(No Model.) 2 Sheets—Sheet 1.

F. A. MEYER.

SECTIONAL MOLD.

No. 415,251. Patented Nov. 19, 1889.

Fig: 1.

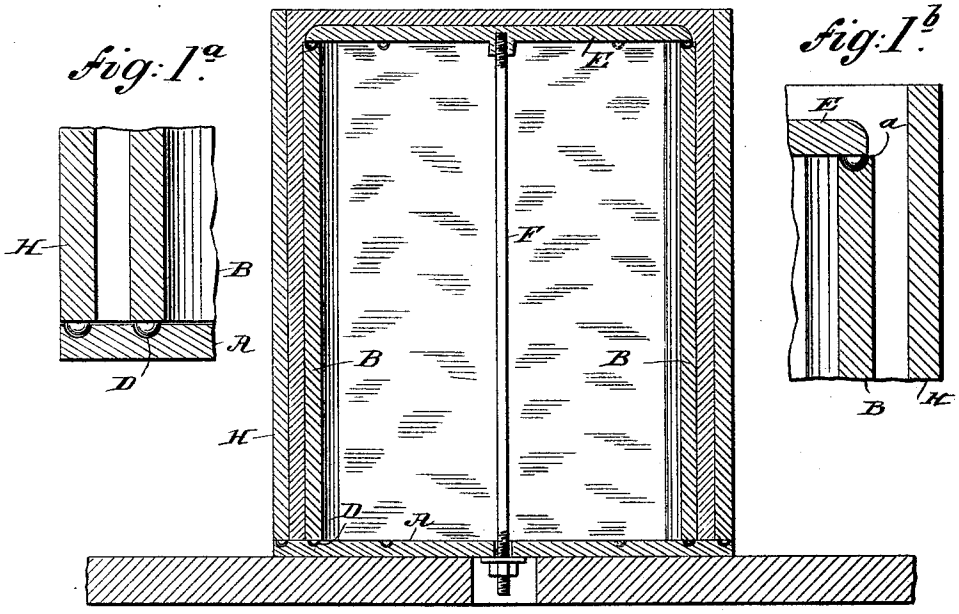
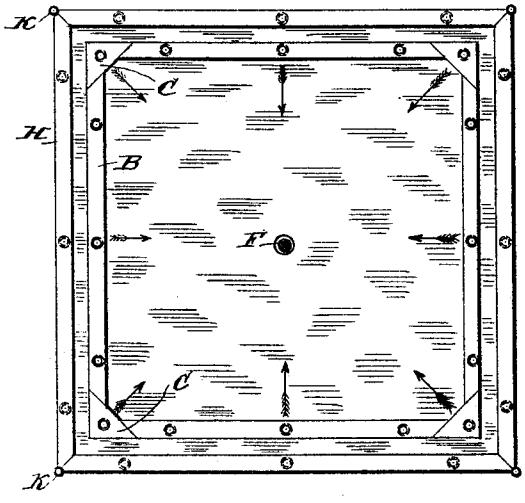


Fig: 2.



WITNESSES:

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(No Model.) 2 Sheets—Sheet 2.

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Fig: 3.

