

B. M. BANGS.
SECTIONAL MOLD.
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959,103.

Patented May 24, 1910.

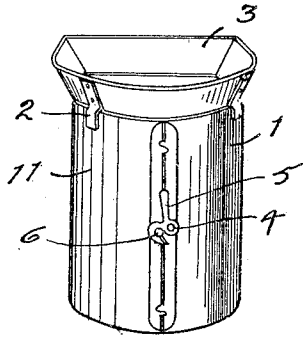


Fig. 2.

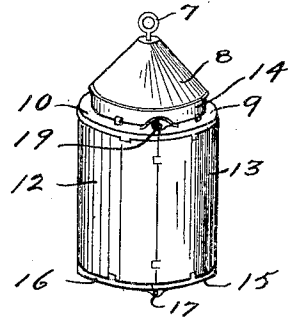


Fig. 3.

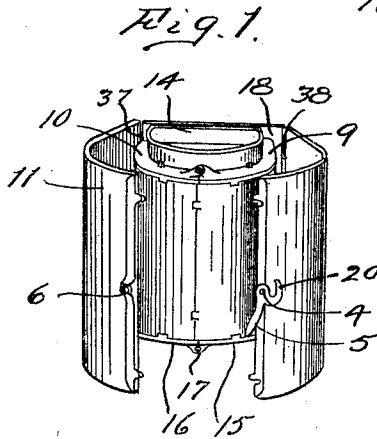


Fig. 1.

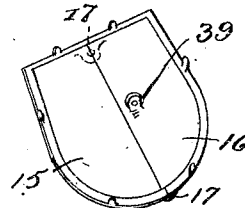


Fig. 4.

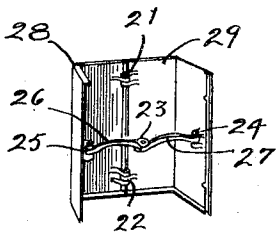


Fig. 5.

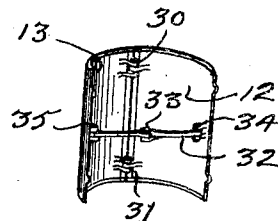
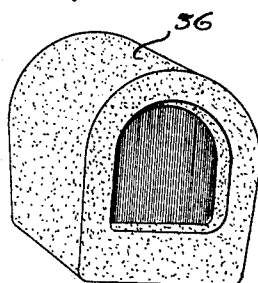


Fig. 6.

Fig. 7.



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SECTIONAL MOLD.

959,103.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, BYRON M. BANGS, a citizen of the United States of America, and a resident of Lake Mills, Winnebago county, Iowa, have invented certain new and useful Improvements in Sectional Molds, of which the following is a specification.

My invention relates to improvements in sectional molds, and the object of my improvement is to furnish a knock-down mold formed of inner and outer sectional casings, arranged and adapted when conjoined and coöperating, for use in the manufacture of hollow, single-piece hen's-nests from concrete or other suitable material. This object, I have accomplished, by the means which are hereinafter fully described and claimed, and which are illustrated in the accompanying drawings, in which:

Figure 1 is a perspective view of my device, showing the inner mold-casing set up with the outer mold-casing thereabout, the latter, however, having its parts spread apart to disclose the inner casing. Fig. 2 is a perspective view of the outer mold-casing with the removable hopper supported thereon. Fig. 3 is a perspective view of said inner mold-casing as set up, showing the detachable deflecting cone supported thereon. Fig. 4 is an upper plan view of the sectional bottom plate of the inner casing. Fig. 5 is a perspective view of the connected collapsible sections forming part of the side wall of said inner casing. Fig. 6 is a perspective view of the connected collapsible curved sections of the side walls of said inner casing. Fig. 7 is a perspective view of one of the hollow, single-piece hen's-nests, the product of one of my improved sectional molds.

Similar characters of reference refer to similar parts throughout the several views.

My improved device is especially and particularly intended and adapted for use in the manufacture of one-piece, hollow bodies from concrete or other materials such as may be readily cast or molded plastically into a desired form.

