L. R. ZIFFERER.

ANCHORED WALL FIXTURE.

APPLICATION FILED SEPT. 12, 1911.

1,106,909. Patented Aug. 11, 1914.

Fig. 1.

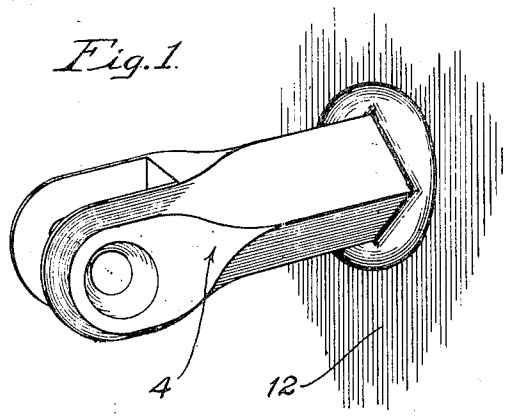


Fig. 2.

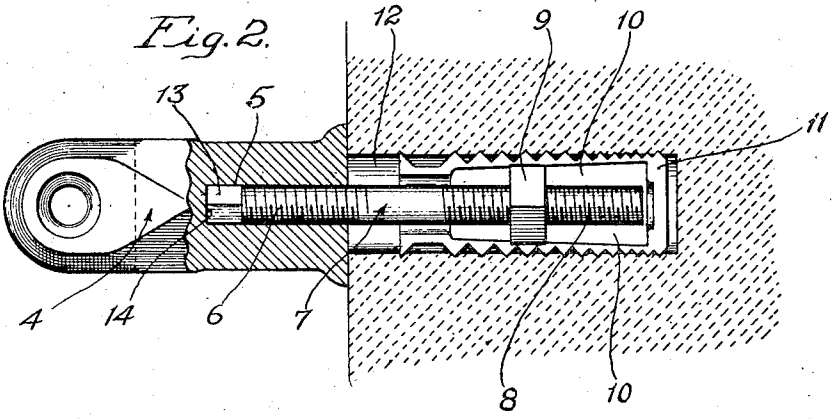
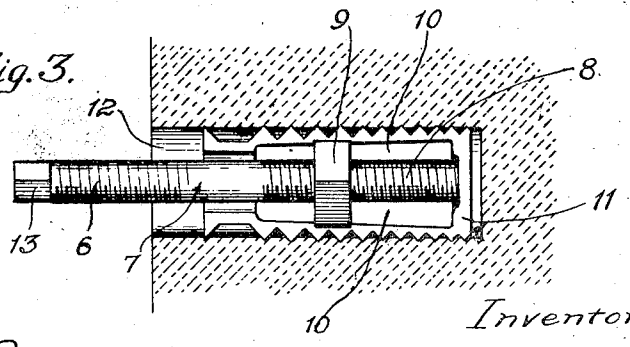


Fig. 3.



Witnesses:

Ephraim F. Banning.

Wm. P. Bond

Inventor:

Lothar R. Zifferer.

By Banning & Banning

Attorneys.

UNITED STATES PATENT OFFICE.

LOTHAR R. ZIFFERER, OF CHICAGO, ILLINOIS, ASSIGNOR TO U. S. EXPANSION BOLT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

ANCHORED WALL-FIXTURE.

1,106,909. Specification of Letters Patent. Patented Aug. 11, 1914.

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To all whom it may concern:

Be it known that I, LOTHAR R. ZIFFERER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Anchored Wall-Fixtures.

This invention relates to fixtures adapted to be secured upon a wall, floor, or ceiling, and particularly to such fixtures as are attached to walls of masonry or concrete by means of anchor bolts.

The principal object of the present invention is the construction of a fixture with locking means therefor which combine strength with simplicity; and which permits of ready removal from said locking means without liability of the same being loosened.

The invention further consists in the features of construction and combination of parts hereinafter described and claimed.

It is not unusual to construct wall fixtures having threaded stems integrally formed therewith adapted to engage with an expander in an anchor bolt to lock the same within a wall. Such a construction, however, is undesirable from at least two standpoints. In the first place such a stem when cast integrally with the fixture can possess but a limited amount of torsional strength, and is liable when subjected to strain in turning to be broken, thus rendering the fixture useless and permitting the anchor bolt to unlock from its position. In the second place, whenever the fixture is removed or replaced the said stem must of necessity be withdrawn, thus allowing the anchor bolt to become loosened, this condition likely rendering the hole within which the anchor bolt was formerly located unfit for further use even with a new bolt. On account of the gripping action of an anchor bolt against the sides of the hole within which it is secured and the sinking of its external projections into the very wall itself, any release of the gripping action of said bolt will likely occasion a crumbling and loosening of the sides of the wall, thus rendering the hole unsuitable ever to receive any anchor bolt. It is also true that the intense expanding strain which must be exerted against the sides of such a bolt frequently distorts the same as it accommodates itself to the hole, and it thereby becomes misshapen and unfit to be expanded again. It is to overcome these defects which at present exist with the ordinary type of anchored wall fixture that the present invention is designed.

