(No Model.)

W. G. WILLIAMS.

ARCH FOR INITIATION PURPOSES.

No. 307,155. Patented Oct. 28, 1884.

FIG. 1.

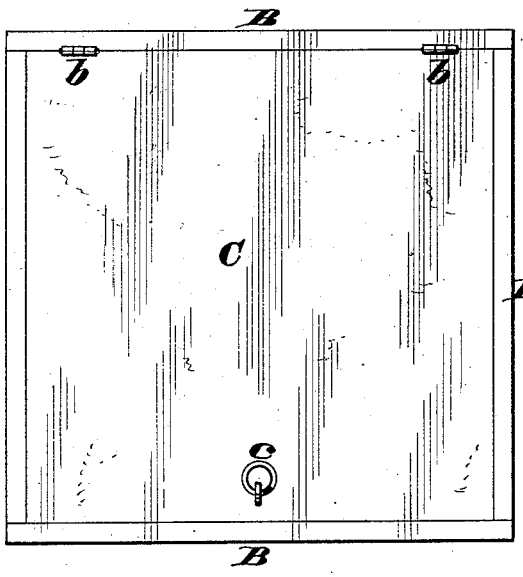


FIG. 2.

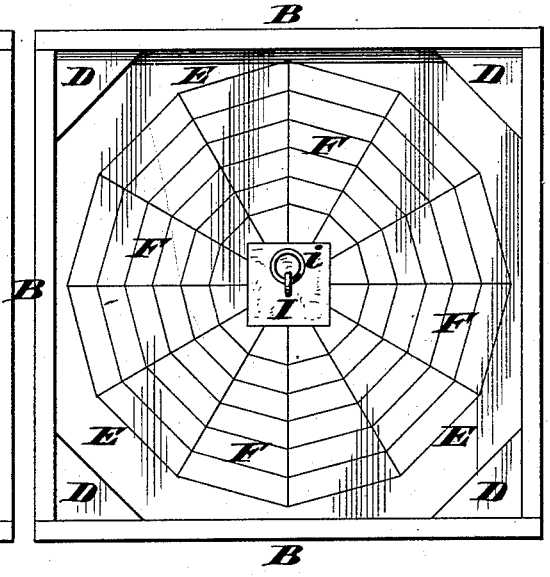


FIG. 3.

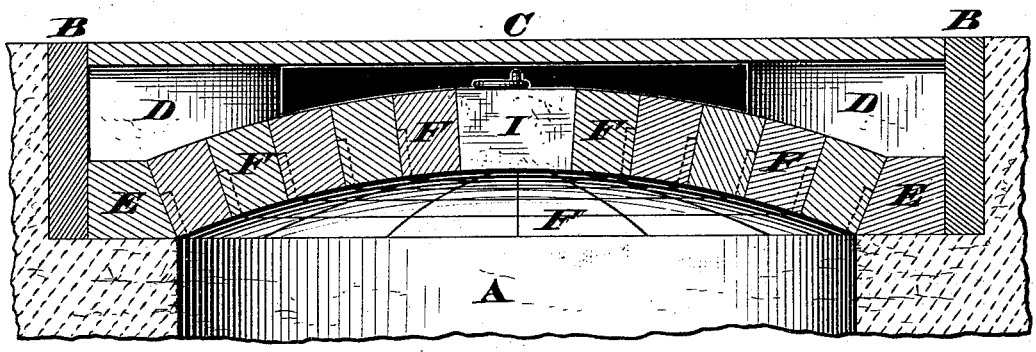


FIG. 4.

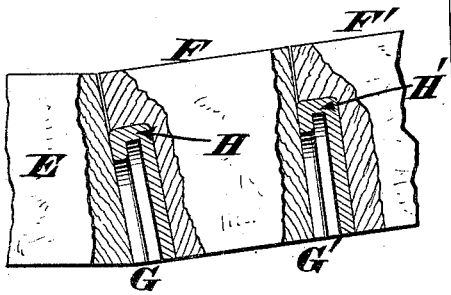
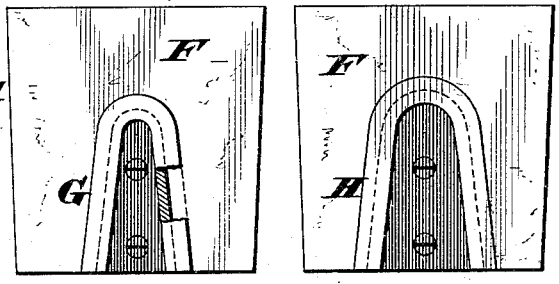


FIG. 5.



Attest.
L. C. Carpenter
John A. Penn.

Inventor.
William G. Williams
by James H. Layman
Atty.

UNITED STATES PATENT OFFICE.

WILLIAM G. WILLIAMS, OF CINCINNATI, OHIO.

ARCH FOR INITIATION PURPOSES.

SPECIFICATION forming part of Letters Patent No. 307,155, dated October 28, 1884.