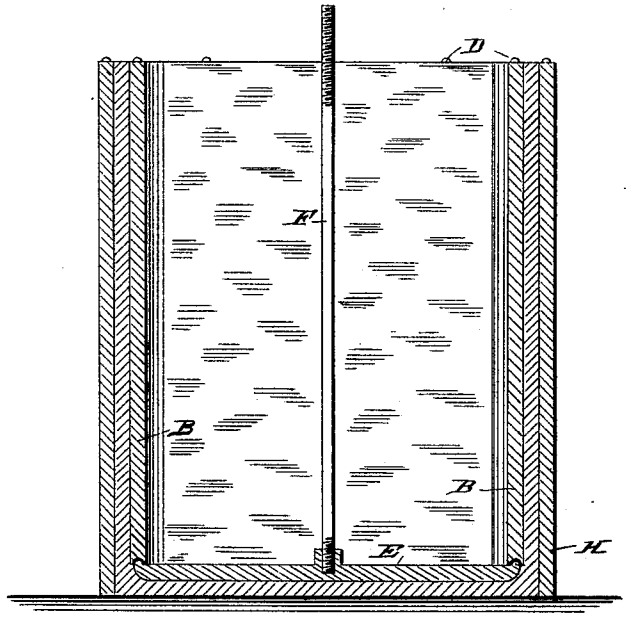
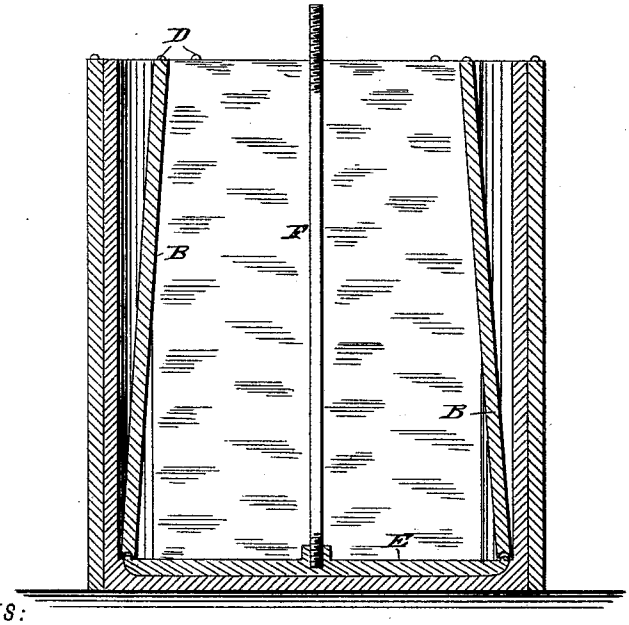


Fig: 4.



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UNITED STATES PATENT OFFICE.

FREDERICK A. MEYER, OF BROOKLYN, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE COMPOSITE CELL COMPANY, OF NEW JERSEY.

SECTIONAL MOLD.

SPECIFICATION forming part of Letters Patent No. 415,251, dated November 19, 1889.

Application filed November 11, 1887. Serial No. 254,897. (No model.)

To all whom it may concern:

Be it known that I, FREDERICK A. MEYER, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Sectional Molds, of which the following is a specification, reference being had to the drawings accompanying and forming a part of the same.

This invention is an improvement in molds for casting those plastic compounds which shrink or contract in cooling; and it is more particularly designed for use with a composition of matter discovered by me and described in an application of even date herewith. This composition contains sulphur, one hundred parts; a comminuted or finely-divided mineral—such as silicious sand—one hundred and fifty parts; a fibrous material—such as asbestus—fifty parts, and paraffine or similar wax, three to fifteen parts. The proportions and the ingredients may be somewhat varied, still preserving the general characteristics of the materials; but such compounds containing sulphur are difficult to mold or cast on account of the great shrinkage or contraction of the sulphur on cooling in the mold. In order to overcome this and to secure a mold from which the casting may be readily and quickly withdrawn, I employ a sectional collapsible mold. These devices are not broadly new; but the construction of my improvement distinguishes it from others heretofore used, and renders it particularly serviceable for casting the new compound described.

In carrying out my invention I may use any convenient form of outer mold; but I prefer to secure together the four sides by temporary fastenings, and to place them on a base provided with suitably-located indentations, into which project pins or projections on the edges of the side plates. As the inner mold I employ a box made up of four independent sides and four triangular corner-pieces. All of these are provided with pins or lugs, which fit into corresponding depressions in the base. There is a cover which is placed over the inner mold and clamped to the base to hold the parts of the inner mold in place. The plastic compound is poured in between the inner and outer molds, and when cooled the parts of the inner mold are loosened by unscrewing the rod holding the cover on. The position of the mold is reversed and the sides permitted to collapse, after which the cover, which now lies in the bottom of the article cast, is withdrawn. This general plan of construction and operation will be explained in detail by reference to the accompanying drawings.