In the drawing Figure 1 is a perspective of my wall fixture in attached position; Fig. 2 is a longitudinal section through the fixture and locking means as it appears in attached position; and Fig. 3 is a view similar to Fig. 2 showing the locking means as it appears when the fixture is removed.

The present invention comprises a fixture 4, here shown as an awning hinge, having formed in the body thereof a socket 5 suitably threaded to receive therein the threaded end 6 of a stem 7. The other end 8 of said stem is also threaded to engage and advance an expander 9 along inclined faces 10 of an anchor bolt 11 to lock the same within a wall 12. The head 13 of the stem 7 is preferably polygonally formed to provide faces upon which a wrench or other suitable tool may exert a hold, the said head being also adapted to bear against the inner wall 14 of the socket when the stem is therein secured.

For the purposes of the present invention it is desirable that the threaded end 6 should engage the threads within the fixture socket more smoothly than the threaded end 8 with the expander 9. This action may be readily secured in a number of ways as for instance by forming the threads smooth upon the end 6 which engages in the socket 5 and the threads rough upon the end 8 which engages with the expander 9; or by forming the threads 6 to engage these within the socket with exactness while the threads 8 are formed to engage the expander with some degree of friction. It is immaterial whether the stem is formed with right or left hand threads, it only being necessary that they turn in the same direction at each end.

In order to attach the fixture of the present invention to a wall of masonry or concrete, a suitable hole is first drilled or formed therein adapted to receive an anchor bolt. The stem 7 is preferably threaded within the socket 5 of the fixture and then inserted within the anchor segments to engage with the expander 9 which by a proper turning of the stem and fixture will be advanced to expand the anchor bolt. On account of the head of the stem coming into engagement with the end of the socket and

preventing further threading movement, there will be no binding action upon said threads to prevent unthreading whenever desired.

It is seen that the manner of attaching the fixture presents no unusual features. When, however, the fixture is removed, replaced or repaired, the merits of the present invention are apparent. The fixture may be detached, of course, by turning it upon the stem in the direction opposite to that which caused its attachment. On account of the difference in the character of the threading at each end of the stem, which causes that end within the expander to turn with greater friction, the fixture may be unscrewed without the stem being turned. When the fixture is thus detached the anchor bolt remains locked, but is liable upon any jarring or movement against the protruding end of the stem to have the expander displaced and the anchor bolt loosened within the wall. In order that this may not take place, the protruding end of the stem is formed to receive a wrench or other suitable tool by the application whereof the stem may be turned up tight against the inner end of the anchor bolt as shown in Fig. 3, (or against the inner end of the hole if the anchor bolt is open at that end) to prevent any movement of the expander. The anchor bolt and stem after such operation is securely locked and held against any displacement within the hole. This operation of advancing the stem by a wrench is obviously not essential as, for instance, when the fixture is removed for only a short time, but it will be found generally to be advisable.

The replacement of a fixture upon a wall does not necessitate the rotation of the stem back to its former position; the fixture may be threaded directly upon the stem without further operation. It is, of course, feasible in attaching a fixture and anchor bolt for the first time to turn the stem by means of a wrench and so lock the anchor bolt, after which the fixture may be threaded to the stem, but the manner of attachment by previously threading the stem within the fixture will be found preferable. It frequently happens that a fixture must be removed and that on account of uncertainty as to its replacement it is desirable to affix some sort of a cover over the protruding stem. In such a case a cap member which can be fashioned in an ornamental style may be threaded upon the stem and so conceal its unsightly appearance. It may be desired to remove the anchor bolt entirely or at least the stem which projects out therefrom, and to plug up the hole. With the stem formed as described, a wrench will assist in its ready removal, and in such a way that the stem will be available for further use.

The construction of a fixture and anchor bolt according to my invention possesses numerous advantages over all others of which I am aware. In addition to the features already described, the formation of the stem as an independent member imparts greatly added strength to the fixture. It is a well known fact that a stem cast integrally with the fixture cannot possess the tensional or torsional strength that may be required thereof. Not only, however, is this added strength of hold secured to the fixture because of its independent formation, but also on account of the numerous other features of construction already described. The wall fixture of my invention becomes removable in a manner not detrimental to the anchor bolt—an advantage which is a saving of both time and money.

I claim:

In a device of the class described, the combination of an anchor member, a wall fixture formed with a threaded socket in the body thereof, and a separable threaded stem for securing said fixture to said member having one end threaded to engage within said fixture socket, and the other end threaded to engage with said anchor member, the end of said stem engaging with the fixture having threads thereon of a size and pitch corresponding with the threads within the fixture socket, and the end engaging with the anchor member having threads thereon of a size or pitch slightly different from the threads within the anchor member, whereby friction is created binding the stem more tightly within the anchor member than within the fixture socket, substantially as described.

L. R. ZIFFERER.

Witnesses:
EPHRAIM BANNING,
FRANCES M. FROST.