

C. CLEMENTS.  
METHOD OF PRODUCING PHOTOGRAPHIC REPRESENTATIONS OF STRUCTURAL DESIGNS.  
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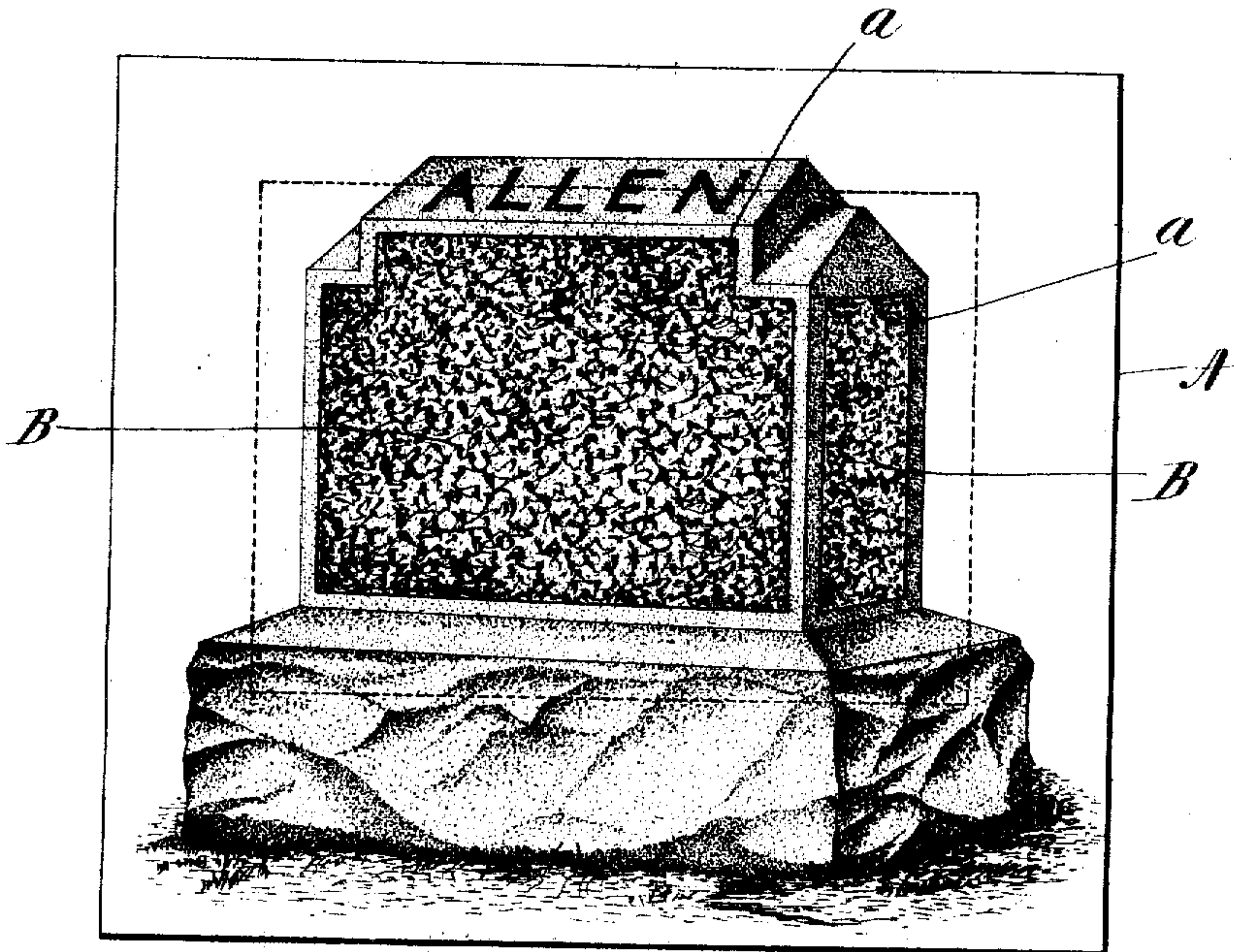


Fig. 1.

