G. D. WILLITS.

COMPOSITE LAMP CHIMNEY.

APPLICATION FILED MAR. 26, 1910.

969,932. Patented Sept. 13, 1910.

Fig. 1.

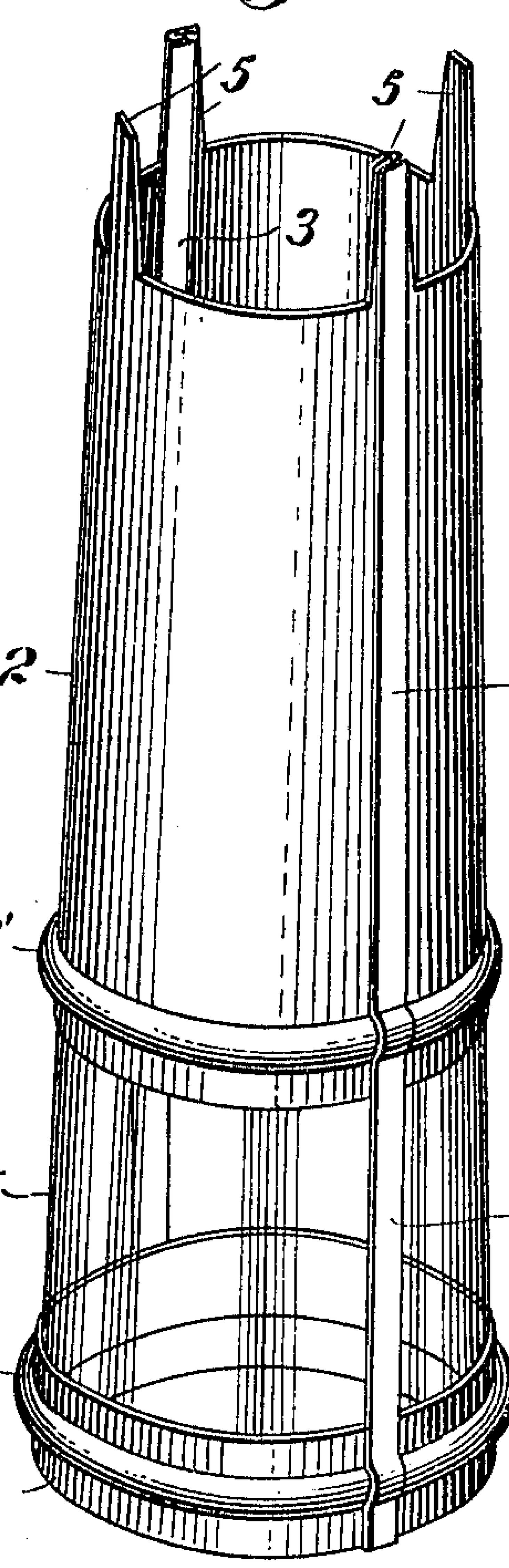


Fig. 2.

