

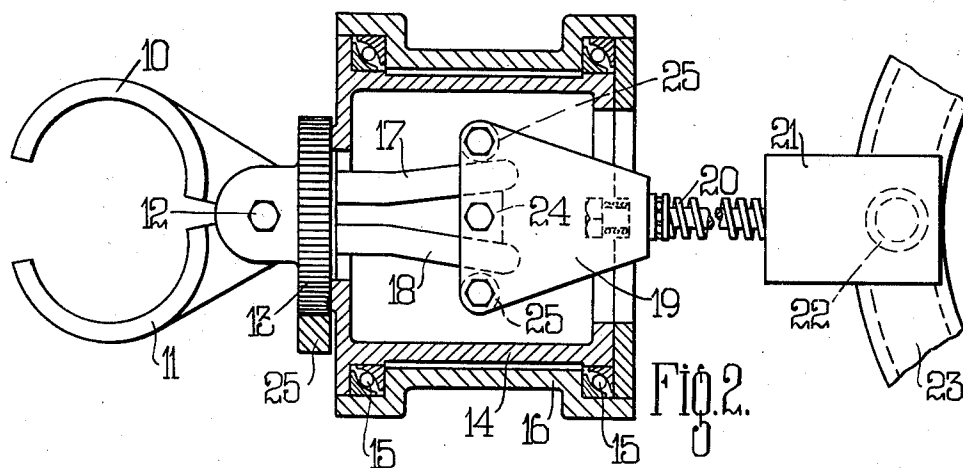
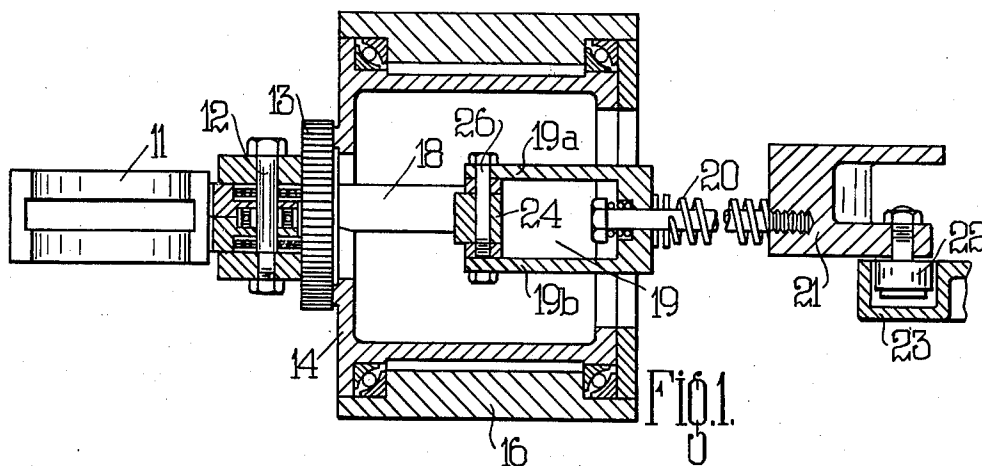
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MEANS FOR OPENING AND CLOSING THE MOLDS OF A MACHINE FOR FORMING GLASSWARE

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MEANS FOR OPENING AND CLOSING THE
MOLDS OF A MACHINE FOR FORMING
GLASSWAREThomas Finney Pearson, Pontefract, England,
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New York, N. Y., a corporation of New YorkApplication September 15, 1936, Serial No. 100,945
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7 Claims. (Cl. 49—42)

The present invention relates to means for opening and closing the molds of a machine for forming glassware.

The object of the present invention is to provide simple yet efficient means for opening and closing mold sections, particularly those of the parison molds of a glass bottle forming machine.

According to the present invention a pair of pivotal mold sections are angularly displaceable into and out of contact to close and open the mold respectively on the displacement of a resiliently loaded cross head carrying elements adapted to engage with arms carried by the mold sections.

The pivot for the mold sections lies between the sections and arms thereof which taper outwardly from the pivot whilst the cross head carries a wedge which during its longitudinal displacement engages with opposite inner faces of the arms to force these apart and thus close the mold section.

The cross head also carries rollers spaced by a predetermined and constant amount, which rollers engage with the other longitudinal edges of the arms so that on retreat of the cross head said rollers cause the arms to move together and open the mold sections.

The invention is more particularly described with reference to the accompanying drawing, in which:

Figure 1 is a sectional elevation through the operating mechanism for opening and closing a pair of mold sections.

Figure 2 is a corresponding plan view partly in section.

In the drawing each of a pair of molds 10 and 11 is pivotally mounted at 12 to a gear wheel 13 of a support 14 in the form of a revolving drum adapted to rotate in bearings 15 of a housing 16.

