No. 706,775 Patented Aug. 12, 1902.

F. PEANO.

FORMING STATUARY OR OTHER ORNAMENTAL STRUCTURES.

(Application filed Mar. 7, 1902.)

(No Model.)

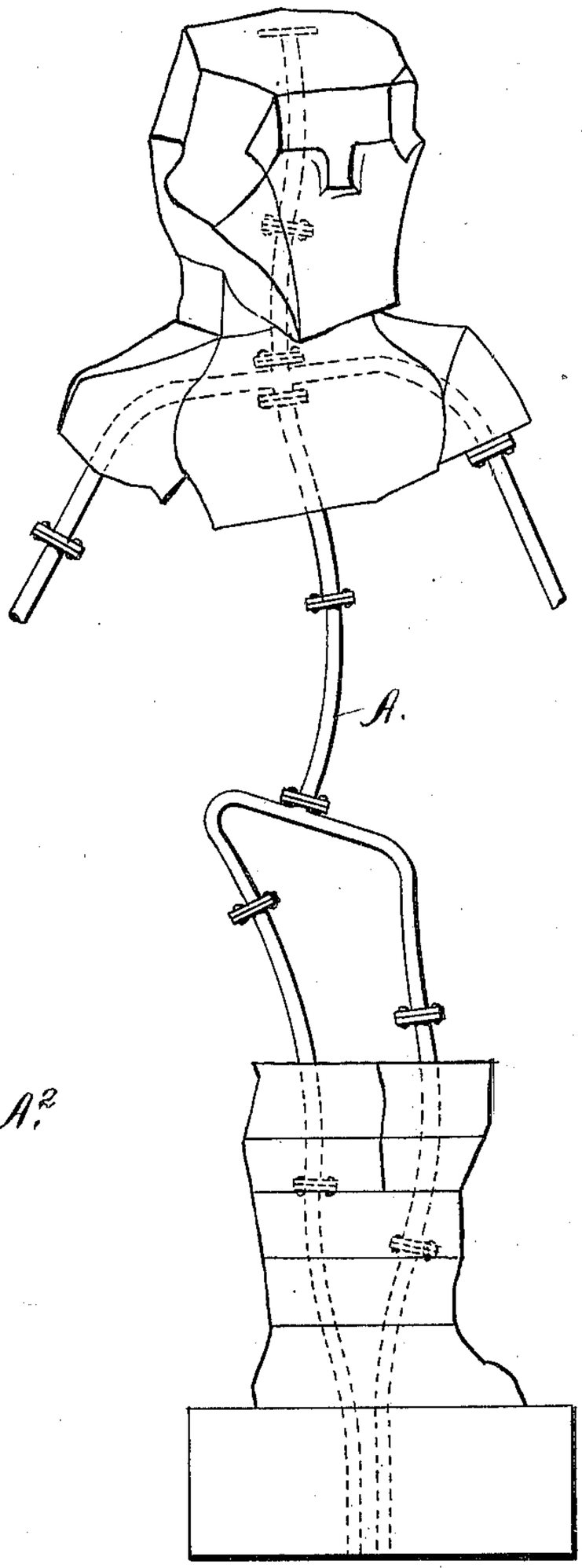

Fig. 1.