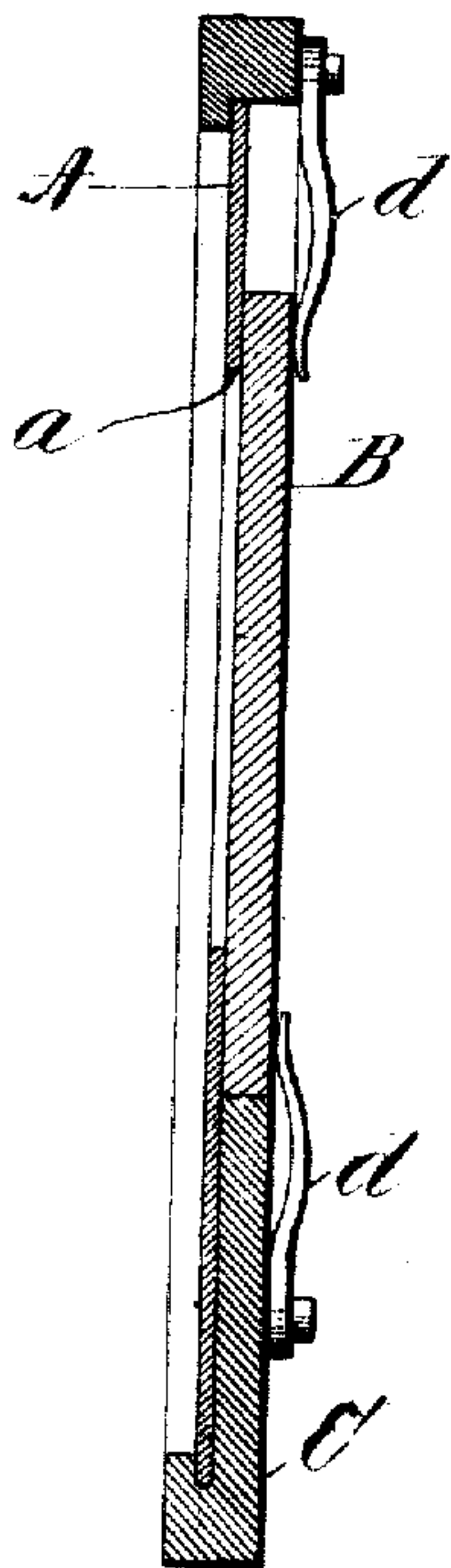


Fig. 2.

WITNESSES:  
Charles D. Wroth  
Joseph H. Ryan

INVENTOR:  
Charles Clements  
By *John Roberts*  
Attorney



# UNITED STATES PATENT OFFICE.

CHARLES CLEMENTS, OF BOSTON, MASSACHUSETTS.

## METHOD OF PRODUCING PHOTOGRAPHIC REPRESENTATIONS OF STRUCTURAL DESIGNS.

No. 910,990.

Specification of Letters Patent.

Patented Jan. 26, 1909.

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*To all whom it may concern:*

Be it known that I, CHARLES CLEMENTS, a citizen of the United States, and resident of Boston, in the county of Suffolk and State of Massachusetts, have invented new and useful Improvements in Methods of Producing Photographic Representations of Structural Designs, of which the following is a specification.

My invention consists in a composite object for photographic reproduction by the aid of which representations of structural designs may be made to present vividly the prominent features of the structures represented.

In the drawings hereto annexed which illustrate my invention, Figure 1 is a front elevation of a composite object for photographic reproduction and Fig. 2 is a cross-section of such an object, shown as contained in a frame.

In submitting designs for ornamental structures, especially where, as is usually the case, the design submitted is very much smaller than the structure is intended to be, it is difficult and I believe impossible by means of the devices heretofore employed to convey to the average mind an adequate idea of the texture, grain or other superficial characteristics of the materials which are to enter into the finished structure, particularly in respect to salient portions of a design. The individual peculiarities of his materials are among the most effective resources of the designer and while he, by constant contact and experience with the materials of his craft, may be well able to picture to himself the resultant effect of a design when wrought into its ultimate materials, it is unusual for the person to whom the design is submitted and whose approval or disapproval may be final, to stimulate his imagination to the point of adequately visualizing what may be the most essential elements in the design.

