

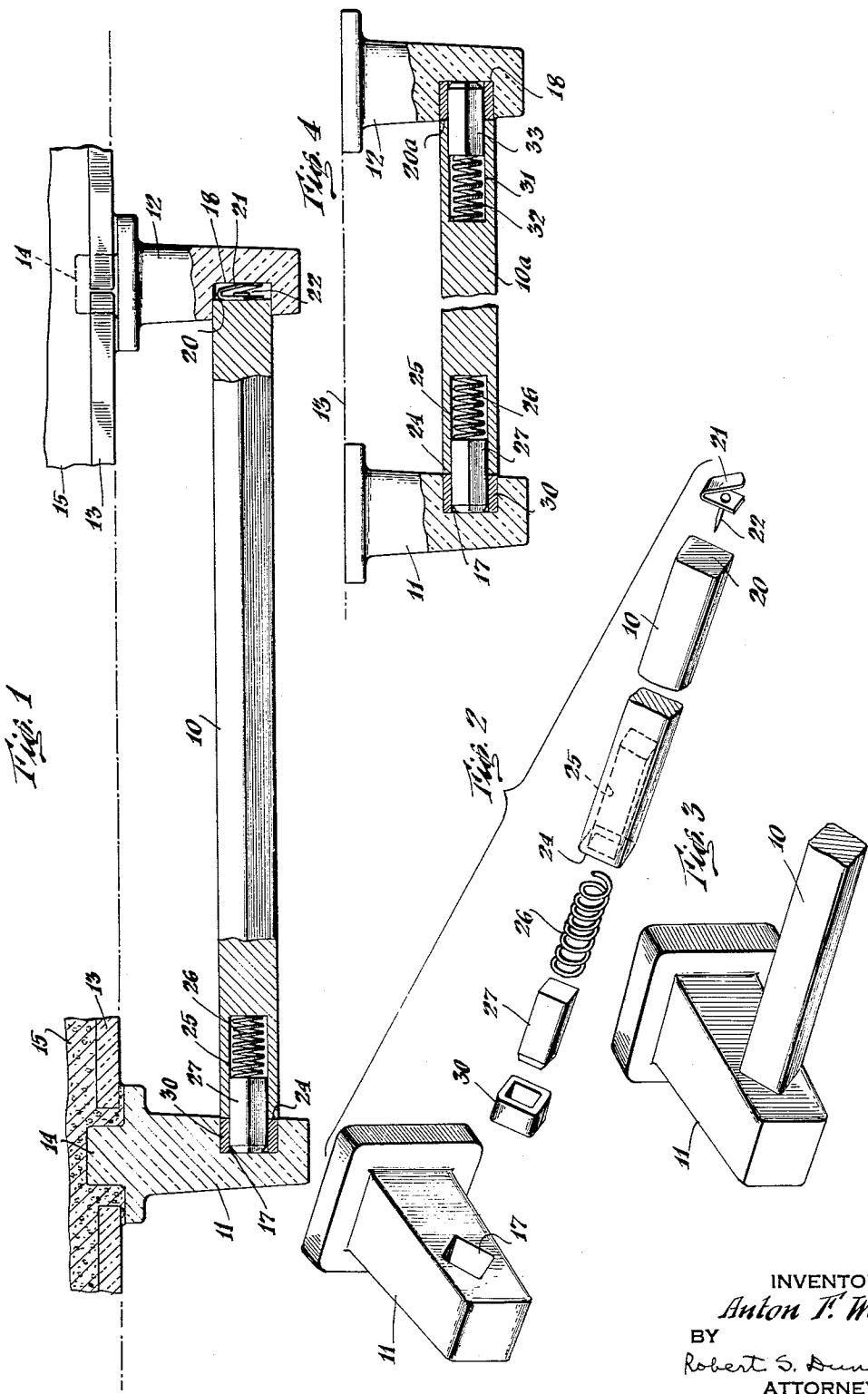
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TOWEL FIXTURES

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## TOWEL FIXTURES

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This invention relates to rods or bars for towel fixtures and the like. e. g. insertable or replacement bars for fixtures that are permanently installed in bathrooms, lavatories and like localities. An important purpose of the invention is to provide a rod which is adapted to be inserted easily into the conventional recesses of a pair of projecting brackets of porcelain, metal or other material, and which, when so inserted, is unremovable unless the rod or bar is destroyed, as at a time when it is to be replaced.

