Dec. 26, 1933. E. A. SMITH 1,940,888

CONCEALED FASTENER FOR WALL BRACKETS

Filed Jan. 16, 1931

Fig. 1

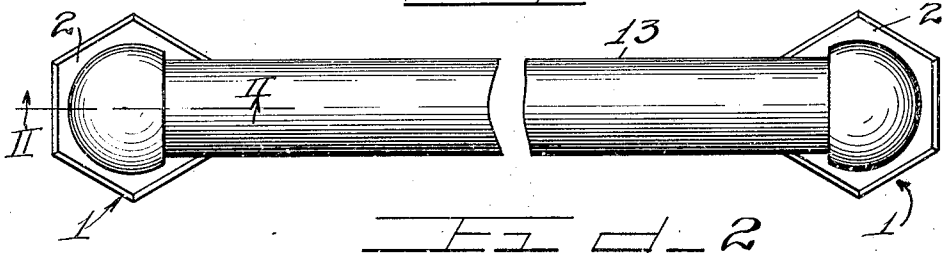



Fig. 2

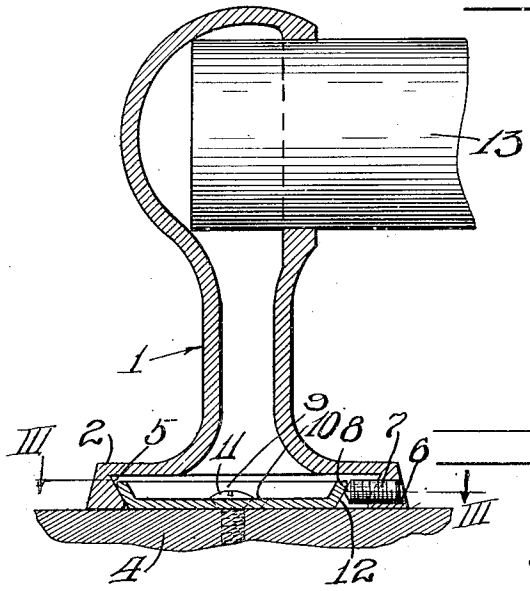
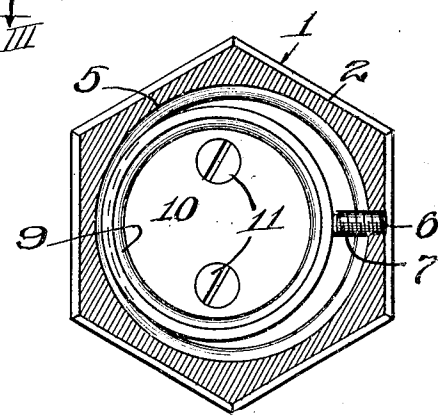



Fig. 3




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Patented Dec. 26, 1933

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# UNITED STATES PATENT OFFICE

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## CONCEALED FASTENER FOR WALL BRACKETS

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Application January 16, 1931. Serial No. 509,183

7 Claims. (Cl. 248—20)

This invention relates to wall brackets or fixtures and concerns itself more particularly with a fastener therefor of the character which is concealed when the bracket or fixture is mounted on a wall or other support.

Wall brackets and fixtures are generally designed nowadays exteriorly to fit in with the artistic scheme of the walls or other supports to which they are intended to be secured, or with the rooms in which the walls or supports are located. Naturally, it is desirable that such bracket or fixture be secured in such a manner as not to present to view any screws, bolts or the like, due to the fact that such fastening instrumentalities detract greatly from the appearance both of the bracket and of the room in general. It is moreover desirable to secure the bracket or the like to its support in such a manner as to be adjustable thereon, yet securely held in place. While, in the past, some brackets, fixtures and the like have constituted tile blocks embedded in walls and the like, such construction necessitates a permanent connection which is often times undesirable, since it is impossible to change the position of the bracket relative to its support. Often times, moreover, it is difficult to position such a bracket with respect to a wall exactly as one may wish, and as a result the bracket is located at a point which is somewhat inconvenient to the user.