It might be assumed by those unfamiliar with this subject that a photograph from an actual structure would convey better than any other vehicle an adequate idea of the structure itself; this, however, is by no means true, as my own experience and that of others has often demonstrated. The photograph almost invariably shows the structure very much reduced from its natural size so that the essential peculiarities and contrasts of grain, texture, marking, color, etc. which render the actual object distinctive and

pleasing are for the most part, if not wholly, suppressed and obliterated by the process of photographic reproduction. It is obviously impossible to furnish photographs in full size of many objects of art and architecture, and it is also obviously impossible by any means heretofore employed to reproduce, with fidelity, in the design of a structure which exists only in contemplation, those features of peculiar texture, grain, etc. which are peculiar to the materials intended to be employed.

By my invention herein described there may be produced an unlimited variety of composite objects for photographic reproduction which shall present to the eye of the observer the salient features selected by the designer, in their natural appearance; and the natural appearance will be accentuated in the design as a whole by reason of the fact that, while the design will be drawn to a reduced scale, those salient portions which the designer wishes to emphasize will have their natural details exaggerated in relation to the design as a whole and thus stand prominently forth, conveying to the person for whom the design is made a vivid and therefore adequate idea of the appearance which the structure will assume when completed. This device employs what might be called a trick of art analogous to that exhibited in some Italian *alto relievos* wherein the sculptor represented dancers slightly distorted, the attitudes of the figures thus affording a striking suggestion of actual movement. Or this trick of art may be likened to the employment of exaggerated and accentuated "high lights" which lend emphasis and verisimilitude to a painting though they are by no means rigidly "true to nature".

Referring to the drawings, A represents a design sheet upon which is drawn in the usual way a representation of the structure which is the subject of the design. As this design is primarily intended for photographic reproduction, the drawing thereon will preferably be a wash drawing, supplemented by structural line drawing for the outlines. In conformity with the motive of the design, a portion of the sheet is cut out along the outline of some salient feature, the edges of the resulting openings being shown at *a* in Figs. 1 and 2.

In the illustration the design is shown of a monument, and if we suppose that its ma-



terial is to be granite and the salient feature thereof is to be the polished paneling of the monument the design sheet will be cut out on the outline of the panels. I then take either  
 5 a piece of granite, cut and polished, or a photograph of such a piece of granite in its natural size so as to show the mottling and marking as perfectly as the natural stone, and lay it behind the design sheet A so that  
 10 the surface of the stone or the facsimile reproduction thereof which presents the natural appearance of the stone, shows through. In Fig. 2 I have illustrated a piece of stone as B placed behind the design sheet A, the  
 15 two being secured in a frame C by clips or buttons *d*. This composite object is then placed before the camera and photographed. If desired, a portion of the natural object or its facsimile representation may be shaded  
 20 with a wash of india ink so as to present contrasts as of light and shade in the photographic reproduction of a composite object. While I have shown, by way of illustration, a composite object for photographic  
 25 reproduction in which natural stone or a facsimile thereof is employed, the same idea may be carried out according to this invention by using natural woods, textile fabrics, ornamental paper, in short, what you will;  
 30 according to the nature of the structure which the design as a whole represents. The

fact that the natural object which forms part of the composite presents its peculiar features of surface to the camera in full size exaggerates those qualities which this material would eventually contribute to the  
 35 structure represented and thus emphasizes to the eye of the observer the effect which the material selected is intended to produce.

What I claim and desire to secure by Letters Patent is:

The method of producing photographic representations of structural designs which consists in drawing the design upon a sheet in the usual manner, cutting away portions  
 45 of said sheet within the outline of said design and in conformity with the motive thereof, arranging behind the resulting openings surfaces presenting the natural appearance of the material to be used in the finished structure represented by the design, the details of  
 50 such surfaces being of exaggerated proportion in relation to the dimensions of the design, and finally photographing the composite surface so formed.

Signed by me at Boston, Suffolk county, Massachusetts this fourteenth day of December 1907.

CHARLES CLEMENTS.

Witnesses:

ODIN ROBERTS,  
 ROBERT CUSHMAN.