

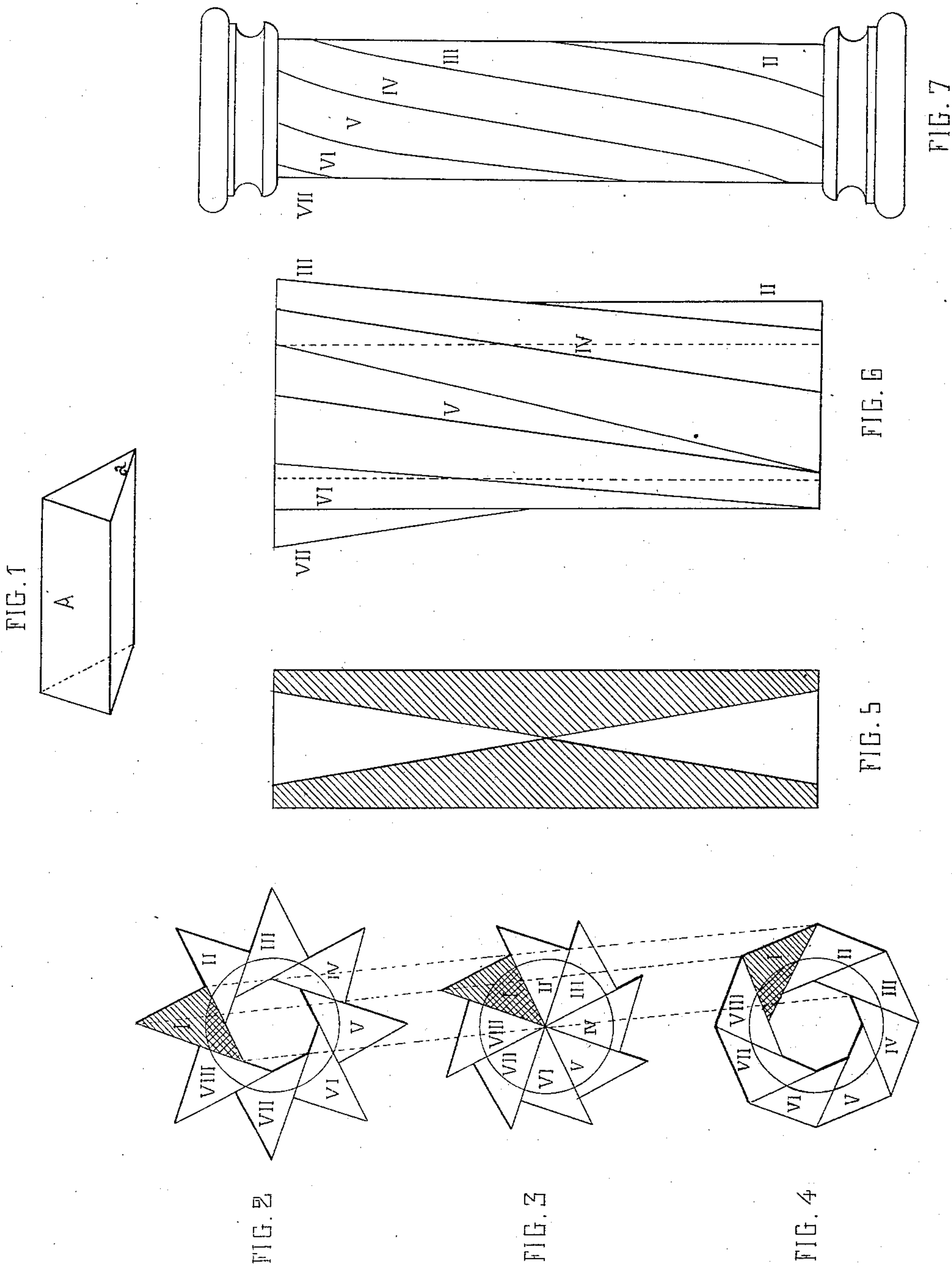
(No Model.)

B. DUBOIS.

METHOD OF CONSTRUCTING ORNAMENTAL MASONRY COLUMNS.

No. 367,508.

Patented Aug. 2, 1887.



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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METHOD OF CONSTRUCTING ORNAMENTAL MASONRY COLUMNS.

SPECIFICATION forming part of Letters Patent No. 367,508, dated August 2, 1887.

Application filed December 27, 1886. Serial No. 222,579. (No model.) Patented in Belgium July 10, 1886, No. 73,803; in France July 12, 1886, No. 177,362; in Germany July 20, 1886, No. 38,143, and in England July 20, 1886, No. 9,408.

*To all whom it may concern:*

Be it known that I, BÉLISAIRE DUBOIS, of Bousignies, in the Republic of France, have invented certain new and useful Improvements in Methods of Constructing Ornamental Masonry Columns, (for which Letters Patent have been granted to me in France, July 12, 1886, No. 177,362; in Belgium, July 10, 1886, No. 73,803; in Germany, July 20, 1886, No. 38,143, and Great Britain, July 20, 1886, No. 9,408,) of which the following is a specification.

Numerous attempts have been made to form upon columns of marble or other hard substances ornamental spiral fillets by a process of addition, the natural inflexibility of these materials forbidding their being twisted. The effect of a column constructed on this principle and in materials of different colors is so beautiful that it is easy to understand why so many attempts have been made to achieve success in this direction; but up to the present time the only method of producing party-colored columns has been that of cutting spiral grooves therein and filling them with a material of a different color.

