

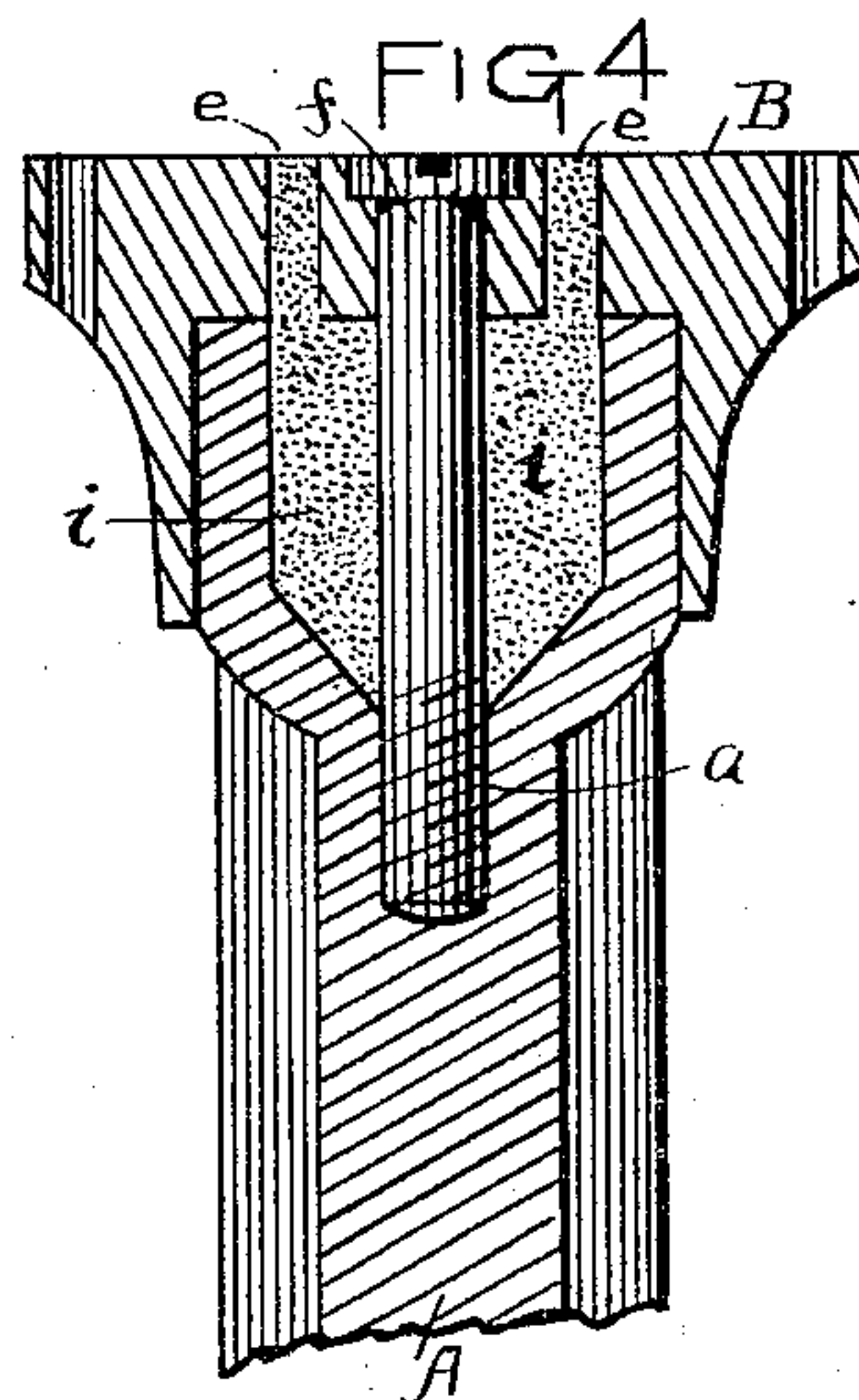
