J. KENNEDY.

EXPANSION BOLT ANCHOR.

APPLICATION FILED AUG. 14, 1913.

1,112,069. Patented Sept. 29, 1914.

Fig. 1,

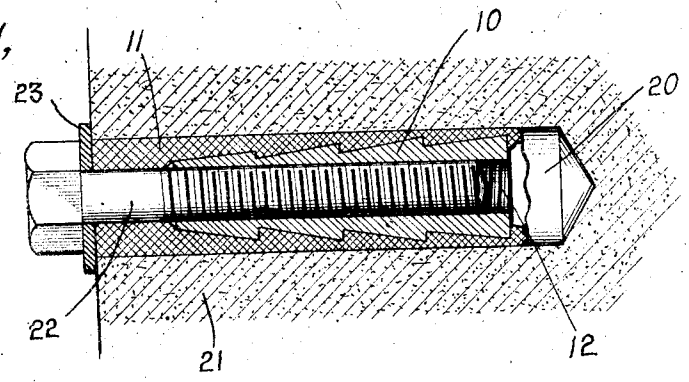


Fig. 2,

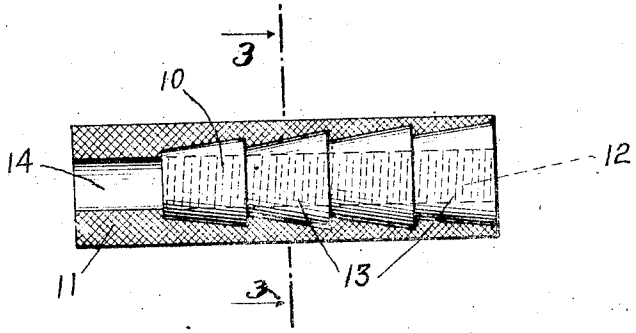
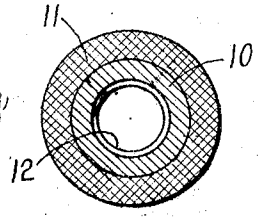


Fig. 3,



WITNESSES:

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UNITED STATES PATENT OFFICE.

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EXPANSION BOLT-ANCHOR.

1,112,069. Specification of Letters Patent. Patented Sept. 29, 1914.

Application filed August 14, 1913. Serial No. 784,675.

To all whom it may concern:

Be it known that I, JOSEPH KENNEDY, a citizen of the United States, and a resident of New York, county and State of New York, have invented certain new and useful Improvements in Expansion Bolt-Anchors, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

My invention relates to bolt anchors such as can be expanded within a hole drilled in a wall, floor or other structure and thus securely affixed to the structure. Its object is to provide an extremely effective device of this character which has advantages over those heretofore known.

I will describe my invention in the following specification, and then point out the novel features thereof in appended claims.

Referring to the drawings, Figure 1 is a sectional elevation of a wall with an expansion bolt anchor therein which is made in accordance with this invention. In Fig. 2 the anchor itself is shown in longitudinal elevation with its outer member shown in section. A transverse section of the device illustrated in Fig. 2 is shown in Fig. 3, the section in this figure being taken on the line 3—3 of Fig. 2.

Like characters of reference designate corresponding parts in all the figures.

According to this invention, the bolt anchor comprises an inner member 10 of hard metal, and an outer member 11 of soft metal. In a desirable form which is illustrated in Figs. 1, 2 and 4, the inner member is internally threaded as at 12 to receive the threads of a bolt and its outer surface is constructed in the form of a series of truncated cones 13 which taper toward the outer end of the device. These cones may be and preferably are of transverse dimensions progressively increasing toward the inner end of the device with their major bases overlapping the minor bases of the adjacent cones.

The outer member 11 which may be of lead for example, fits over the notched surface of the inner member and extends beyond the front end thereof. Through this part which extends in front of the inner member is a clearance hole 14 for the bolt which is to be used with the device. The outer surface of the outer member is shown as cylindrical although I do not intend to limit myself to this particular form.

Referring now to Fig. 1, I will describe the manner in which this device is used. A hole 20 is drilled in a structure 21 of about the diameter of the outer member 11 and of a depth somewhat greater than the length of the anchor device. The latter is then inserted in this hole and a bolt 22 passed through a washer 23, which overlaps the outer end of the hole 20, and screwed into the threads 12 of the inner member. As soon as the head of the bolt engages the washer, the inner member will be drawn toward the outside of the hole forcing itself through the soft outer member and on account of the wedge-like form of its outer surface, forcing the material of the outer member against the surface of the hole. The anchorage member thus becomes securely affixed to the structure 21. If desired the bolt may be removed and inserted again at will as the threaded bore of the internal member forms durable screw threads for the reception of the threads of the bolt.

Various modifications of this invention may be made within the spirit and scope of the claims.

What I claim is:

1. An expansion bolt anchor comprising an inner member of hard metal having a longitudinal bore, the outside of said member being in the form of a series of truncated cones, and a relatively movable outer member of soft metal fitting over the inner member and extending beyond the smaller end thereof, the extending part of said outer member being provided with a bore in alinement with the bore in the inner member.

2. An expansion bolt anchor comprising an inner member of hard metal having a threaded longitudinal bore, the outside of said member being in the form of a series of truncated cones progressively decreasing in transverse dimensions, and a relatively movable outer member of soft metal fitting over the inner member and extending beyond the smaller end thereof, the extending part of said outer member being provided with a clearance hole in alinement with the threaded hole in the inner member.

3. An expansion bolt anchor comprising an inner member of hard metal, the exterior surface of which is constructed to form alternate transverse ridges and depressions, and a relatively movable inner member of soft metal fitting over the outer member and extending beyond the end thereof.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses, this 11th day of August, 1913.

JOSEPH KENNEDY.

Witnesses:
I. B. MOORE,
EDNA ZINMAN.