It is accordingly one of the principal objects of the invention to provide a fastener construction which retains all the desirable characteristics as to design and otherwise, of wall brackets or fixtures, without the disadvantages attending the same, and which in addition incorporates improvements over brackets or the like heretofore in vogue.

The invention contemplates, moreover, as one of its objects, the provision of a concealed fastening means for a wall bracket or fixture, which means will serve to hold the marginal portions of the bracket or the like in tight engagement with the support so that the bracket may in every respect harmonize with the design of the support to thereby present a pleasing appearance.

Another object of the invention is to provide concealed fastening means of the character referred to which includes a cam device to urge the bracket into engagement with the wall or other support to which it is secured.

Another object of the invention consists in providing a concealed fastening means providing for adjustment of the bracket or fixture relative to the support.

To the above and other ends, in carrying out the invention into practice, the bracket or fixture forming the subject-matter of the present invention is provided with a hollow base adapted to engage the supporting wall. Interiorly of the base is a frusto-conical surface facing toward the bracket proper, the base being tapped for engagement with an interiorly projecting stud having a preferably conical end. A cup-like member having a preferably flat base and a frusto-conical skirt circular in shape and of a maximum diameter less than the minimum diameter of the inclined surface of the base is adapted to be associated with the interior of the base in such a manner that the outer surface of the skirt has a substantially line contact with the inclined surface within the base. Screws are preferably provided to fasten the cup-like member to a wall or other support, with the outer surface of the skirt facing such wall or support.

When it is desired to position the bracket to a wall or the like, the cup-like member is first fastened in the desired location and, with the stud backed away, the base is slipped over the skirt of the cup-like member, whereupon the screw is tightened down into contact with the skirt, said skirt being engaged at diametrically opposite portions by the screw or stud and the inclined wall interiorly of the base of the bracket. With the parts thus arranged the stud is, for all practical purposes, hidden from view.

With the construction set forth above, it is apparent that the fastening means is entirely concealed, constructed of a minimum number of parts, is easily secured to and removed from the support and, with one setting of the cup-like member, the bracket may be positioned circumferentially in any position relative to said member.

Other and further important objects and advantages of this invention will be apparent from the disclosure in the specification and accompanying drawing.

This invention (in its preferred form) is illustrated in the drawing and hereinafter more fully described.

Figure 1 is an elevational view of a fixture held by brackets contemplated by the invention, each bracket serving to conceal the bracket-securing means;

Figure 2 is an enlarged sectional view, partly in elevation, showing the concealed securing means made in accordance with this invention,

and taken approximately in the plane indicated by the line II—II of Fig. 1;

Figure 3 is a view partly in section and partly in elevation, taken approximately in the plane indicated by the line III—III in Figure 2.

Referring now more particularly to the drawing, wherein the same parts are designated by the same reference characters, the form of bracket made in accordance with the present invention is indicated at 1 and is provided with a hollow base 2 whose margin 3 is adapted to lie flush with the surface of the wall 4 or other support, as seen in Fig. 2. The base 2 is provided with an interior frusto-conical surface 5 facing away from the wall, and a tapped opening 6 communicating with the interior of the base and receiving a set screw or stud 7, having a conical inwardly extending end 8.

A circular frusto-conical cup-like member 9 is provided with a central portion 10 adapted to be secured to a wall or the like by means of screws 11 or the like, and has a maximum diameter which is somewhat less than the minimum diameter of the surface 5 of the base 2 of the bracket 1, so that, with the stud 7 backed away, the base can be slipped over the cup-like member 9. When this is done, the bracket 1 is shifted circumferentially of the member 9 until the bracket is in the desired position, whereupon the stud 7 is rotated until the conical end 8 thereof tightly grips the outer frusto-conical surface 12 of the member 9. With the parts thus arranged, it will be appreciated that the inclined surface 5 of the base 2 and the conical end 8 of the stud 7 grip diametrically opposite portions of the surface 12 of the cup-like member 9, and as the stud 7 is tightened into engagement with the member 9, a camming action occurs, whereby the base 2 is forced into tight engagement with the surface of the wall 4. As the surface 5 of the base 2 is of greater depth than the cup-like member 9, tightening up of the base against the wall may be accomplished without interference.

