J. E. OGDEN.

MACHINE BOLT ANCHOR.

APPLICATION FILED AUG. 18, 1919.

1,365,719. **Patented Jan. 18, 1921.**

Fig. 1,

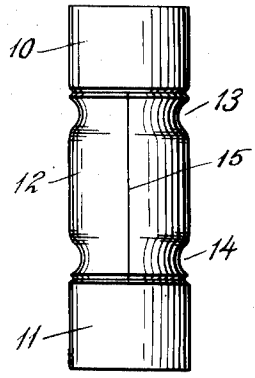


Fig. 2,

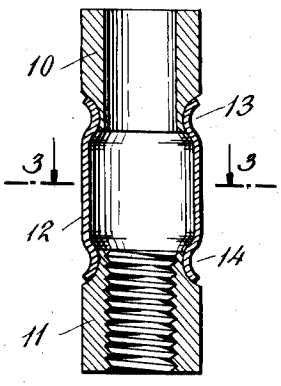


Fig. 3,

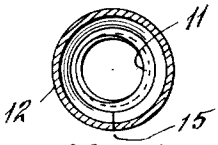


Fig. 4,

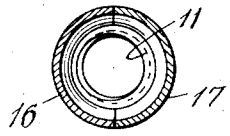


Fig. 5,

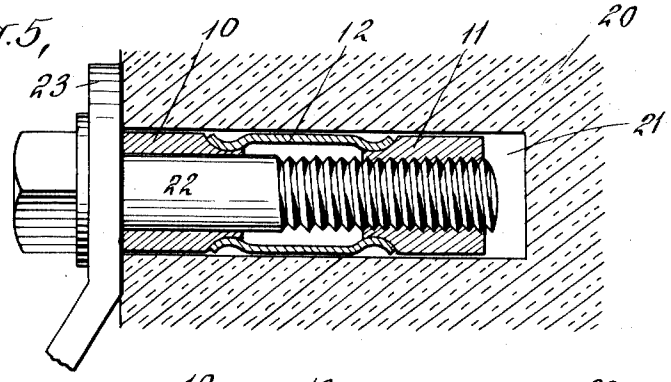
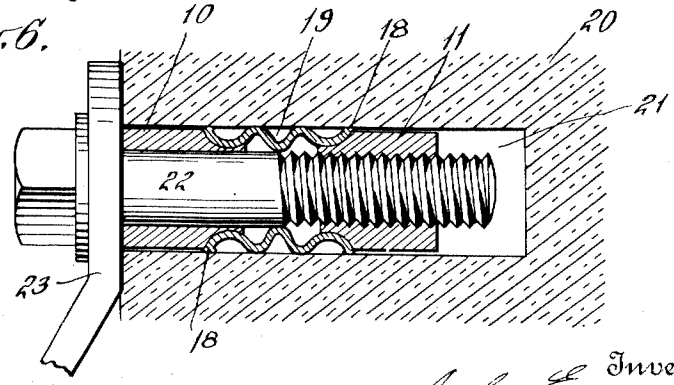


Fig. 6.



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MACHINE-BOLT ANCHOR.

1,365,719. Specification of Letters Patent. Patented Jan. 18, 1921.

Application filed August 18, 1919. Serial No. 318,138.

To all whom it may concern:

Be it known that I, JOHN EDWARD OGDEN, a citizen of the United States of America, and a resident of Mountainville, town of Cornwall, Orange county, and State of New York, have invented certain new and useful Improvements in Machine-Bolt Anchorages, of which the following is a specification, reference being had to the accompanying drawings, forming a part thereof.

This invention relates to improvements in machine bolt anchorages and its object is to provide a simple and inexpensive device for this purpose which is easy to operate and which will form an effective anchorage for machine bolts and the like, which will not effectively engage in the material of which the wall or other structure is constructed to which the bolt is to be applied. More specifically, its object is to provide a device having end members of comparatively rigid construction joined by a shell of collapsible metal which will be distorted when the end members are moved toward each other and will form the desired anchorage.

These and other objects of the invention will appear in the following specification in which I will describe the invention, the novel features of which will be set forth in appended claims.

Referring to the drawings:

Figure 1 is an elevation of anchorage device which is made according to and embodies this invention.

Fig. 2 is a longitudinal sectional elevation of the same device.

Fig. 3 is a sectional plan view taken on the line 3—3 of Fig. 2.

Fig. 4 is a view similar to Fig. 3 illustrating a modified form of construction.

Fig. 5 is a sectional elevation of a device like that shown in the preceding figures, placed in a hole in a wall and with a bolt inserted in the device.

Fig. 6 is a similar view of like parts showing the positions they assume after expansion.

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

10 designates a collar of rigid metal which may be cast, stamped or forged. This has a central clearance hole for a bolt, and an annular curved groove near one of its ends. 11 is a nut which is internally threaded to receive the threads of a bolt. This has also a curved annular groove near one of its ends.

12 is a tubular shell of comparatively thin metal which may have its end portions rolled into the annular grooves of the collar and nut, as at 13 and 14, and may have its intermediate part rolled down to have an outside diameter equal to that of the collar and nut. Or if desired, this part of the structure may be constructed from a flat blank bent around a longitudinal axis into desired form, in which cases its opposite ends will meet, as shown at 15 in Fig. 3.

In either of these cases the three parts of the device may be held together by the engagement of the shell with the grooves in the collar and nut.

It is also within the scope of this invention to make the shell in a plurality of longitudinally divided parts such as 16 and 17 in Fig. 4 in which case it may be desirable to provide some way of holding the parts thereof together, as by means of wires or springs both of which are well known in this art for this same purpose.

The manner in which this device is used is illustrated in Figs. 5 and 6 in which 20 designates a part of a wall in which a hole 21 is provided, of sufficient diameter and length to receive one of these anchorages, which is placed therein as shown in Fig. 5. 22 is a machine threaded bolt and 23 an article of some kind which is to be fastened to the wall. The bolt passes through this article, through the collar 10 and into the nut 11. When the bolt is rotated it will pull the nut toward the collar and in doing this the shell 12 will be collapsed as shown in Fig. 6. The ends of the shell will be forced outwardly into the wall of the hole 21 as shown at 18 and the intermediate portion will be buckled inwardly against the shank of the bolt and outwardly against the wall of the hole as shown at 19, this forming the desired anchorage.

I have described what I consider preferred forms of construction, but intend no limitations other than those imposed by the appended claims.

What I claim is:

1. An anchorage device comprising two rigid end members, and a separate intermediate shell of collapsible material joining said members.

2. An anchorage device comprising two

rigid end members provided with annular grooves near their adjacent ends, and an intermediate shell of collapsible material fitted into said grooves and joining said members.

3. An anchorage device comprising two rigid end members in axial alinement, one of which is internally threaded, and a separate intermediate shell of comparatively thin collapsible metal joining said members.

4. An anchorage device comprising two rigid end members in axial alinement provided with annular grooves near their adjacent ends, one of which is internally threaded, and an intermediate shell of comparatively thin collapsible metal fitted into said grooves and joining said members.

5. An anchorage device comprising two rigid end members in axial alinement provided with annular grooves near their adjacent ends, one of which is internally threaded, and a plurality of parts forming an intermediate shell of comparatively thin collapsible metal fitted into said grooves and joining said members.

In witness whereof I hereunto set my hand this 12th day of August 1919.

JOHN EDWARD OGDEN.

Witness:

I. B. MOORE.