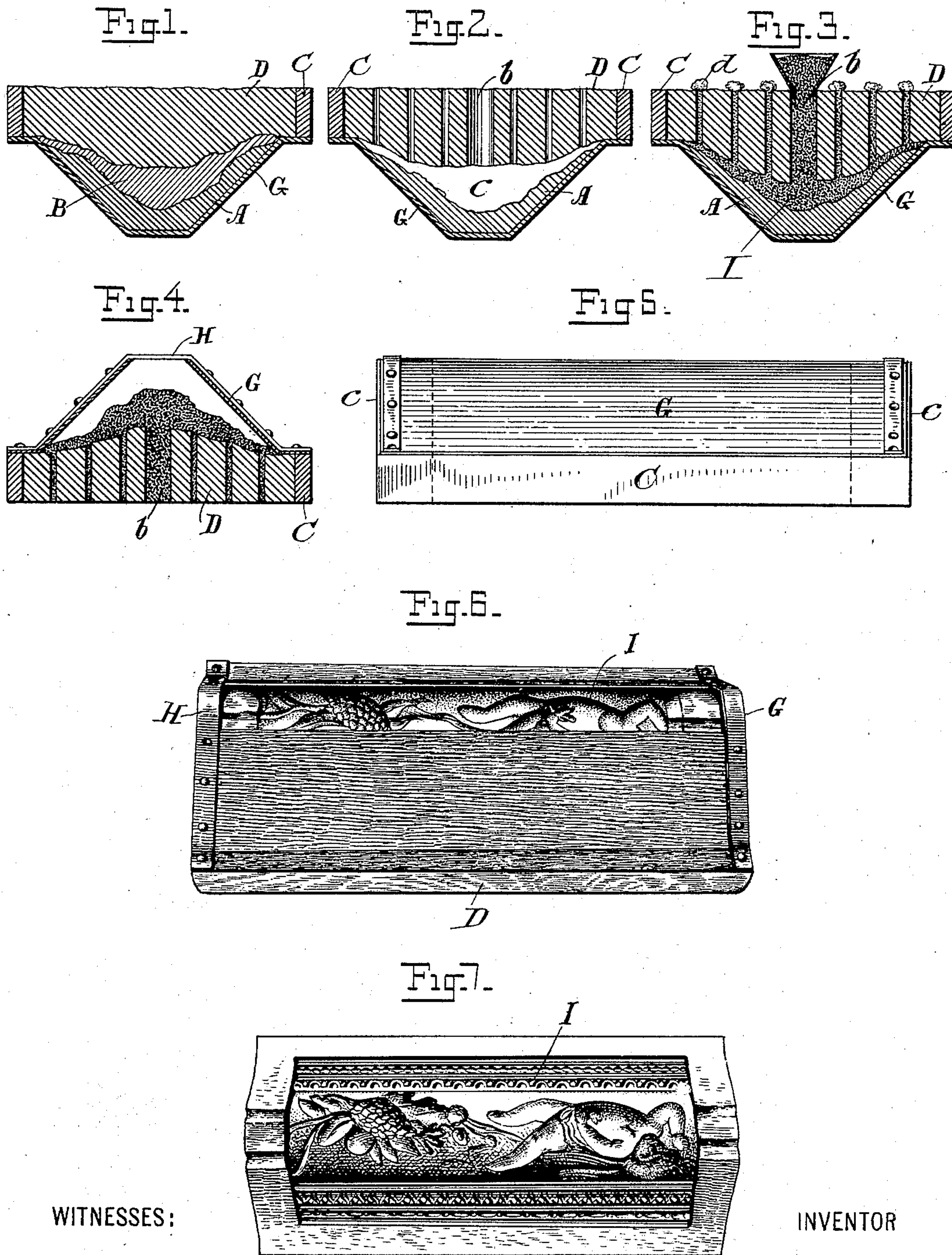


(No Model.)

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MANUFACTURE OF PLASTER CORNICES.