In order that this invention may be thoroughly understood and carried into practical effect, I will proceed to describe the same in detail, referring in so doing to the accompanying drawings, which are to be taken as a part of this specification and read therewith, and in which like parts are marked throughout the figures in which they occur with the same reference letter or number, and in which—

Figure 1 represents a perspective view of one of the prisms used in the construction of columns according to my invention. Figs. 2, 3, and 4 show three horizontal sections of eight prisms united in the position necessary to produce a twisted column, consisting of eight bands of equal width, Fig. 2 being a cross-section of the upper end held in the upper compound socket; Fig. 3, a cross-section taken at the mid-length, and Fig. 4 a cross-section of the base through the lower socket. Fig. 5 is a vertical section through the axis of the column, showing that at the mid-length of this axis all the prisms touch each other, therefore forming both above and below the plane of contact a pyramidal space, the apices of

both of these pyramidal spaces meeting in the center of the said plane of contact. Fig. 6 is an elevation of the prisms put together, the Roman figures II, III, IV, V, VI, and VII indicating the exterior angles of the corresponding prisms, the two dotted lines showing the diameter of the column which is to be produced; and Fig. 7 is a side elevation of a column finished according to my method.

I cut prismatic bars A, Fig. 1, of which one angle,  $\alpha$ , is determined, as will be hereinafter explained, and these prisms serve as single elements for the construction of the column. Two boxes or compound sockets, one for each end, contain a number of openings corresponding to the number of bands in the column to be made, and of the same shape respectively as the end elevation of the assembled prisms. These openings are cut out in a circle around the center of each compound socket, and the centers of the two sockets form the ends of the axis of the column. The prisms are placed in the compound sockets, the angles  $\alpha$  toward the center. These angles do not coincide with the axis of the column, and are not even parallel with it. Being inclined with respect to the axis, each angle has only one point of contact with it, situated at the mid-length of the column, in such a manner that the said angle forms with the said axis two acute angles subtended by radii of the ends. It follows from this that when all the prisms are put together the column is only solid at its mid-length, while the two ends are hollow.

The prisms having been placed in the two compound sockets, as I have just explained, all the surfaces which touch are cemented together by means of a suitable cement.

The prisms are marked from I to VIII for the purpose of showing their respective positions in the several sections. The dotted lines connecting the three sections of the prism I in Figs. 2, 3, and 4 indicate the oblique position of this same piece and of all the others.

The circles in the three sections, Figs. 2, 3, and 4, show the circumference of the column. All that part of the prisms which is outside this circle is sawed off. The column is then turned up, the inner part only of each prism remaining to form a spiral band of the column and having the appearance therefore of inlaid



work. The sectioning of the prism I in the three sections shows the arrangement clearly.

After having cut the prisms down, as above mentioned, and polished the several faces, their appearance is as shown in Fig. 7, which is an elevation of the finished column.

The column shown in the drawings has eight spiral bands of equal width; but the number and the width of these bands may be varied. The determining point is always the angle  $a$ . In the example chosen this angle is one of forty-five degrees—*i. e.*, three hundred and sixty degrees divided by the number of sides. If a column is to be made with twelve equal bands, the angle  $a$  will contain thirty degrees.

If I wish to produce a column containing, for example, twelve bands of black marble separated by twelve of white marble of double the width, I divide the circumference of the column into thirty-six equal parts. The internal angle of the black prisms will be ten degrees and that of the white prisms twenty degrees, and so on.

All the angles set out around a common center form the mid-length section of the column, and the form of the two compound sockets is then obtained by the aid of straight lines, such as the dotted lines which are drawn between Figs. 2, 3, and 4. The amount of twist varies according to the height determined upon.

While speaking throughout this specification of prisms as the only elements of the columns, I should explain that I have chosen this regular form because of the ease with which it can be adapted to practical work. I wish it to be distinctly understood that columns can be built up according to my invention from elements of other form. All that is necessary is to have pieces of a sufficient length shaped in such a manner as to have two flat longitudinal faces meeting each other at an angle,  $a$ ,

determined according to the directions given above.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. The method herein described of making ornamental columns, consisting in preparing a number of prismatic or other pieces of material having two plane faces meeting at an angle depending upon the relation of the cross-section of each particular piece to the cross-section of the completed column, assembling the pieces between two boxes in which they can be held more or less obliquely, then uniting the several pieces and reducing them by any convenient or well-known process to the shape of a column, substantially as set forth.

2. A column composed of a number of prismatic or other pieces of material having two plane faces meeting at an angle depending on the relation of the cross-section of one particular piece to the cross-section of the finished column, said pieces being held obliquely and cemented together, substantially as shown and described.

3. A column composed of a number of prismatic or other pieces of material having two plane faces meeting at an angle depending on the relation of the cross-section of one particular piece to the cross-section of the finished column, said pieces being held obliquely, cemented together, and reduced at their outer portions to the required size of the column, substantially as shown and described.

In testimony that I claim the foregoing as my invention I have hereunto affixed my signature in presence of two witnesses.

DUBOIS, BÉLISAIRE.

Witnesses:

I. HOFMAN BANG,  
LOUIS GUDMAN.