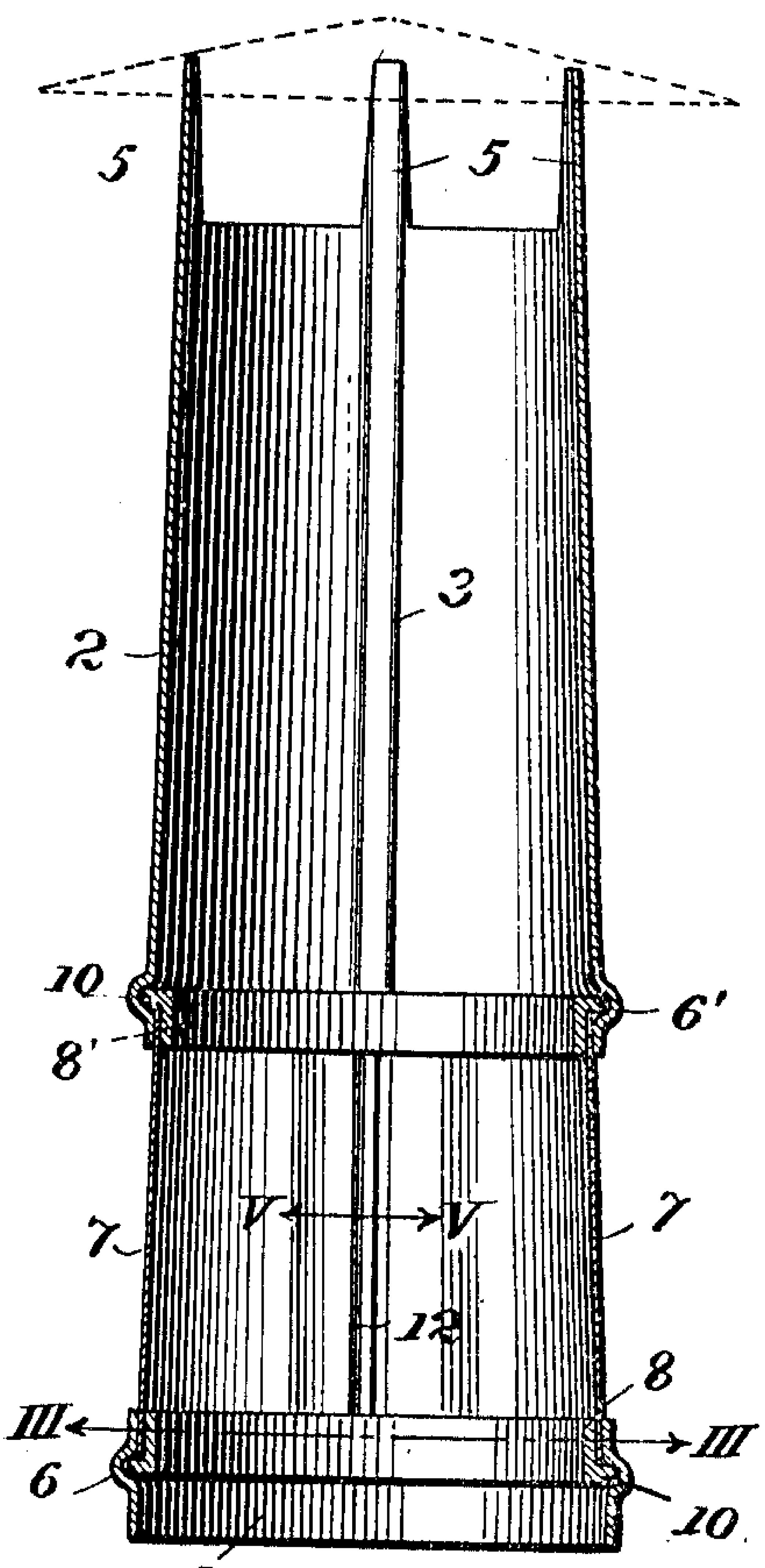


Fig. 3.