No. 591,245.

Patented Oct. 5, 1897.



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## MANUFACTURE OF PLASTER CORNICES.

SPECIFICATION forming part of Letters Patent No. 591,245, dated October 5, 1897.

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*To all whom it may concern:*

Be it known that I, AUGUST CARLEWITZ, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in the Manufacture of Plaster Cornices, of which the following is a specification.

My invention relates in part to a method of making a mold for use in casting from plaster or similar materials cornices having undercut relief ornamentation on their faces and in part to a mold for the purpose having a face of elastic yielding material of sufficient thickness to form a mold for the relief ornamentation and a stiff rigid backing on the said elastic face.

The invention will be described with reference to the accompanying drawings, which illustrate an embodiment thereof.

Figure 1 is a vertical transverse section of the mold as it appears just after the backing D has been cast on the clay. Fig. 2 is a similar section of the mold, showing it after the clay B has been removed and the backing has been bored or perforated and replaced. Fig. 3 is a similar section of the mold, showing it after the elastic yielding face I has been cast to fill the space formerly occupied by the clay. Fig. 4 is a vertical transverse section of the mold, showing it inverted and the pattern removed to make ready for casting the cornice; and Fig. 5 is a side elevation of the same. Fig. 6 is a perspective view of the mold as seen in Figs. 4 and 5. Fig. 7 is a plan view of the face of the mold as it lies on the backing D, as seen in Fig. 6, with the frame G removed.

The first step in the carrying out of my invention is to prepare the mold, and in doing this I proceed, by preference, as follows: The pattern for the cornice (designated by A in the several figures of the drawings) will correspond in size and configuration to the section of cornice to be produced, and it will be made to fit in a metal casting-frame G, as seen in Figs. 1, 2, and 3. This frame having been placed as indicated in Fig. 1 and the pattern A placed in it, the face of the pattern is covered with soft clay B, which is carefully pressed into all the cavities of the ornamentation on the pattern and applied in quantity

sufficient to embed all of the relief ornamentation on the pattern and cover the same to a depth of about one and one-half to two inches. The back or upper side of this clay facing will be left uneven, by preference, and it will follow the general configuration of the design on the pattern—that is, the ornamentation in the cove or on the face of the pattern of the cornice. After the clay B has been placed I mount on the metal frame G a frame C, having V-shaped ends (c in Fig. 2) which fit down into the metal frame G and close the ends of the same. This frame C provides an edging or border for the backing D, which is formed by pouring onto the clay B a mixture of plaster and water or similar material and allowing it to set or harden. If the plaster is used in a slightly-stiff pasty form instead of being thin enough for pouring, it may be formed on the clay by hand or a temporary board used in place of a regular frame. It will be observed that the clay B now occupies a position between the pattern A and the backing D, and the pattern A will be a little shorter than the frames C and G, so that the clay may also be pressed down about the ends of the pattern between its ends and the ends c of the frame C. After the backing D shall have become hard and firm the frame C is removed, leaving the backing resting on the clay. The backing is now detached from the clay and lifted off and the clay then carefully removed from the pattern.

The next step is to prepare the elastic flexible face portion of the mold, and in doing this I bore holes b at suitable points through the plaster backing D and then replace it on the frame G, as seen in Fig. 2. Two good-sized holes at proper distances apart along the center of the mold will answer every purpose; but there may be a number of holes, as shown. The primary purpose of these holes is to permit the escape of air during the process of making the gelatin facing, and the final object thereof is obtained by the formation of fingers or projections on the back of the gelatinous facing of the mold, which will fit into the holes when the operation of casting the cornice is being performed. The mixture to form the elastic flexible face I is a liquid gelatinous compound which will congeal into a tough elastic mass when cooled. This mix-