Figure 1 is a vertical central section of the mold set up and ready for use. Fig. 1ª is an enlarged sectional view of the junction between the side walls and the base of the mold. Fig. 1ᵇ is a similar view of the junction between the cover and one of the walls of the inner mold. Fig. 2 is a plan view of the two molds with the cover of the inner mold removed. Fig. 3 is a vertical section of the molds as placed in removing the casting. Fig. 4 is a similar view showing the side walls of the inner mold collapsed.

The drawings illustrate a mold for casting rectangular boxes or cases, suitable for battery jars or cells; but the principle of construction would be the same in molds for casting other receptacles of a like nature.

A is a base-board, and B B are the four side walls or plates, the material for them and other plates of the mold being of wood or metal or the like.

C C are corner-posts, triangular in cross-section. The vertical edges of the side plates B B are beveled off, as shown, so that when they are fitted with the corner-posts a rectangular box is formed with an even exterior surface.

The upper and lower edges or ends of the parts B C composing the inner mold have a number of projecting pins or lugs D D. In the base A are corresponding indentations, into which the said lugs fit when the mold is set up. This prevents the parts of the mold from sliding together.

E is a cover, or, to speak more correctly, the bottom of the inner mold. It is of slightly smaller dimensions than the box to which it is applied, so that when in position it leaves a shoulder *a* around the bottom of the inner

mold, as illustrated in Fig. 1[b]. Along the edge of the cover E are indentations, into which lugs in the sides and corner-pieces B C fit. Of course in this and in other parts of the apparatus it is largely a matter of preference whether the lugs are on the sides and the corresponding indentations in the cover and base or conversely.

F is a metal rod securely fastened to the inner side of the cover E and extending down through the base A. When the parts of the inner mold are put together, the cover E and base A are drawn tightly together by a screw-nut G on this rod. An outer box or mold composed of the side pieces H, temporarily secured together by fastenings K at the corner, or by any other convenient means, is placed over the inner mold. The lower edges of the sides H have also lugs which fit into corresponding holes in the base A, and so maintain the two molds in proper relative positions, as is shown in Fig. 1[a]. The mold is then set on a suitable bench or table in the position shown in Fig. 1, and the fluid compound poured into the space between the two molds, or rather parts of the mold, until the outer part is filled to a sufficient extent above the other to form a bottom of the proper thickness. The mold is then reversed, as in Fig. 3, and the base A removed by the removal of the nut G. The sides B will then be free to swing into the open space in the mold, as in Fig. 4, so that both they and the corner-pieces C may be readily removed. The cover E, which is now the bottom of the inner mold, being of smaller dimensions than the inside of the casting and its edges rounded off, as shown, may be also readily lifted out of the casting, after which the outer walls of the mold are unfastened and taken off.

This mold, while of very simple construction, is extremely effective and economical, the difficulties usually encountered in separating castings of plastic materials of the kind herein described from their molds being entirely avoided.

What I claim is—

1. A sectional box-mold composed of the sides and corner-pieces, the edges of the sides contiguous to the corner-pieces being beveled, so as to permit said sides to collapse, with a cover and a base and a clamp for binding the parts together, in combination with an outer box or mold, as set forth.

2. The combination of the base A, the triangular corner-pieces C, the sides B, having their edges beveled, so as to be capable of collapsing, the cover E, and binding or clamping bar F, together forming an inner box or mold, the parts of which are secured against movement by lugs on the edges of the sides which fit into corresponding holes in the other parts, or conversely, with an outer sectional box or mold, as set forth.

3. In a sectional and collapsible mold, the combination, with the sides of the inner mold, of a cover of smaller dimensions than the top of the mold, and provided with lugs fitting into holes in the edges of the sides, as herein set forth.

FREDERICK A. MEYER.

Witnesses:
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