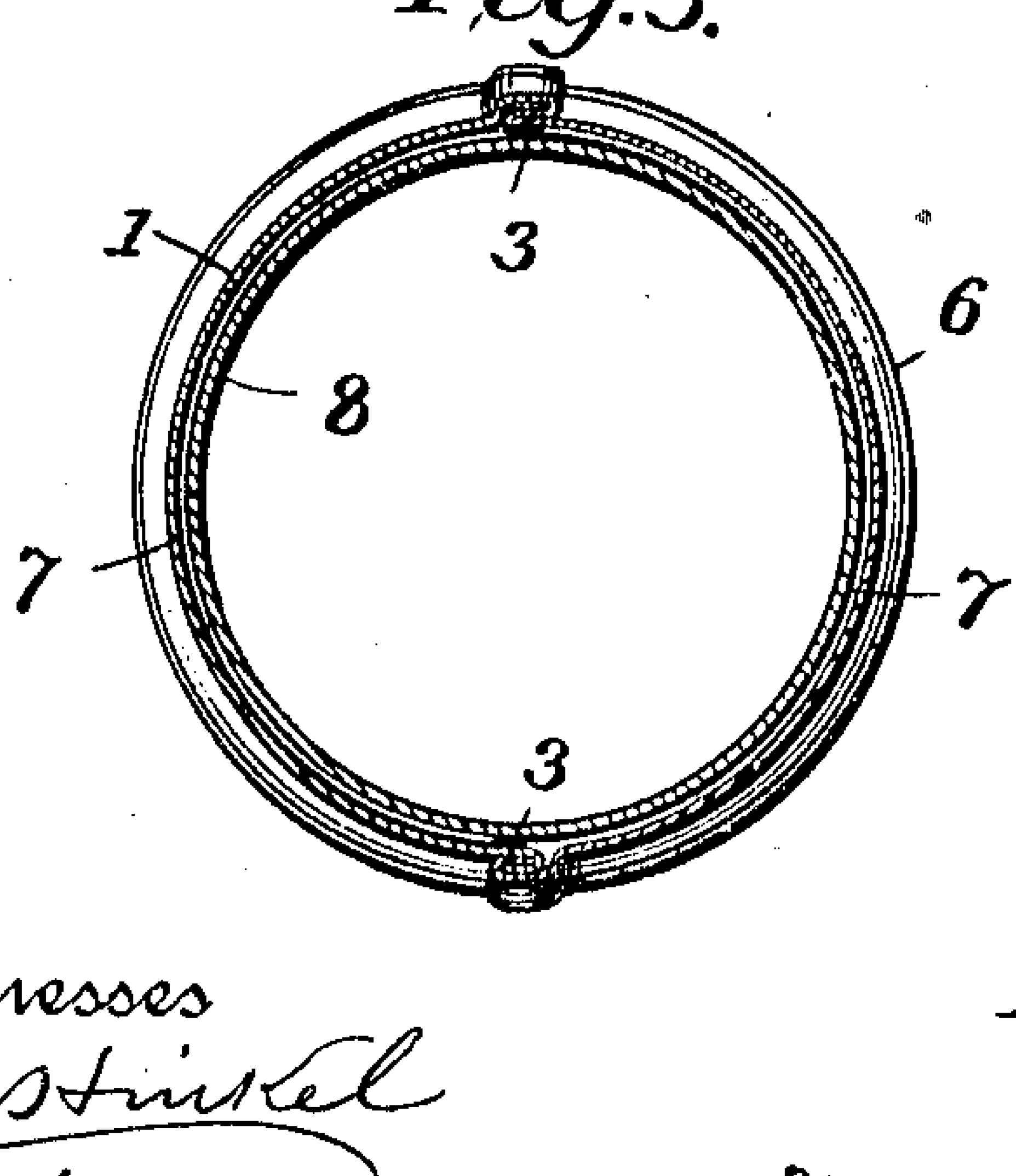


Fig. 4.