It will be understood that a common practice for initial installation of towel fixtures of this general nature has been to insert the prior type of towel holding bar into position in the recesses or sockets in the porcelain brackets and then to cement the latter in place, so that the assembly becomes essentially a permanent part of the tiling or wall. However, in order to replace the bar at any desired time, i. e. to install a new bar of conventional type, it has been necessary to break or dig one of the projecting porcelain members from its fixed seat in the wall; as a result the wall is invariably defaced and the bracket often broken or damaged, and the replacement always involves a costly resetting or cementing job. Nevertheless, permanent towel fixtures are widely used, especially in apartments, hotels and other rented or public buildings, to prevent unauthorized removal, and are often used elsewhere, for reasons of initial economy or the like. Furthermore, in public or rented premises, it is important that the rod, as well as the brackets, be non-removable, i. e. such that no one can take it out without destroying it.

One of the objects of this invention is therefore to provide an improved rod which may be very readily inserted into a pair of fixed brackets or like members and which, after insertion is not only firmly held but essentially unremovable.

Another object of the invention is specifically to provide a replacement rod of new and effective construction, e. g. to be used when the original rod has become damaged or unsightly, the replacement rod being readily insertable so as to have the same unitary appearance and to be supported in the same way as the original, without involving any breakage or damage of the fixed bracket members or the wall.

Other objects are to provide a novel and improved towel bar device of insertable, non-removable character as explained above: which is of relatively light weight, is inexpensive, and is easy to assemble and insert; which may satisfactorily be made in the way now commonly preferred for ordinary towel bar elements, i. e. of wood having a smooth exterior coating accomplished by painting or by a sleeve of Pyralin or other plastic material; which is such that it can, if desired, be manufactured in a single length and then be very easily cut or adjusted, at the time of use, to fit any given spacing of bracket fixtures; which has a pleasing and attractive appearance, fully resembling the effect of a simple, non-insertable

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bar; and which avoids the replacement problems and expense described above.

Other objects of the invention include such as will be apparent from the following description and annexed drawings of certain advantageous embodiments thereof, set forth by way of example to illustrate the features and principles of improvement.

Referring to the drawings:

Fig. 1 is a top plan view, partly in horizontal section, of a towel rack having a pair of projecting porcelain brackets, permanently secured to a wall surface, the replacement rod being shown as in final assembly;

Fig. 2 is an exploded, perspective view illustrating the several, disassembled parts thereof which coact to secure the rod in permanent position;

Fig. 3 is a fragmentary perspective view showing the external appearance of each end of the seated rod;

Fig. 4 is a top plan view of an alternative structure in which a collar, plug and recessed coil spring are used at both ends of the replacement rod instead of merely at one end as in Fig. 1.

Referring to the drawings, the replacement rod or bar is shown in its fully inserted, non-removable position in Fig. 1, it being noted at the outset that the rod body 10 may be constructed in round, hexagonal or other different shapes, i. e. of transverse section, but is shown as having the rectangular (specifically, square) section now commonly preferred for towel bars of this general type.

The rod 10 is adapted to be positioned between and supported by a pair of projecting brackets 11, 12 e. g. of porcelain as shown, which are permanently secured to a wall 13, such mounting of the brackets being illustrated by the mounting lug 14 of the bracket 11, embedded in cement 15 in the wall structure. The brackets 11, 12 are respectively provided with mutually facing recesses or sockets 17, 18, in which the ends of the present rod are expected to seat, e. g. in the same supporting fashion, and in simulation of, the arrangement of the simple, conventional rod member that is to be replaced by the present, insertable device.

The new towel bar device illustrated in Figs. 1 and 2 comprises a rod body section 10 made of any desired material but preferably of wood (for which the invention is particularly suited) having a protective and decorative coating. One end 20 of the rod 10 is cut off in a plane section, for example at a right angle to the axis, and has a simple leaf spring 21 affixed to it, as by a tack 22 through an infolded portion of the spring (or by a pointed tang formed at a right angle to, and as an integral part of, the infolded portion of the spring), the angularly projecting outer portion being then compressible toward the end 20. At its opposite end 24 the rod 10 has an axial socket or recess 25 in which a light coil spring 26 is disposed. A sliding plug 27, made of wood or other suitably rigid material such as molded, extruded or machined plastic, and preferably having the edges of its outer end bevelled as shown, is inserted against the spring 26 in the recess 25, the spring normally urging the plug at least part way out of the recess. A further, cooperating part of the bar assembly is a collar or bushing 30 (of wood, plastic or other material), adapted for sliding reception of the plug 27 and advantageously shaped and finished as if it were an extension of the recessed end portion of the rod 10. The rod 10 preferably has a square or other non-circular periphery to prevent its turning, e. g. at the end 20 in the correspondingly shaped socket 18, and for further insurance against turning of the rod in position, the rod recess 25, the plug 27 and the hole of the bushing 30, all preferably have a square or other non-cylindrical configuration.

