

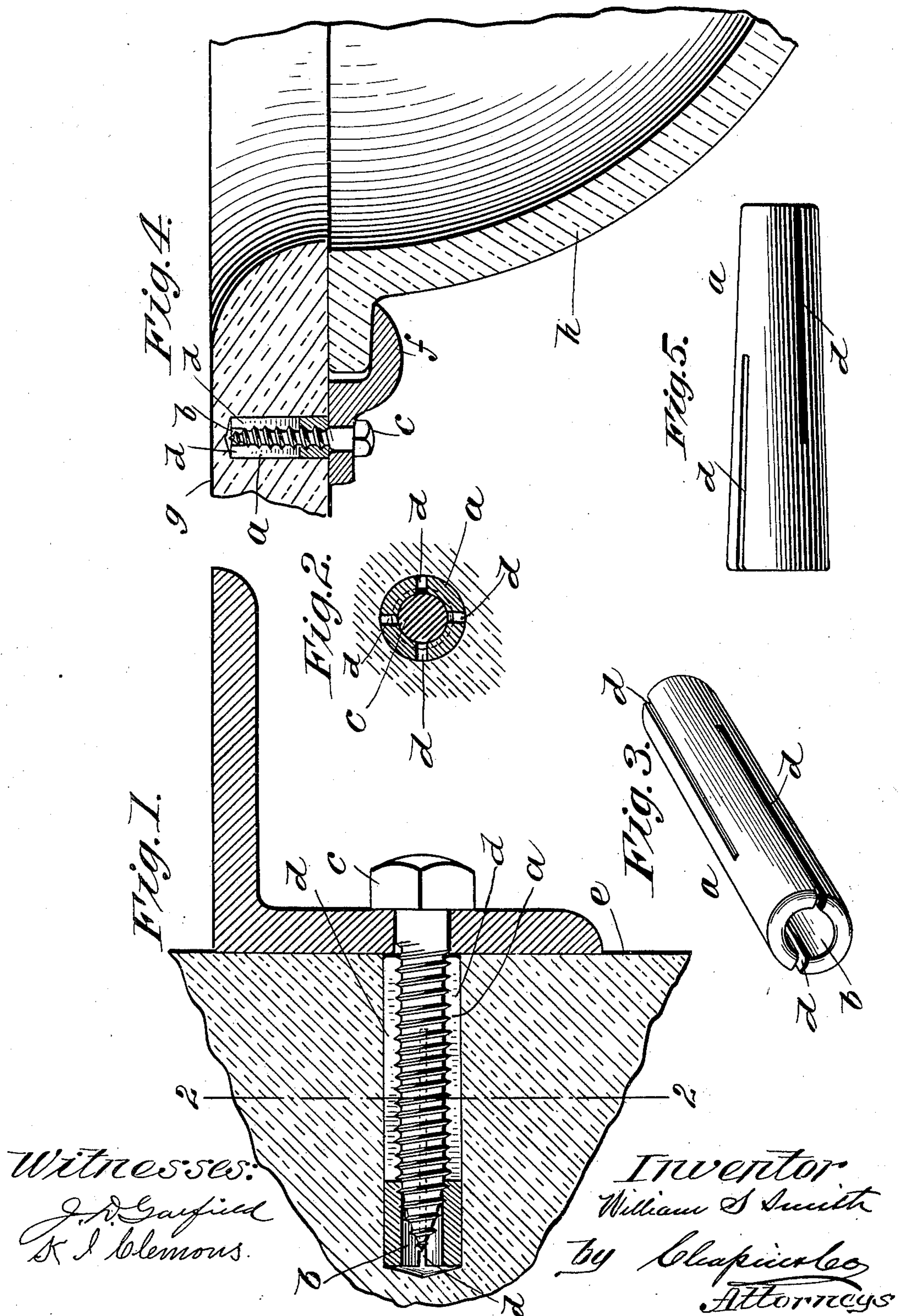
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Patented Apr. 15, 1902.