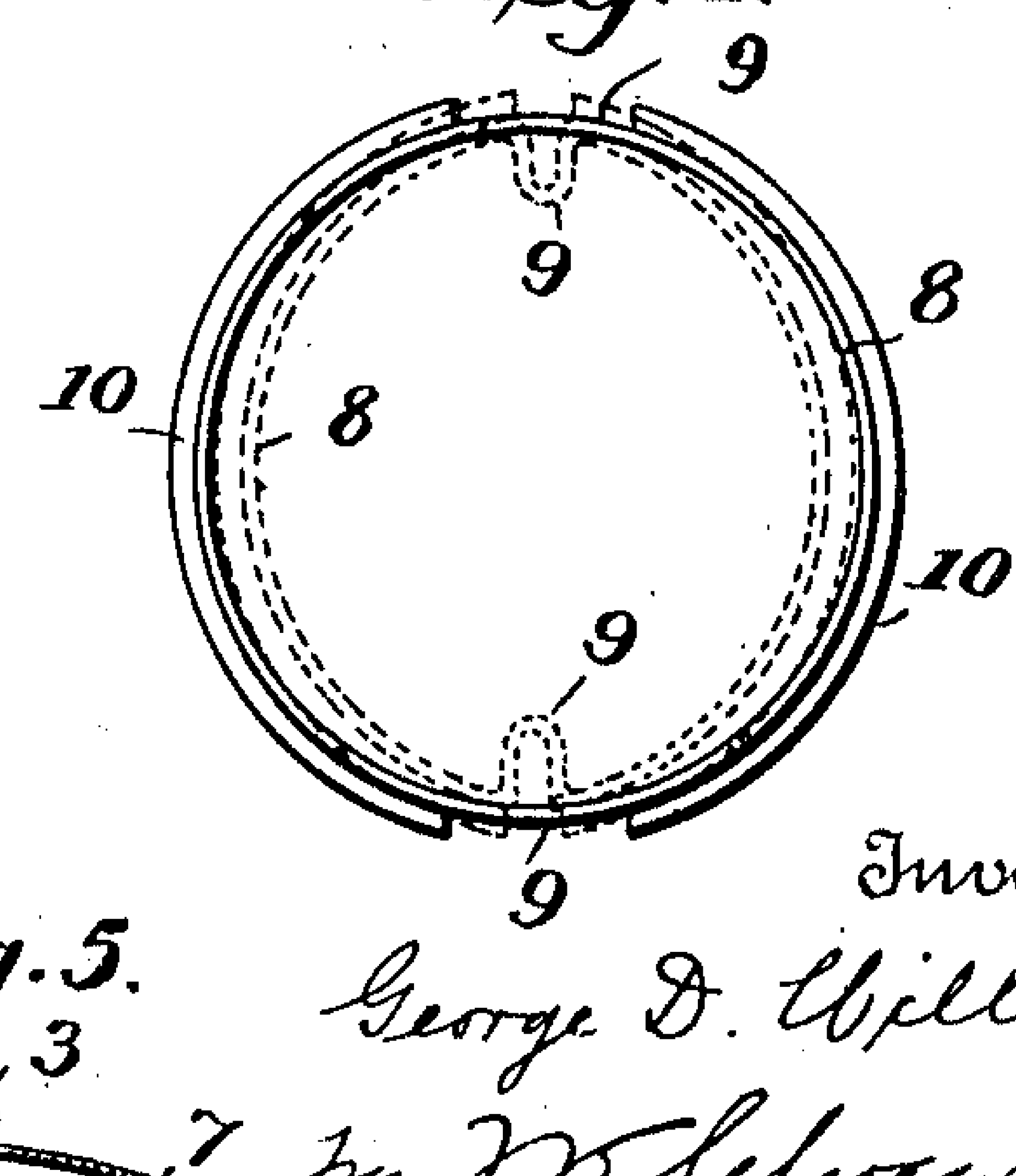
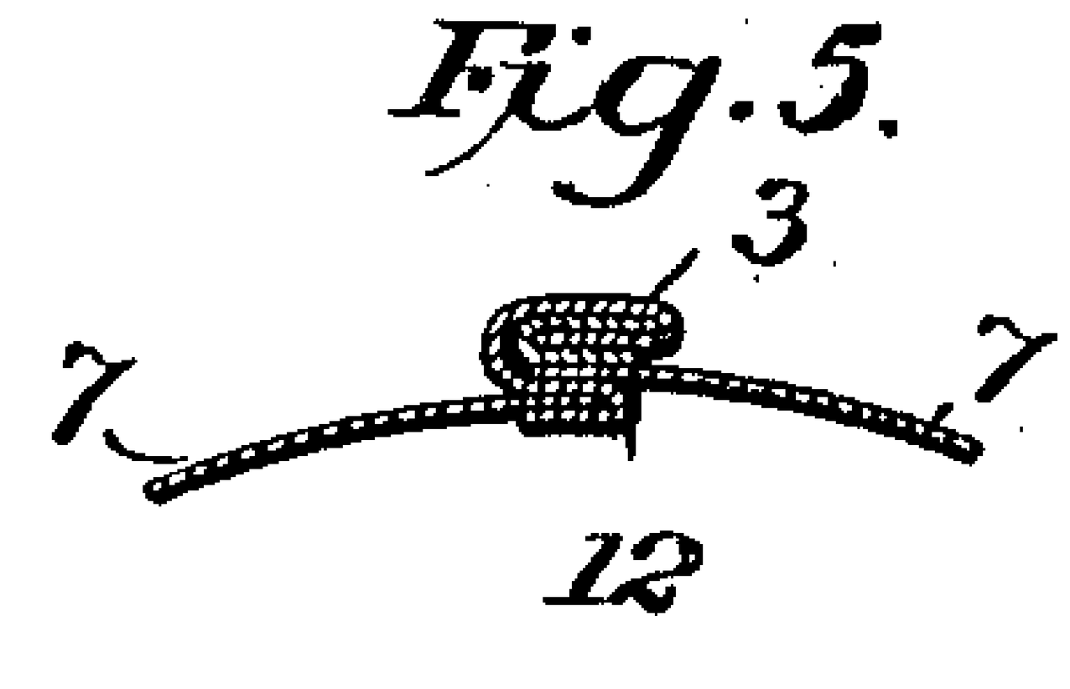


Fig. 5.



Witnesses

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COMPOSITE LAMP-CHIMNEY.

969,932. Specification of Letters Patent. **Patented Sept. 13, 1910.**

Application filed March 26, 1910. Serial No. 551,702.

To all whom it may concern:

Be it known that I, GEORGE D. WILLITS, a citizen of the United States, residing at Adrian, in the county of Lenawee and State of Michigan, have invented certain new and useful Improvements in Composite Lamp-Chimneys, of which the following is a specification.

My invention relates to improvements in composite lamp or gas light chimneys, and more particularly to such chimneys, in which the mica or other non-combustible and transparent material is detachably held in position in the frame of metal forming the body of the chimney.

The object of my invention is to construct a chimney, especially designed for either a gas or oil burner which will be strong, durable, light and inexpensive, and at the same time will not be injuriously affected, cracked or broken by heat, said chimney being particularly adapted for use on Welsbach burners, wherein a considerable amount of heat is generated.

A further object of my invention is to so construct and arrange the several parts of the chimney, that, should the transparent section become injured or useless the same can be quickly and readily replaced with a new section without being required to purchase a new chimney.

My invention consists of structural features and relative arrangements of the several parts comprising the chimney, which will be hereinafter more fully described and particularly pointed out in the appended claims.