In order to install the bar in a pair of fixed or otherwise

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previously set brackets 11, 12 (such installation being to replace, for example, an ordinary rod that has been broken and removed), the collar 30 is first inserted by hand into the socket 17 of the bracket or support 11, the height of the collar being preferably approximately the same as the depth of the socket so that after insertion the outer end of the collar is substantially flush with the inner wall of the bracket. The rod member 10 is next inserted into the opposite bracket 12, by pushing the rod end 20 into the socket 18 against the leaf spring 21 so that the latter is compressed. The sliding plug 27 is then pushed down so that its outer end is flush with the outer end 24 of the bar 10. Thereupon, by rocking it sidewise about its end, the bar 10 is slid into registration with the collar 30 so that the spring 26 forces the plug 27 into and through the hole of collar 30. It will be understood that the length of the rod 10 is a value selected so as to permit the operation last described; for example, the length of the rod body may be equal to the distance between the inner faces of the brackets, plus an amount equal to the penetration of the rod in the socket 18 when the leaf spring 21 is almost fully compressed. If the collar 30 is longer than shown, i. e. so that it projects appreciably from the bracket 11, the rod 10 should be correspondingly shorter; however, a neater appearance results when the meeting line of the rod and collar is (as shown) just at, or just below the inner face of the bracket 11.

The final assembly is shown in Fig. 1, and in this position the rod 10 cannot be removed by any external manipulation, although its insertion has merely involved snapping it in place by the brief and simple series of operations described above. Once inserted, moreover, the rod 10 is as securely retained and supported (by the described means, including the plug 27) as the simple, noninsertable type of bar 19. It will be understood that for ease of insertion there will usually be a little endwise play in the assembly, although preferably taken up in a firm manner (when the rod is fully inserted) by the resilience of the leaf spring 21. Similarly, there will be slight sidewise play of the rod assembly, at least adjacent its end 20 with respect to the socket 18, sufficient to allow the described operations of angularly inserting the rod end and swinging the rod into place.

Although the structure of Figs. 1 and 2 is markedly easier to use and for that and other reasons is at present preferred, Fig. 4 shows an alternative arrangement for securing the rod 10a into position between the pair of projecting porcelain arms 11, 12. In this device the leaf spring 21 is not used. In its place, the otherwise similar rod 10a is provided at its end 20a, with a recess 31 identical with the recess 25 of the rod 10 (and also of the other end 24 of the rod 10a), the recess 31 being furnished with a light coil spring 32 and a sliding plug 33, and the latter parts being similar in form and function to their corresponding members 26 and 27, respectively at the opposite end of the rod 10a, i. e. as described in connection with the rod 10. A collar 34 is provided for the insertion into recess 18 to engage the sliding plug 33.

The rod 10a of Fig. 4 is assembled and inserted by first placing the collars 30 and 34 respectively by hand into the recesses 17 and 18 provided therefor in the pair of projecting brackets. Thereupon one end of the rod 10a, say the end 24, is pushed against the collar 30 in the recess 17, so that the sliding plug 27, after seating in the collar, is forced back (from its normal, disengaged position of much greater projection) against the coil spring 26, compressing the latter. The sliding plug 33 at the opposite end 20a of the rod 10a is then pushed down so its outer end is flush with such end of the rod, the coil spring 32 being thereby considerably compressed. Thereupon the end 20a of the rod 10a is slid sidewise into registration with the collar 34 so that the spring 32 forces the plug 33 into the hole provided therefor in the collar 34 and securely places the rod 10a in a non-removable position as shown in Fig. 4.