W. S. SMITH.  
ANCHOR BUSHING FOR SCREWS, &c.

(Application filed Nov. 21, 1901.)

(No Model.)



Witnesses:  
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# UNITED STATES PATENT OFFICE.

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## ANCHOR-BUSHING FOR SCREWS, &c.

SPECIFICATION forming part of Letters Patent No. 697,896, dated April 15, 1902.

Application filed November 21, 1901. Serial No. 83,112. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM S. SMITH, a citizen of the United States of America, residing at Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Anchor-Bushings for Screws, &c., of which the following is a specification.

This invention relates to anchor-bolt bushings for the securing of objects against a support which is composed of some material into which a bolt cannot be screwed; and the object of this invention is to make a bushing of this character into which may be screwed a lag-screw or bolt which by the act of its entrance will expand the bushing sufficiently to bind it tightly in the hole made to receive it.

A further object of the invention is to provide a bushing which shall expand equally from one end thereof to the other; and having these ends in view the invention consists in the construction fully described in the following specification and clearly summarized in the claims appended thereto.

In the drawings forming part of this application, Figure 1 is a sectional elevation of a part of a wall, showing the mode of application of my invention. Fig. 2 is a cross-sectional view on line 2 2, Fig. 1. Fig. 3 is a perspective view of a bushing constructed according to my invention. Fig. 4 illustrates another application of the invention. Fig. 5 is a side elevation of a bushing tapered exteriorly from one end to the other.

In carrying my invention into practice I construct a bushing *a*, preferably cylindrical in form and having a cylindrical bore *b* therethrough. This bushing is preferably made of some metal which will readily take the threads of a lag-screw *c* or bolt when the latter is screwed into it, and I have found that lead stiffened by the addition thereto of some harder metal, as tin or antimony, best serves for this purpose. To permit the equal expansion of the bushing when a lag-screw is entered therein, saw-cuts *d* are made diametrically therethrough, one of said cuts extending from one end toward the other and for some distance past the longitudinal center of the bushing and the other cut being located in a plane at right angles to the first and extending from the opposite end for an equal distance toward that end which is divided by the first saw-cut. This permits the even expansion of the bolt from one end to

the other. The interior bore of the bushing has a diameter substantially equal to that of the bolt or the screw *c* at the bottom of the threads, and the external diameter of the bushing is as much smaller than the hole in the wall *e* as will permit it to be easily pushed into said hole, and yet fitting sufficiently close therein to tightly fill it when the screw *c* is entered in the bushing.

In some cases it may be desirable to provide a tapered bushing, such as is shown in Fig. 5, which may be expanded in an inwardly-tapering hole, where an unusually secure anchorage is required. In this case only the external dimension of the bushing is varied, it being slightly tapered from one end to the other; but the bore of the bushing will in all cases be cylindrical.

Fig. 4 shows one of the many useful applications of this invention, wherein the bushing is adapted to receive a small screw for securing a metal clip *f* to the under side of the marble top *g* of a set-bowl *h*, in securing which heretofore it has been necessary to anchor a bolt in a hole in the top *g* by means of plaster-of-paris or lead, which bolt has a threaded outer end, to which a nut is applied to hold the clip in place. My construction provides a much cheaper and more secure fastening.

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

1. An anchor-bushing for screws consisting of a cylinder of metal adapted to receive the threads of a screw, said bushing having a cylindrical hole therethrough of less diameter than a screw for entering it, there being saw-cuts extending diametrically through said bushing from each end toward the opposite end, and located in planes at an angle one to the other.

2. An anchor-bushing for screws consisting of a cylinder of metal adapted to receive the threads of a screw, said bushing having a cylindrical hole therethrough of less diameter than a screw for entering it, there being saw-cuts extending diametrically through said bushing from each end toward the opposite end, and each extending past the other in planes at an angle to each other.

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