die carrier, means on the frame for raising and lowering said carrier, a sectional die supported by said carrier, one section hinged to swing to and from the other, and bearings relatively arranged on the swinging die section and frame to close the die section together as the carrier is lowered.

4. In a pastry machine, the combination of a swinging frame, a die carrier and sectional dies carried thereby, a rack connected with the carrier and supported and guided in said frame, a rack lever engaging that of the carrier and vibrating on the frame, and means for opening and closing the die as the carrier is raised and lowered.

5. The combination in a pastry making machine, of a frame provided with end bearings for supporting it in position to swing about a horizontal axis, a die carrier and a lever and connections for raising and lowering the carrier on the frame, die sections hinged together and supported by said carrier, bearings on the die and frame relatively arranged to separate the die sections as the carrier is raised and close them as it is lowered.

6. The combination with the swinging frame, of a pastry making machine, of a sectional female die and carrier therefor vertically movable in the frame, and a second carrier provided with cores adapted to sockets in the female die, and means for connecting the second carrier to the frame to swing to and from the frame carrier.

7. The combination in a pastry making machine, of a swinging frame, a female die carried thereby, an arm extending from said frame, a die carrier provided with cores adapted to sockets of the female die, and a connecting rod pivoted to the said arm and attached to the said die carrier.

8. The combination in a pastry making machine, of a swinging frame, a female die carried thereby, an arm extending from said frame, a die carrier provided with cores adapted to sockets of the female die, a connecting rod pivoted to the said arm and attached to the said die carrier, and a spring connected to lift the die carrier.

9. The combination in a pastry making machine, of a swinging frame, a sectional die, a carrier therefor provided with a rack bar, guides for said rack bar on the frame, and a lever pivoted to swing on the frame and with teeth engaging those of the rack.

10. The combination in a pastry making machine, of a swinging frame, a sectional die, a carrier therefor and means for raising and lowering the carrier, a guard carried by the frame below the die for the purpose set forth.

11. The combination in a pastry making



machine, of a frame having end bearings, and guide rods, a die carrier and means for guiding and raising and lowering it on the frame, and sectional dies supported by said carrier, with inclined bearings engaging said guide rods.

12. The combination in a pastry making machine, of a frame having end bearings, an axial bar, and guide rods, a die carrier and means for guiding and raising and lowering it on the frame, sectional dies supported by said carrier, with inclined bearings engaging said guide rods, and a die carrier provided with cores and movably connected with said bar.

13. The combination in a pastry making

machine, of a swinging frame, a die carrier movable thereon, a rack lever pivoted to the frame for operating said carrier, an arm extending from the frame, a core die carrier pivotally connected with said arm, and an arm extending from said core die carrier in position to be brought parallel to said lever, and means for connecting the arm and lever detachably together.

In testimony whereof we affix our signatures in presence of two witnesses.

EDWARD H. LANIER.  
FRANK K. DRIESBACH.

Witnesses:

J. M. FROHMAN,  
EDW. HORMAN.