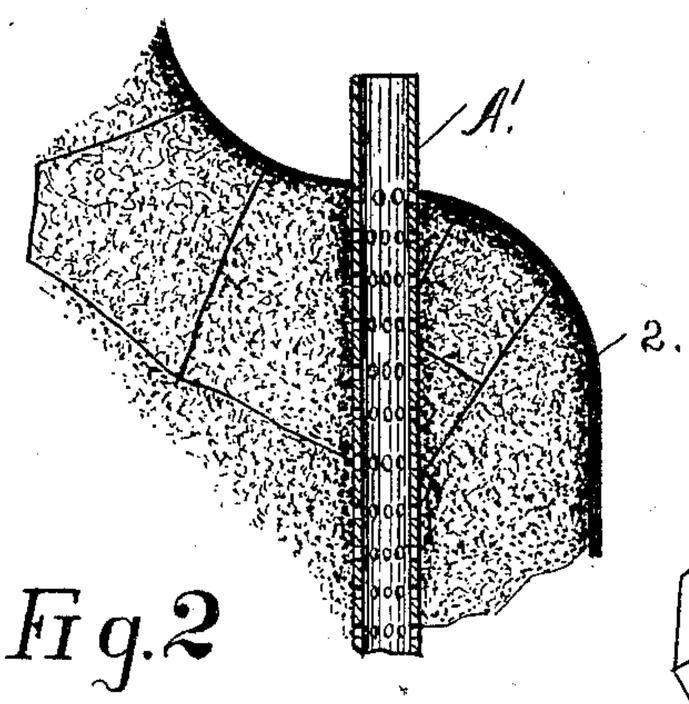

Fig. 2

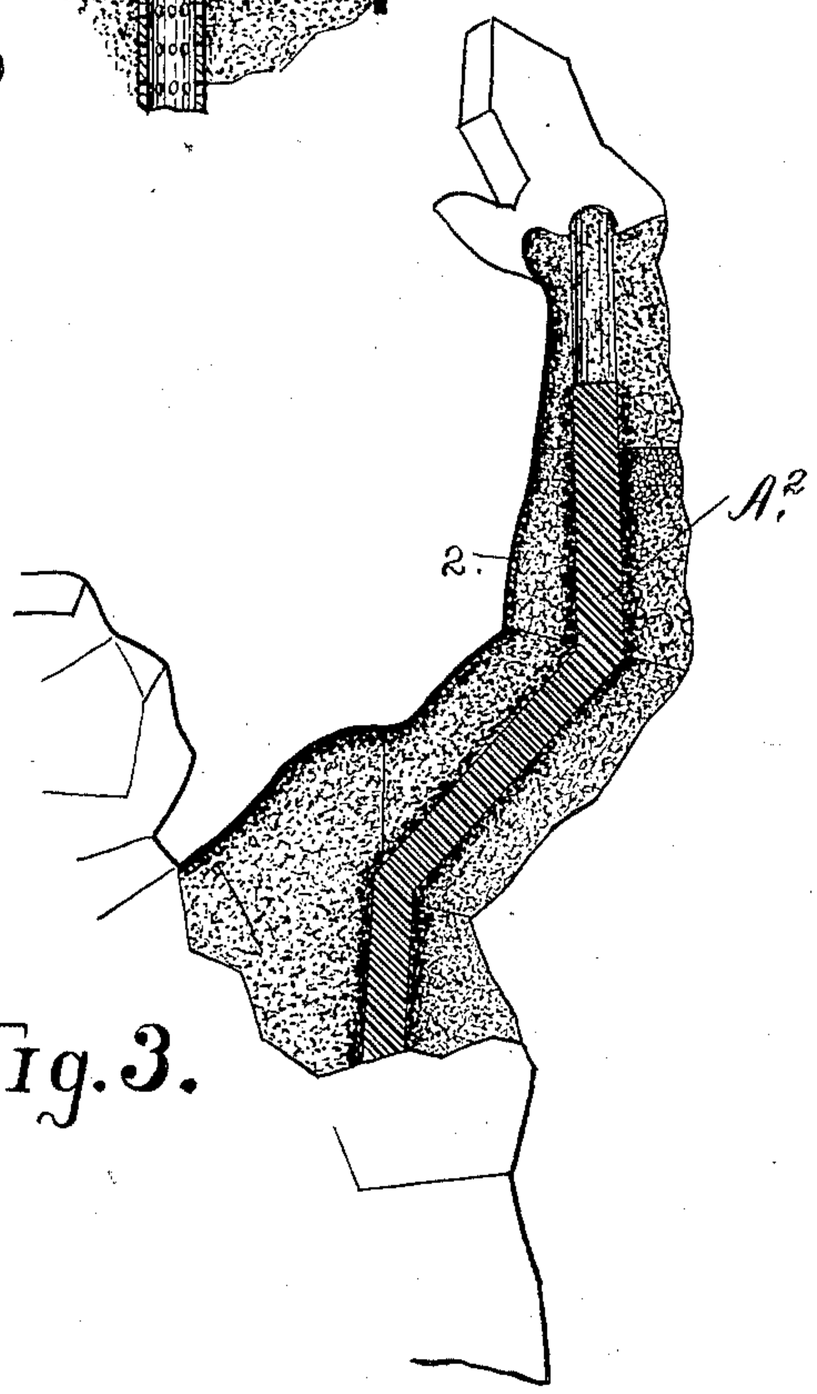

Fig. 3.

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UNITED STATES PATENT OFFICE.

FELIX PEANO, OF OAKLAND, CALIFORNIA.

FORMING STATUARY OR OTHER ORNAMENTAL STRUCTURES.

SPECIFICATION forming part of Letters Patent No. 706,775, dated August 12, 1902.

Application filed March 7, 1902. Serial No. 97,050. (No model.)

To all whom it may concern:

Be it known that I, FELIX PEANO, a citizen of the United States, residing at Oakland, county of Alameda, State of California, have invented an Improvement in Forming Statuary or other Ornamental Structures; and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to improvements in the construction of artistic and ornamental structures, such as statuary, cornices, and the like. Its object is to provide an improved and economical means of surface ornamentation and plastic embellishment.

The invention consists, essentially, of the process and article which I will hereinafter describe and claim.

Having reference to the drawings, Figure 1 shows the application of a metallic skeleton in my improved method of forming statuary. Fig. 2 shows a method of using a perforated pipe and cement support with superficial dressing applied. Fig. 3 shows the use of a cast-metal skeleton frame.