Application filed February 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. WILLIAMS, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Arches for Initiation Purposes, of which the following is a specification, reference being had therein to the accompanying drawings.

My invention comprises a novel construction of arch to be used in the ceremonies attending the initiation of candidates into different secret societies, &c., the object of the improvement being to furnish an arch that can be readily taken apart, piece by piece, when occasion requires. The arch is arranged so as to completely cover the mouth of the pit or vault used in such ceremonies, and is composed of a series of polygonal courses that wedge snugly against each other, the abutment of each polygonal course being provided with a hanger that engages with a socket-plate on the adjacent block, and so on until the keystone is reached, which latter is simply seated in the central opening of the vault-cover. As a result of this construction, an arch is afforded upon which a person can walk with perfect security, while, at the same time, the the simple removal of the keystone allows each block to be disengaged from its neighbor until the entrance to the pit is completely exposed, as hereinafter more fully described.

In the annexed drawings, Figure 1 is a plan showing the customary door closed over the arch. Fig. 2 is another plan, the door being opened or removed to expose the arch. Fig. 3 is an enlarged vertical section through the arch and its closed door. Fig. 4 is a sectional elevation, showing the method of coupling together the various blocks or courses composing the arch. Fig. 5 is an elevation of a pair of said blocks.

A represents the mouth of a vault or pit of the character referred to, and B is a curb or frame surrounding the same, which curb may have hinged to it at *b* a door or other suitable cover, C, provided with a handle, *c;* or said door may be arranged so as to be lifted bodily out of the curb, as seen in Fig. 2, in which illustration D represents bearers for the four corners of this cover C to rest upon.

E is the abutment from which the arch springs, said abutment having any desired number of sides, according to the polygonal form given to the arch.

In Fig. 2 the arch is shown as being composed of twelve sides of equal angles, although a greater or less number of sides may be employed, according to the diameter of the vault and the material of which the various courses are made. I prefer, however, to make said courses of a series of wooden blocks F, properly tapered and adapted to fit snugly against each other, so as to form an arch of any desired rise and span.

In order that the various blocks may retain their proper places while the arch is being constructed, and to enable its ready separation, I attach to each side of the abutment E a hanger, G, of the peculiar form seen in Figs. 4 and 5. This hanger is fastened to the abutment so as to project therefrom in such a manner as to allow the ready engagement therewith of a socket-plate, H, which latter is let into the meeting face of the adjacent block. Consequently when the block F, seen in Fig. 4, is coupled to the hanger G, said block will fit snugly against the abutment E. Furthermore, the now exposed or inner face of this block has fastened to it a projecting hanger, G′, with which is engaged the socket-plate H′ of the adjacent block F′, and this arrangement is carried out until the keystone I is reached, which latter is maintained in place simply by its weight. I prefer to make this member of stone, and furnish it with a ring-lifter, *i*. It is to be understood, however, that the hangers and socket-plates are applied only to the sides of the various blocks composing the different courses; but the ends of said blocks simply abut against each other, and need not be provided with hangers or socket-plates, or other coupling devices. After the vault or pit A has been properly arranged, and the abutment B and curb C built around its mouth, the hangers G are secured to the sides of said abutment. The blocks F, constituting the first course, are then hooked onto these hangers, and the blocks F′, composing the second course, are coupled to the hangers G′ of the first course, and so on until all the blocks are fitted in their respective positions and nothing remains to be done

but to fill the square hole at the center of the arch. Into this central hole the keystone I is dropped, and the complete arch is then covered with the door C, which latter rests on the corner bearings D. When the arch is to be used, the door is either opened or removed bodily and the vault uncovered, the first step of which operation consists in pulling the keystone I out of its seat. After this act there is removed the inner course of blocks against which the keystone rested, and the next course is detached, and so on until the entire arch is taken apart, and the mouth of the pit or vault is exposed for the subsequent proceedings, the details of which need not be described in this specification. As each block is simply coupled to its neighbor, it is apparent that a slight pull is all that is necessary to disengage the socket-plate H from off the hanger G and allow the block to be separated from the arch.

In Fig. 2 the polygonal covering of the vault is shown as perfectly flat or level, while in Fig. 3 said covering is represented as crowning or arched; but in Fig. 4 the curvature of the arch is dispensed with, and a direct incline is made from the abutment to the keystone, thereby indicating that the exact shape of the arch is immaterial. Finally, the blocks are shown united with ordinary bedstead-fastenings, because they are cheap, and their extensive use enables them to be handled with the utmost facility; but the invention is not to be limited to any special form of coupling devices nor to any material of which the blocks are composed.

I claim as my invention—

An arch for initiation purposes, which arch includes a polygonal abutment, E, a series of courses, F, and a key, I, said courses or blocks being united together and attached to said abutment by suitable coupling devices, as G H, substantially as herein described.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM G. WILLIAMS.

Witnesses:
JAMES H. LAYMAN,
S. S. CARPENTER.