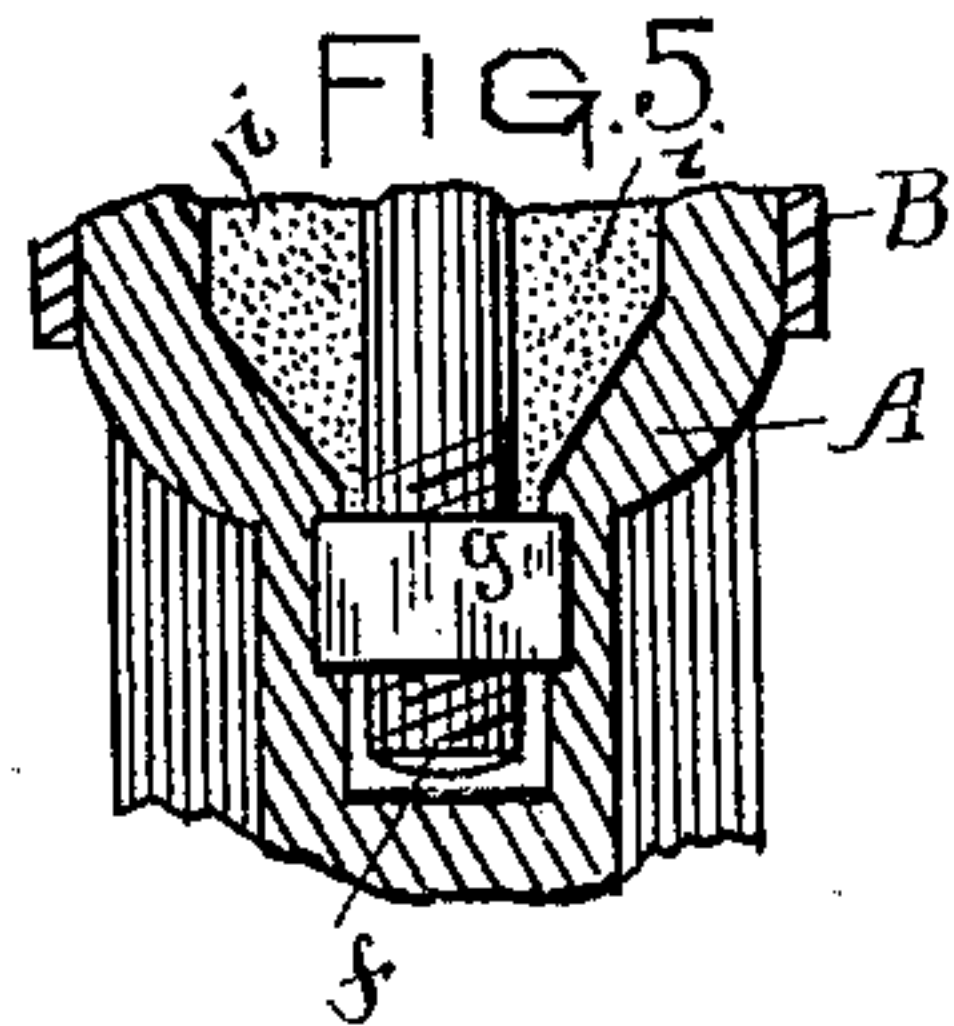
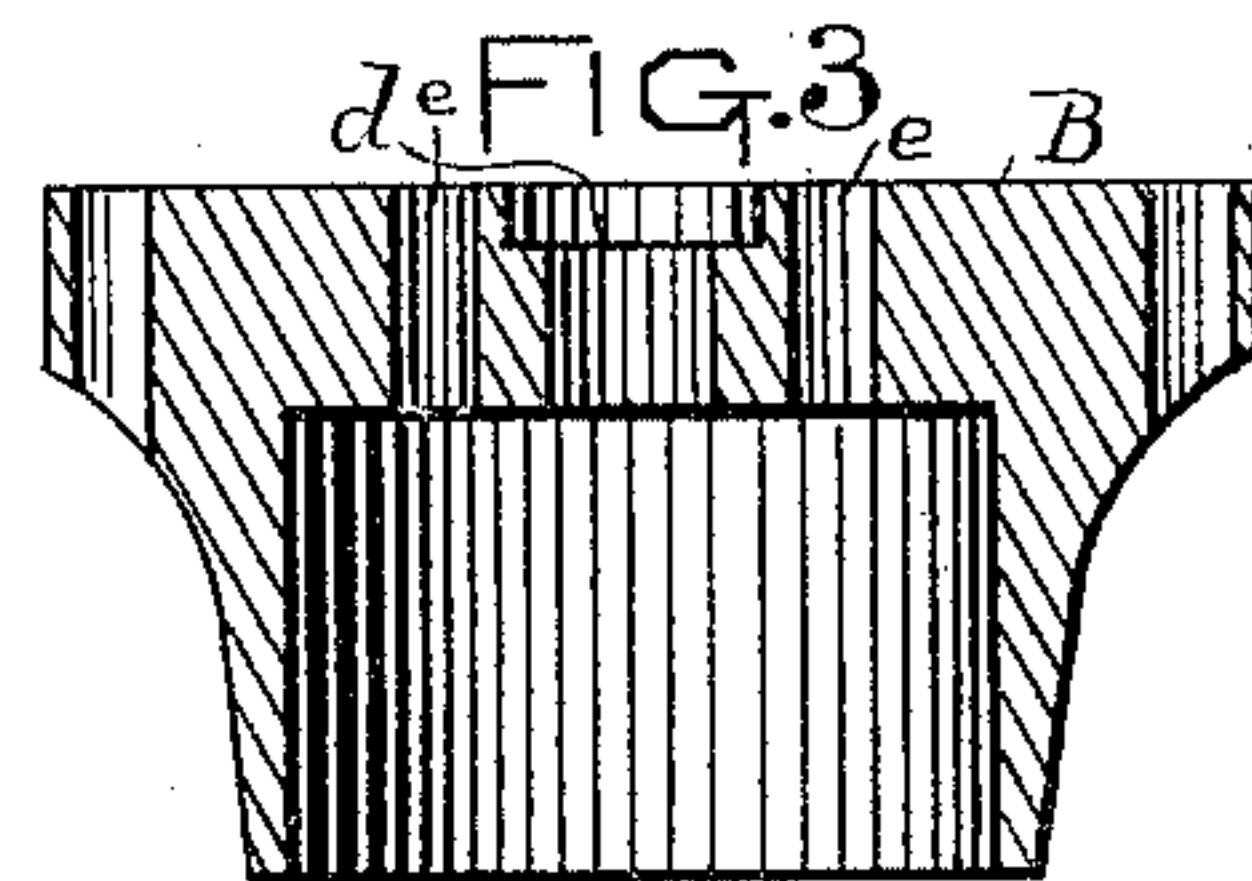