With this end in view, I have provided both inner and outer-mold-casings, each of which is formed of detachable, collapsible sections, with the addition of various auxiliary parts designed to facilitate and expedite the process of molding the concrete material between them. The outer mold-casing consists of a flat, vertical plate 18 to

which vertical slide-plates 11 and 1 respectively are hinged by means of the hinges 37 and 38. The forward parts of the plates 11 and 1 are curved on the same arc to approach each other at the forward edges, said curved portions acting together when closed to produce the semi-cylindrical upper surface of the concrete block 36. The vertical forward edges of the plates 11 and 1 are provided with counterpart and coacting tongues and grooves to prevent vertical displacement of either with respect to the other. The plate 1, has near its vertical forward edge, a projecting stud 4 on which is pivoted a latch 20 operated by means of a handle 5, said latch being adapted to be secured over a stud 6 on the opposite plate 11, to hold said plates together when closed. The rear portion of the inner casing is formed of two upright plates 28 and 29 of the same form, consisting of two vertical planes, joined together at an angle. These angle-plates are pivotally connected together as shown in Fig. 5, by means of the hinges 21 and 22. An elbow-joint consisting of the members 26 and 27 hinged together at 23 has the ends of said members hinged respectively to the forward portions of the angle-plates 28 and 29 at 25 and 24. The forward part of said inner casing, is formed of two upright, curved plates 12 and 13 respectively, hinged together at 30 and 31. An elbow joint consisting of members 32 hinged together at 33, has the ends of said members respectively hinged to said curved plates 12 and 13 at 34 and 35. The free vertical edges of said angle-plates and said curved plates have counterpart tongues and grooves, whereby they may be detachably connected.

15 and 16 are the bottom plates of the inner casing. Their inner edges register and are so connected by the hinges 17 that when they are lifted by means of the finger-piece 39 they will fold together. The outer edges of said plates 15 and 16 have a plurality of upwardly projecting lugs adapted to fit into corresponding grooves in the lower edges of the angle plates 28 and 29, and the coacting curved plates 12 and 13. Said grooves, however, are only on the outer face of the said vertical parts of the casing, to prevent transverse displacement. 9 and 10 are top plates for said inner casing, hinged together along a medial line, and provided with downwardly projecting lugs around their outer edges, which fit into counterpart grooves in

the outer upper angles of the vertical parts of said inner casing. The outer configuration of the hinged plates 15 and 16, and 9 and 10 are the same. The upper plates 9 and 10, however, have their inner portions cut away to form an opening similar in shape to that shown in the hollow block 36, but of somewhat smaller dimensions. Grouped about said inner opening and spaced away a little distance from the edge thereof are a plurality of upstanding lugs which serve to keep the collar 14 in place when the latter is supported about said opening on the top of the plates 9 and 10. 8 represents the frustum of a hollow cone and has a depending cylindrical flange, (not shown), said flange adapted to fit within said collar 14. Said frustum 8 has a ring by which it may be lifted on or off said collar.

The numeral 3 designates the hopper, provided with depending lugs 2, said lugs embracing the upper edge of the outer casing-parts when said hopper is supported thereon.

To form a hollow block 36, the outer mold-casing is first assembled on some hard, smooth, plane surface by engaging the catch 20 over the stud 6. Enough of the concrete material is then placed within said outer casing and tamped down to form the rear wall of the desired block. The hinged bottom-plates 15 and 16 are then placed within said mold-casing upon the tamped material and properly spaced away from the outer casing. The angle plates 28 and 29, and the curved plates 12 and 13, are first spread apart and then inserted to rest upon the plates 15 and 16 as shown in Fig. 1. The top plates 9 and 10 are then placed upon the upper edges of said angle and curved plates, and the collar 14 superposed upon said top-plates. The frustum 8 is then fitted upon said collar, and finally, the hopper, is placed upon the upper edges of the outer mold-casing. The concrete material is then poured down into said hopper and between said casings over and past the deflecting surface of the frustum 8. When the material has been properly tamped or otherwise consolidated between the inner and outer mold-casings to form a hollow block 36, and has sufficiently set, the inner and outer mold-casings may be removed in the following manner. The hopper 3 and frustum 8 are first removed. The operator then reaches an arm down into the inside casing through an opening of the collar 14 and successively bends the hinged elbows of the side walls of the inner casing to collapse them and removes them through said collar. In like manner, the operator again reaches into the interior of the hollow block 36 and grasping the finger-piece 39 pulls up the bottom plates 15 and 16 moving them as they swing together. The plates 9 and 10 are similarly removed and then the collar 14 is taken out. The outer casing is

removed by disengaging the catch 20 from the stud 6 and springing apart the sides parts 1 and 11.