ture is now poured into the mold through a hole *b*, when it will fill the space before occupied by the clay. When the gelatinous compound reaches the top of the vent-holes, such  
 5 holes may be stopped by plugs of clay, as shown at *d* in Fig. 3. If the projections of gelatin which have solidified in the holes are inconveniently long, such portions may be shortened by cutting them off, the design be-  
 10 ing to hold the elastic facing in place on the plaster backing by means of suitable integral protuberances on the back of the same, the exact form or size of the projections not being material. I have found that a suitable com-  
 15 pound for the elastic face *I* may be made from a good quality of gelatin, (and preferably that known to the trade as "rabbit" gelatin,) to which is added about twenty per cent. of glycerin and a small quantity of  
 20 rosin, chalk, and turpentine. In the operation of casting oil or varnish may be used as a wash over the surfaces of the mold as a precaution against the plaster adhering to the elastic facing, as is usually practiced by those  
 25 skilled in such work. After the elastic compound has cooled and set the mold is inverted and the pattern *A* removed. The mold will now present the appearance seen in Figs. 4, 5, and 6. The backing *D* now serves as a  
 30 base, supporting the elastic face *I*, which will thus be held firmly during the molding operation. The frame *G* now has its narrow base uppermost, and in this base is a longitudinal opening *H*, through which the mix-  
 35 ture of plaster to form the section of cornice is now poured, this mixture filling up the entire space before occupied by the pattern *A*.

In the operation of casting the metal frame *G* rests upon and is supported by the backing  
 40 *D*, and the mixture when poured in through the opening *H* will be confined within the lines of the frame, the diagonal sides and back of a cast cornice being formed by the inside of the metal frame and the face or ornamental  
 45 front by the elastic facing of the other part of the mold. In some cases where heavy work is being done the frame *C* may also surround the plaster backing *D*, so as to provide against injury from cracking; but it will be  
 50 apparent that the mold may be used without the frame *C*. After the plaster has set in the mold the mold is again turned over to the position seen in Figs. 1 and 2 and the plaster backing *D* lifted off from the elastic face *I*,  
 55 after which the said face is carefully pulled off from the plaster cast. The face *I* is of such a nature that although the plaster cast may be very much undercut and the figure delicately sculptured the elastic face will bend

and yield, owing to its pliability, so as to be 60 removed without the least injury to the fine lines of the cast. The elastic facing, although comparatively thin, is always deep enough to receive the ornamentations of the design. After being removed from the cast the face *I* 65 may be returned to its position on the backing *D* for use again, and in this way many casts may be made from the same elastic facing. The gelatinous material flows into the  
 70 holes in the backing *D*, and thus forms on the back of the flexible face projections which serve to steady the lining in place after it is made. The frame *G* should be made perfectly true and exact, and will be made of  
 75 steel, by preference, to impart rigidity and prevent warping or twisting during the casting operation. This frame should be secured to the other parts of the mold by tying or otherwise during the operation of casting the  
 80 plaster cornice.

Having thus described my invention, I claim—

1. The herein-described method of forming a mold for casting articles from plaster which have surface ornamentation in relief, which 85 consists in first placing a pattern in a frame then forming a coating of clay over the face of the pattern, then casting a thick backing of plaster on the clay, then removing the clay, and then filling the space previously occupied 90 by the clay with a gelatinous compound, and finally removing the pattern after the gelatinous compound shall have congealed, substantially as set forth.

2. A mold for casting cornices, which have 95 a surface ornamentation in relief, consisting essentially of a base *D* of plaster with a removable facing *I* of tough elastic gelatinous composition, having formed in it the mold for the relief ornamentation of the front of the 100 casting, and a frame *G* to form the back of said casting substantially as shown and described.

3. The combination, to form a mold for casting articles of plaster which have surface or- 105 namentation in relief, of the metal frame *G*, the frame *C*, adapted to fit on the frame *G*, the backing *D*, of plaster in the frame *C*, and the removable face *I*, on the backing *D*, said face being of tough, elastic, gelatinous com- 110 position and having formed in it the mold for the relief ornamentation of the article to be cast, substantially as set forth.

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Witnesses:

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