The basis of my invention was the discovery of a vast body of volcanic material in the nature of an extremely light porous silicious substance. Notwithstanding its lightness and porosity it is very tenacious and has considerable resisting qualities sufficient to make it excellently suited for the purposes herein described. In carrying out my invention I utilize this substance ("volcanic glass" I term it, owing to its vitreous character) as a core. This core may consist of a single block or it may be built up of a number of blocks cemented together and held in a rigid structure by any suitable means. The homogeneity of the "glass" allows it to be readily sawed or worked into any design. For example, were I to construct a statue or group of large proportions I would proceed to take and build a core from these blocks until a pile was raised larger in all dimensions than the figure to be represented. As a means of uniting the blocks I may anchor them to a central metallic skeleton frame A, Fig. 1, building out and around this frame and using suitable locking means to hold the cellular blocks thereto. The character of the blocks permits holes to be bored through them readily in any direction, or instead of a skeleton metal frame, as above, I may cause holes to be bored in various directions through the core, insert perforated pipes A′, Fig. 2, into those holes, and then pump a suitable compound, as cement, into these pipes. This cement would ooze out through the perforations and fill the surrounding cells, embedding the pipe and forming a solid anchor, or instead of using either of the foregoing means I may pour molten metal into the holes or channels that have been bored, whereby I obtain a metallic skeleton frame cast within the vitreous core, as A^2, Fig. 3. Having thus prepared a core, I proceed to sculpture it according to the design of the finished figure. This completed, I next apply such coating 2 as shall represent the permanent external garb of my figure. This may be cement, plaster-of-paris, enamel, alloy, or other suitable workable dressing. When this dressing is smeared in the form of a pigment or paste or poured as a liquid over the statue, the paste or liquid sinks into the cells, and so forms a close and in the case of metal or alloy an absolutely-permanent union with the core.

My invention is confined more particularly, though not entirely, I would have it understood, to the application of an alloy to the sculptured cellular vitreous core by what I have termed the "wiping" process. In this connection I form an alloy having a fusion-point preferably below 400° Fahrenheit, though that is unimportant. It may be one of the many so-called "fusible" alloys, the ingredients of which usually comprise lead, tin, bismuth, or mercury, with two or more of said elements in any suitable proportion. I may use one part of lead and one to five parts of tin, or I may use tin, lead, and bismuth in equal or unequal proportions. However, I do not wish to limit myself to any particular metal or combination of metals. This wiping metal in molten form is poured upon the figure and by means of gloves or other suitable means is worked or "wiped" uniformly thereover by hand, and an even hard metallic surface results, exactly reproducing all the lineaments of the model. If a metal or alloy, as bronze, is to be used having a fus-

ing temperature so high as to be unworkable by the wiping process, I proceed after the manner of the so-called "wax" process. In this case the vitreous core is covered with a shell of wax. The surface of the wax is then worked up in complete form by hand. The wax is afterward coated with a porous clay composition or other suitable material to form a mantle. By subjection to external heat the wax is melted or burned out, and molten metal is thereupon run into the space before occupied by the wax.

The only novelty I claim in connection with the wax process is the combination of a plastic coating and a cellular vitreous core.

With my process, whether the core is used in connection with the wiping process or the so-called "wax" process, the core becomes an integral part of the finished product, offering a firm indestructible support for the external ornamented surface coating. The use of the cellular core, moreover, obviates recourse to the tedious and vastly more expensive process of casting in sections and subsequently uniting the heavy metal sections in the finished piece.

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

1. A process of forming statuary or other ornamental structures consisting in shaping a natural cellular body and then applying thereto an exterior plastic coating which enters the cells of the cores and forms a bond or union for locking the coating to said core.

2. A process of forming statuary and other ornamental structures consisting in imparting an outline to a natural cellular body and then finishing with an outer coating applied in a plastic state so that it will enter the cells of the body and form a bond or union therewith.

3. A process of producing statuary and other ornamental structures consisting in building up a sectional cellular body and uniting the sections by plastic material which enters the cells and forms a bond or union therewith, then shaping the exterior of the body, and, finally, finishing with an outer coating of plastic material which also enters the cells and forms a bond to retain the outer coating in place.

4. A process of producing statuary and other ornamental structures consisting of forming a cellular, vitreous core, boring channels or holes therethrough, inserting perforated pipes in said holes, injecting cement or the like into said pipes whereby they become embedded in the cement and closely united with the surrounding core, sculpturing said core and applying thereto an external surface coating.

5. A process of producing statuary and like ornamental structures consisting in shaping a cellular body into the desired form or design and ornamenting the exterior by applying in a plastic state a metallic coating which enters the cells and forms a bond therewith.

6. As a new article of manufacture, the combination of a porous, mineral body and a metallic outer coating entering the pores of the body and forming a permanent bond therewith.

In witness whereof I have hereunto set my hand.

FELIX PEANO.

Witnesses:
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