The bracket 1 may be of an individual character to support any desired article, or it may form one of a pair such as illustrated in Fig. 1 for holding a towel or hand-rail such as is used in bathrooms, in the desired position on a wall or the like. With the present construction, it is evident that for all practical purposes the fastening means will be entirely concealed, so that the artistic design of the brackets may be made to conform with that of their surroundings, so that the same may be enjoyed to the fullest extent.

The construction is so extremely simple as to require minimum time for assembly and dis-assembly, and it is evident that each bracket may be positioned anywhere circumferentially of its corresponding cup-like member 9 without the slightest disturbance of such cup-like member.

I am aware that many changes may be made and numerous details of construction may be varied through a wide range without departing from the principles of this invention, and I, therefore, do not purpose limiting the patent granted hereon otherwise than necessitated by the prior art.

I claim as my invention:

1. A bracket including a base having an inwardly disposed conical surface and adapted to be secured to a support, and means including a member fixed to said support and having a peripheral conical surface disposed within the first said surface, said surfaces being disposed in forced interlocking engagement with each other and being concealed by said bracket for securing the same to the support.

2. A bracket having a base, said base having an interior conical surface facing in a direction away from the support to which the bracket is adapted to be secured, a dished member having a frusto-conical outer surface adapted to be surrounded by the first mentioned surface and extending parallel thereto, the first mentioned surface having a minimum diameter somewhat in excess of the maximum diameter of the second surface, whereby said surfaces may be telescoped, and a stud in said bracket and extending transverse to said surfaces and engageable with the second mentioned surface to force said surfaces into inter-engagement and thereby prevent removal of the bracket from said member.

3. A bracket having a base, said base having an interior conical surface facing in a direction away from the support to which the bracket is adapted to be secured, a dished member having a frusto-conical outer surface adapted to be surrounded by the first mentioned surface and extending parallel thereto, the first mentioned surface having a minimum diameter somewhat in excess of the maximum diameter of the second surface, whereby said surfaces may be telescoped, and a stud in said bracket and extending transverse to said surfaces and engageable with the second mentioned surface to force said surfaces into inter-engagement and thereby prevent removal of the bracket from said member, said stud when thus positioned being for all practical purposes concealed from view by said bracket.

4. A bracket having a base, said base having an interior conical surface facing in a direction away from the support to which the bracket is adapted to be secured, a dished member having a frusto-conical outer surface adapted to be surrounded by the first mentioned surface and extending parallel thereto, the first mentioned surface having a minimum diameter somewhat in excess of the maximum diameter of the second surface, whereby said surfaces may be telescoped, and a stud in said bracket and extending transverse to said surfaces and engageable with the second mentioned surface to force said surfaces into inter-engagement and thereby prevent removal of the bracket from said member, said stud and the first surface engaging diametrically opposed portions of the second surface.

5. A circular dished member having a flat surface, means for securing said member to a support with the flat surface in engagement with the support, said member having a flared skirt extending away from the support, a bracket having a base surrounding said member, and adjustable means on said base accessible for adjustment from outside the bracket when the bracket is in place for engaging said skirt between the same and the support and to cause forced engagement between said member and said bracket for preventing removal of the bracket from said member.

6. A dish-shaped member having a flat surface, means for securing said member to a support with the flat surface in engagement with the support, said member having a flared skirt extending away from the support, a bracket having a base surrounding said member, and means on said base for engaging said skirt between the same and the support, to thereby prevent removal of the bracket from said member, said skirt being circular, whereby said base is rendered adjustable circumferentially of said skirt.

7. A circular dished member having a flat surface, means for securing said member to a support with the flat surface in engagement with the support, said member having a flared skirt extending away from the support, a bracket having a base surrounding said member, and adjustable means on said base accessible for adjustment from outside the bracket when the bracket is in place for engaging said skirt between the same and the support, and to cause forced engagement between said member and said bracket for preventing removal of the bracket from said member, said member and means being concealed for all practical purposes.

EDWIN A. SMITH.