Having described my invention, what I claim as new, and desire to secure by Letters Patent, is:

1. A sectional mold including an outer shell formed of a stationary section having laterally movable sections pivotally connected therewith and provided with interlocking ends, a corresponding inner shell spaced from the outer shell to form an intermediate molding compartment and having its upper and lower edges provided with seating recesses, a sectional bottom plate forming a closure for the lower end of the inner shell and provided with lugs adapted to enter the seating recesses in the lower end of the inner shell, a collar resting on the top of said inner shell and provided with depending lugs adapted to enter the seating recesses in the upper end of said inner shell, a hopper carried by the outer shell, and means supported on the inner shell for directing the material into the molding compartment.

2. A sectional mold including an outer shell formed of a flat stationary section having curved laterally movable sections pivotally connected therewith and provided with interlocking parts, a correspondingly shaped inner shell spaced from the outer shell to form an intermediate molding compartment, a sectional bottom plate having means for engagement with the lower ends of the inner shell and adapted to be folded upwardly at the juncture of said plate sections and removed through the top of the outer shell, a collar resting on the top of the inner shell and provided with depending lugs entering recesses in said inner shell, vertically disposed lugs spaced inwardly from the inner edge of the collar, a flange resting on said collar and bearing against the vertical lugs thereof, and a cone supported by the collar for directing the material into the molding compartment.

3. A sectional mold including an outer shell formed of a stationary section having laterally movable sections pivotally connected therewith and having their adjacent longitudinal edges rabbeted, the rabbeted edge of one movable section being provided with laterally extending lugs adapted to enter recesses formed in the rabbeted edge of the adjacent movable shell section, an inner shell spaced from the outer shell to form an intermediate molding compartment, a bottom section forming a closure for the lower end of the inner shell and comprising mating plates having their inner edges pivotally united and adapted to be folded upwardly at the juncture of said plate sections and removed through the top of the outer shell, a collar resting on the top of the inner

shell and provided with spaced vertically disposed lugs, a flange resting on said collar and bearing against the adjacent lugs, a cone surrounding the flange for directing the material into the molding compartment, and means for locking the movable sections of the outer shell in closed position.

4. A sectional mold including an outer shell, an inner shell spaced from the outer shell to form an intermediate compartment, said inner shell being provided with angularly disposed end plates and pivotally connected curved front plates having means for engagement with the angular portions of the back plates, the upper edges of the sectional front and rear plates of the inner shell being provided with seating recesses, a correspondingly shaped collar resting on the lugs entering the seating recesses in the front and rear plates of the inner shell, and means supported on said collar for directing the material into the molding compartment.

5. A sectional mold including an outer shell, a sectional inner shell disposed within the outer shell and spaced from the latter to form an intermediate molding compartment,

said inner shell being formed of pivotally connected back sections, each having an angularly disposed wing, the vertical longitudinal edges of which are formed with spaced seating recesses, pivotally connected curved front sections having their vertical edges formed with lugs adapted to enter the seating recesses in the wings of the pivoted back plate sections, pivoted links forming a connection between the inner faces of the curved sections and the inner faces of the wings of the back plate sections, a bottom plate having means for engagement with the front and rear sections of the inner shell, a sectional collar resting on the upper edges of the inner shell and provided with means for engagement with the front and rear portions of said inner shell, and means supported on the collar for directing the material into the molding compartment.

Signed at Lake Mills, Iowa, this 17th day of February 1909.

BYRON M. BANGS.

Witnesses:

E. E. ARNOLD,
J. H. HELGESON.