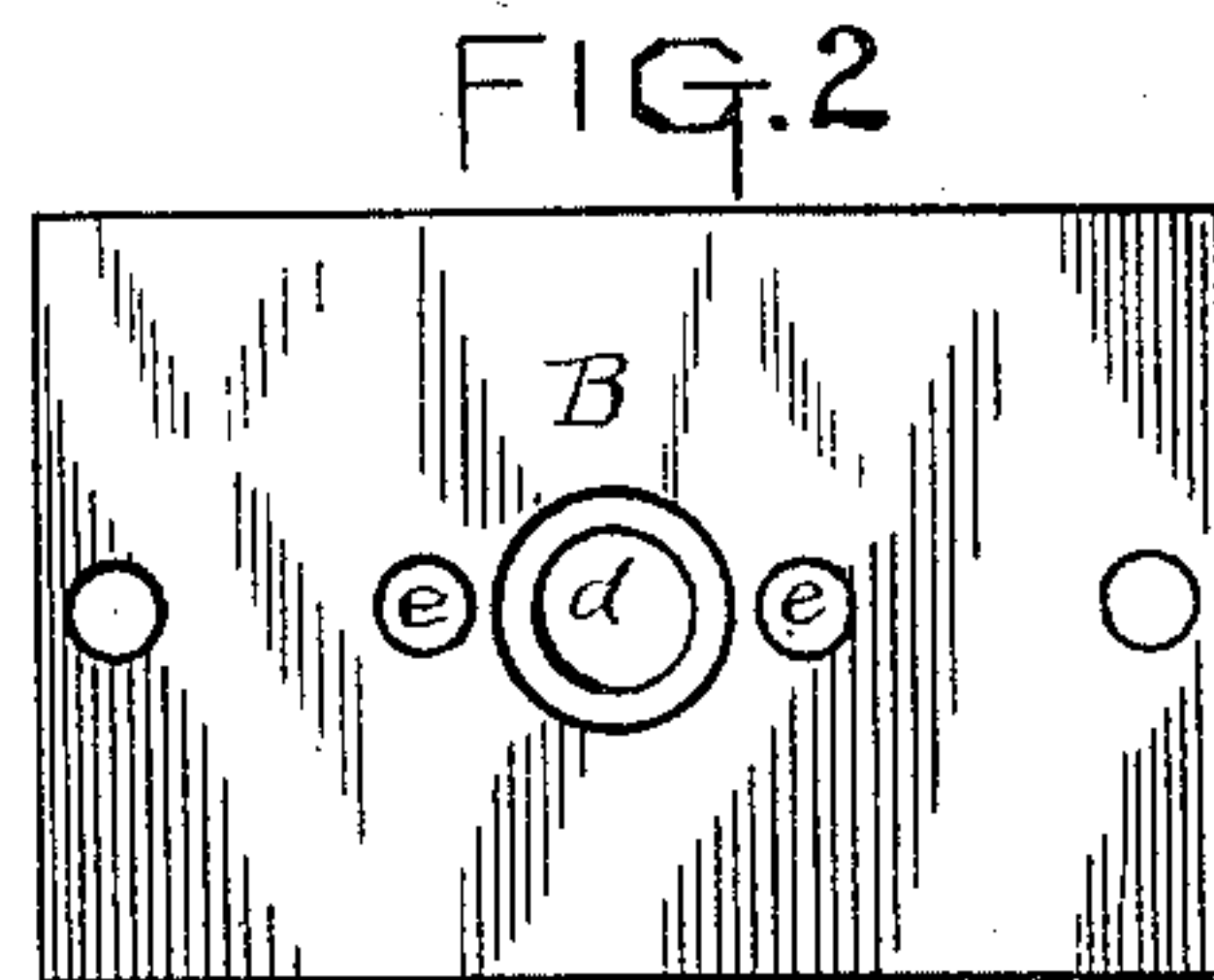