The mold sections 10, 11 have arms 17, 18, respectively which project beyond the pivot 12 into the path of a cross-head 19 of substantially triangular form consisting of spaced upper and lower plates 19a, 19b, having a resilient connection in the form of a spring 20 with a carrier 21, the roller 22 of which is longitudinally displaceable in a cam track 23.

A self-aligning wedge 24 having a slot for the reception of a pin 26 carried by the plates 19a, 19b, is located adjacent the leading edge of the substantially triangular shaped cross-head 19 and between the upper and lower plates 19a, 19b thereof, whilst, at the corners of the cross-head, rollers 25 are provided between said upper

and lower plates, the distance between the wedge 24 and the rollers being substantially equal to the width of the arms 17, 18, of the mold sections.

The gear wheel 13 is adapted for rotation under the action of a rack bar 25.

In operation while the spring 20 remains unaffected by any irregularity in the cam path 23 the crosshead remains in the position shown in Figure 1 which is consistent with the open position of the mold sections, but when the roller 22 travels along an irregular path of the cam track the spring 20 is compressed to force the crosshead towards the left hand end of the housing 14. This displacement of the crosshead causes the wedge 24 to act on the tapered arms 17, 18 to cause these to diverge outwardly and thus close the mold sections 10, 11. On the return movement of the crosshead the rollers 25 bearing on the outer edges of the arms 17, 18 cause these to return to the position shown in the drawing and thus open the mold sections.

The inclination of the arms 17, 18 relatively to a plane passing through the axis of the pivot 12 of the mold sections varies throughout the length of the arms, the inclination being slight at the pivot end of the arms and relatively great over the remaining portion of the arms. In this way a positive lock between the wedge 24 and the arms 17, 18 is effected when the sections 10, 11 are in their closed position whilst the movement of the sections for a given movement of the cross head 19 is less at the time when the mold sections are about to close than when they are fully opened.

I declare that what I claim is:

1. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, a resiliently loaded displaceable crosshead, relatively tapering arms on said mold sections projecting beyond said pivot, a wedge carried by said crosshead for engagement with said arms between the same, rollers carried by said crosshead for engaging with said arms on their opposite longitudinal edges, and means for displacing said crosshead relatively to said support to vary the relative taper between said arms and the angularity between said mold sections.

2. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, a resiliently loaded displaceable crosshead, relatively tapering arms on said mold sections projecting beyond said pivot, a wedge carried by said crosshead for engagement with said arms between the same, rollers carried

by said crosshead for engaging with said arms on their opposite longitudinal edges, and cam means for displacing said crosshead towards and away from said pivot to vary the taper between said arms and thus open and close said mold sections.

3. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, a resiliently loaded displaceable crosshead, relatively tapering arms on said mold sections projecting beyond said pivot, a wedge carried by said crosshead for engagement with said arms between the same, rollers carried by said crosshead for engaging with said arms on their opposite longitudinal edges, and spring loaded cam means for displacing said crosshead towards and away from said pivot to vary the taper between said arms and thus open and close said mold sections.

4. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, a pair of inter-connected spaced plates of substantially triangular form constituting a crosshead, arms on said mold sections projecting beyond said pivot and between said spaced plates, a wedge carried by and loaded between said plates of said crosshead, a pair of rollers also carried by and between said plates of said crosshead to engage with opposite longitudinal edges of said arms, and resiliently loaded cam means for displacing said crosshead relative to said support for varying the taper of said arms and thus open and close said mold sections.

5. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, a pair of interconnected

spaced plates of substantially triangular form constituting a crosshead, arms on said mold sections projecting beyond said pivot and between said spaced plates, a wedge carried by and loaded between said plates of said crosshead, a pair of rollers also carried by and between said plates of said crosshead to engage with opposite longitudinal edges of said arms, resiliently loaded cam means for displacing said crosshead relative to said support for varying the taper of said arms and thus open and close said mold sections, and means for rotating said support and said mold sections as a unit.

6. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, arms on said mold sections projecting from the mold beyond said pivot, and means movable relative to said arms for opening and closing said mold sections and including surfaces positioned to engage the inner faces of said arms to force them outwardly upon movement of said means in one direction, and other surfaces positioned to engage the outer faces of said arms to force them inwardly upon movement of said means in another direction.

7. A mold assembly comprising a pair of mold sections, a support on which said mold sections are pivotally mounted, arms on said mold sections projecting from the mold beyond said pivot, and means movable longitudinally of said arms for moving said mold sections relative to each other, comprising surfaces positioned to engage the outer faces of said arms to force them toward each other upon movement of said means in one direction.

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