In the accompanying sheet of drawing, in which the same reference characters are used to identify the same parts in the several views; Figure 1, is a perspective view of my improved chimney without a cap; Fig. 2, is a longitudinal sectional view of the chimney with a cap shown in dotted lines; Fig. 3, is a section on line III—III of Fig. 2. Fig. 4, is a view showing one of the expansible holding rings in full lines, and in its unexpanded position in dotted lines; and Fig. 5, is a section on line V—V of Fig. 2.

The metallic frame of the chimney which is preferably of aluminum, is formed with a bottom section 1, and an upper separated section 2, which in the present instance is shown as conical in form and provided with cap, or cup supporting extensions 5, but may be modified in many ways without departing from my invention. Said upper and lower sections 1, and 2, may be separated and connected in any suitable manner, but preferably by a plurality of integral uprights or ribs 3, which are crimped together at their edges thereby forming stiff and rigid supports for the upper section 2, above that of the lower section 1, and while I have shown only two of such supports, diametrically opposite to each other, the number may be varied and manner of crimping together be changed in various ways, as will be readily suggested to one skilled in sheet metal working. The upper and lower sections 1, and 2, are provided as shown with a beading 6, or 6′, which greatly strengthens and retains the sections in their circular or proper shape, and at the same time performs a most essential feature of my invention for retaining the mica section 7, of the chimney in place.

8 and 8′ are expansible rings which are provided with one or more sections 9 which are cut away or weakened as shown in full lines, and crimped or folded, as indicated in dotted lines, in Fig. 4, and are adapted to be seated in the beading 6 and 6′ of sections 1 and 2, to be presently described.

After the metallic sections 1, and 2, have been properly assembled, the mica section 7, is so placed that its upper and lower edges are at the beadings 6, and 6′, as indicated in Fig. 2, when the expansible rings, preferably L-shaped in cross section, and in the collapsed condition, as shown in dotted lines in Fig. 4 are slipped into the chimney. When the outer edges of said rings are opposite the beadings, the crimped or weakened sections 9, are bent outwardly, said rings will assume a circular form, as shown in full lines in Fig. 4, and force their outer edges 10, into the beads 6 and 6′ and retain them rigidly in place and clamp the upper and lower edges of the mica between the sections 1 and 2, and rings 8 and 8′. While I have shown a circular beading and an expansible ring, L-shaped in cross-section, I wish it to be distinctly understood that the contour of said beads 6 or 6′, or cross-section of the ring 8 or 8′ may be varied without departing from the spirit of my invention. Furthermore, the mica section 7, may consist of a single sheet bent around and encircling the entire space between the two sections 1, and 2, and rings 8 and 8′, and can be so arranged, that the longitu-

dinal or vertical edges be made to correspond with one of the uprights or ribs 3, and hence be protected from displacement. If desired the edges of the transparent or mica section 7, if more than one piece is used, may be so constructed as shown in Fig. 5 by having the upright or rib section 3 formed with an S-shaped clamp 12, which engages the abutting edges of the mica sections 7, 7.

Having now fully described my invention, what I claim as new and desire to secure by Letters Patent of the United States is as follows:

1. A composite chimney comprising a lower section having a depression in its inner side, an upper section rigidly connected to said lower section and having a depression in its inner side near the bottom, a non-combustible and transparent section interposed between the depressions of the upper and lower sections, and expansible rings adapted to engage the depressions of the lower and upper sections and clamp said transparent section between the upper and lower sections and rings.

2. A composite chimney comprising a lower section having a bead on its outer side, an upper section rigidly connected to said lower section and having a bead on its outer side near the bottom, a transparent section interposed between the beads of the upper and lower sections, and expansible rings adapted to be inserted within said upper and lower sections and engage the beads and clamp the transparent section to said upper and lower sections.

3. A composite chimney comprising a lower section having a depression in its inner side, an upper section rigidly connected to said lower section and having a depression in its inner side near the bottom, a non-combustible and transparent section interposed between the depressions of the upper and lower sections, and expansible rings each having an external ridge adapted to be inserted in the depressions of the lower and upper sections and clamp said transparent section between the upper and lower sections and the remaining portion of the rings.

4. A composite chimney comprising a lower section having a bead on its outer side, an upper section rigidly connected to said lower section and having a bead on its outer side near the bottom, crimped uprights connecting said sections, a transparent section interposed between the beads of the upper and lower sections and having its vertical edges engaged by the crimped uprights, and expansible rings adapted to be inserted within said upper and lower sections and engage the beads and clamp the transparent section to said upper and lower sections.

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

GEORGE D. WILLITS.

Witnesses:

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W. HAL MARSHALL.