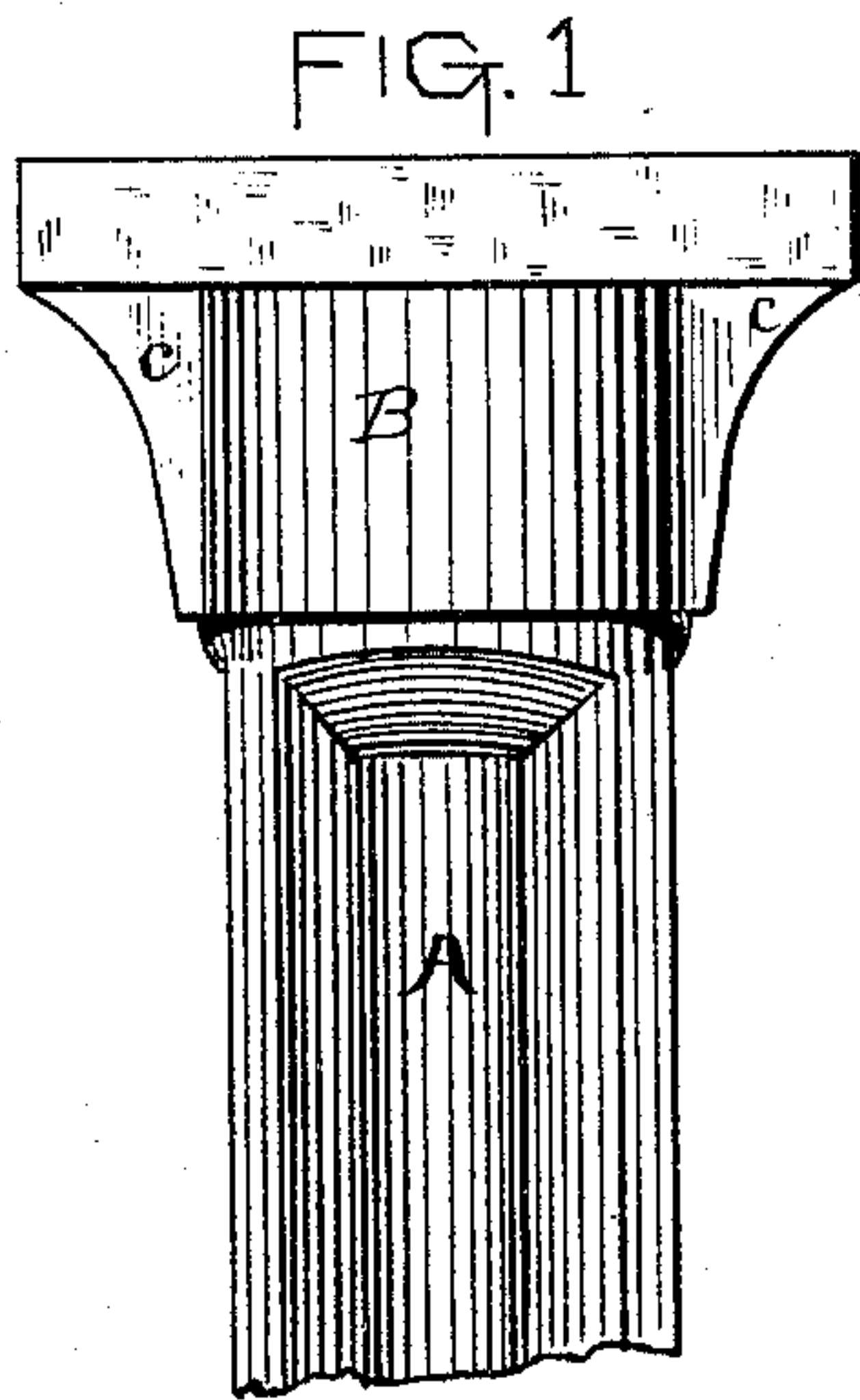
(No Model.)

S. G. HUTCHINSON.

PILE.

No. 371,943.

Patented Oct. 25, 1887.



WITNESSES

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PILE.

SPECIFICATION forming part of Letters Patent No. 371,943, dated October 25, 1887.

Application filed June 16, 1887. Serial No. 241,560. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN G. HUTCHINSON, a citizen of the United States, residing at Columbus, county of Franklin, and State of Ohio, have invented a certain new and useful Improvement in Piles, of which the following is a specification.

My invention relates to the improvement of iron piles adapted to support a superstructure, and has particular relation to the improvement of the cap and means of attaching the same to the pile.

The objects of my invention are to form a simple, effective, and durable connection of the pile and cap; to so connect the pile and cap as to admit of the latter being easily and readily adjusted until in proper alignment with the parts of the superstructure above, and thus secure a more perfect connection of the parts; to provide for the permanent sealing of the cap and pile when in the desired relative position, and at the same time prevent the entrance within the pile or cap of water or moisture. These objects I accomplish in the manner illustrated in the accompanying drawings, in which—

Figure 1 is an elevation of the upper portion of a pile and its cap. Fig. 2 is a plan view of the cap when removed. Fig. 3 is a sectional view of the cap. Fig. 4 is a sectional view of the upper portion of the pile with the cap secured thereon. Fig. 5 is a view in section of a modification of the construction shown in Fig. 4.

Similar letters refer to similar parts throughout the several views.

A represents the pile, which in outward form and appearance conforms to those now in use, which consist of a hollow or solid metallic center having projecting therefrom a number of flanges.

Within the upper portion or head of my improved pile is formed a cavity, the bottom of which preferably tapers slightly toward the center and is continued a short distance downward in the form of a screw-hole, *a*.

B represents my improved pile-cap, consisting of a metallic plate having cast therewith a downwardly-extending hollow cylindrical neck adapted to fit snugly over the top of the pile. This cap-neck and plate are preferably cast with connecting strengthening-flanges *c*. The

cap-plate is provided with a central bolt-hole, *d*, communicating with the hollow of the cap-neck, and in a vertical line with the screw-hole *a*. The upper end of this bolt-hole, adjoining the upper surface of the cap, is enlarged to receive the head of a bolt or screw, hereinafter described. On each side of the bolt-hole *d* is formed a smaller vertical hole, *e*, each of which communicates with the interior of the cap-neck, as shown in Fig. 3 of the drawings.

The cap having been fitted over the head of the pile and turned until adjusted to the desired position with other parts of the structure to be supported, a bolt, *f*, having its lower portion screw-threaded, is inserted vertically through the bolt-hole *d* and cavity of the pile-head and its screw-hole *a* of the pile until the head of said bolt is seated within the enlarged upper end of the bolt-hole *d*, its head being flush with the surface of the cap-plate. This being accomplished, the hollow or cavity of the pile about the bolt *f* may be filled with concrete, cement, or any other suitable material, *i*, by pouring the same, while in a melted or liquid state, through the cap-holes *e* until the latter are completely filled. This filling substance, becoming hardened, will not only serve to hold the connecting-bolt rigid and prevent any tendency of the same to turn in its place, but operate to strengthen the connection between the cap and pile, thus preventing the structure resting thereon and fastened thereto from being washed away by high water, and at the same time prevent the entrance of water or moisture.

By the construction above described it will be seen that the cap may readily be aligned with the adjoining structure and then made integral with the pile.

As shown in Fig. 5 of the drawings, the pile may be cast with a wrought-iron nut, *g*, embedded within the pile at or near the bottom of its cavity, into which may be screwed the screw-threaded portion of the screw or bolt *f*, as shown.

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

1. The combination, with a metal pile having an internal screw-hole or nut, of a pile-cap adapted to fit thereon, and having a central bolt-hole, through which is adapted to pass

and enter said screw-hole or nut, as described, a connecting bolt or screw, substantially as and for the purpose specified.

2. The combination, with the metal pile A, 5 having a cavity within its head and an internal screw-hole, *a*, or nut *g*, of the cap B, adapted to fit over said pile-head, having central bolt-hole, *d*, and cap-holes *e*, the connecting bolt or

screw *f*, adapted to pass through the bolt-hole *d* and enter the screw-hole *a* or nut *g*, and the 10 filling *i*, substantially as and for the purpose specified.

STEPHEN G. HUTCHINSON.

In presence of—

F. H. SHEPHERD,

M. A. ARNOLD.