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It will now be seen that the structures of Figs. 1 and 2 and Fig. 4 each provide a very readily inserted rod assembly, which when installed is in effect permanently located in place and may be such as to simulate (as shown in Fig. 3) the single, but non-insertable rod heretofore usually employed. It has been explained that prior practice for substituting a rod whenever the original one displayed an unsightly appearance, involved breaking out one of the permanently cemented bracket members, and its subsequent, time-consuming re-installation, there being usually some damage to the wall, and often breakage of the bracket if it is of porcelain composition. By virtue of the present invention, rod structures are provided which can be easily substituted without such destruction of property, and indeed with the simplest of operations. At the same time the bar may be of the coated wooden construction usually desired, the mechanical means for seating and holding the bar being especially adapted for such constructions as well as for avoidance of undue expense in manufacture. Although specially adapted for replacement use, the described rods may also be employed in initial installations, e. g. to avoid the inconvenience of cementing the end fixtures in place while they are actually holding a rod.

The devices of the invention can be adapted to fit any specified dimensions or measurements between a pair of projecting brackets or the like, and indeed may be actually cut to fit, if desired, at the time the device is inserted. While the structure of Fig. 4, including recesses at both ends, may not ordinarily permit much reduction in length, the device of Figs. 1 and 2 is of special advantage in these respects. That is to say, the rods can be manufactured in a single standard length, at least as great as the maximum expected span between brackets; then for any given installation, the end 20 of the rod may be simply sawed off, on a plane and preferably right-angled section, to provide the exact length desired. The leaf spring 21 and tack 22 being supplied unattached, the leaf spring is thereupon simply tacked to the cut end 20 of the rod, completing the device for insertion. In consequence it will be seen that the structure is readily adapted to fit any required measurements between brackets, even spacings that depart from conventional values.

It is to be understood that the invention is not limited to the specific devices herein shown and described but may be embodied in other forms without departure from its spirit.

I claim:

1. A rod device adapted for insertion between spaced supporting means, comprising a rod having a recess in one end, an outwardly spring-pressed plunger in said recess, and collar means adapted to be conformably seated in a socket in one of the supporting means, said collar means having transverse external dimensions, for seating in said socket, equal to those of the rod, said collar means having a recess which conformably receives the plunger at a locality disposed to be inside said socket recess of one of the supporting means, and said collar means being shaped and disposed for abutting the end of the rod around the plunger when the rod is inserted between the supporting means with the plunger spring-pressed into said recess of the collar means, said plunger having side wall structure fitting in the recess of the collar means in perpendicular sidewise engagement with the latter inside of said collar recess, for support of the plunger by the collar means against removal of the rod by sidewise displacement, and said collar means being externally shaped to be pushed directly axially into the aforesaid socket through the rod-facing opening of said socket.

2. In combination, a rod having a recess in one end, a coil spring and a sliding plunger outwardly pressed thereby, in said recess, separate collar means insertable

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in a socket of a supporting fixture and having a hole extending entirely through said collar means for conformably receiving the plunger, said coil spring urging said plunger entirely through said hole in the collar means, and spring means adapted to be attached to the other end of the rod, to extend outwardly therefrom, said plunger having side wall structure fitting in the recess of the collar means in perpendicular sidewise engagement with the latter inside said collar recess, for support of the plunger by the collar means against removal of the rod by sidewise displacement, and said collar means being externally shaped to be pushed directly axially into the aforesaid socket through the rod-facing opening of said socket.

3. A towel holding rod device adapted to be inserted between a pair of supporting members having sockets facing each other, comprising a rod having at least one transverse plane end, a leaf spring attached to said end to be compressed upon insertion of said end in one of the sockets, said leaf spring being shaped for compressive engagement with the bottom of said one socket and being dimensioned to be wholly enclosed by said one socket, said rod having at its opposite end an axial recess, a coil spring seated in the recess, a collar adapted to seat in the other of the sockets, and having transverse dimensions equal to those of the rod, said collar being externally shaped to be pushed directly axially into said other socket through the rod-facing opening of said socket, and a sliding plug in said axial recess, urged outwardly by the spring and adapted to enter the collar, said collar having a hole which conformably receives the plug at a locality disposed to be inside said other socket.

4. A rod device comprising a rod having a recess in one end, a coil spring in said recess, a sliding plunger in the recess, urged outwardly by the spring, and a separate collar adapted to be disposed substantially wholly within a socket of a fixture, said collar having transverse dimensions, throughout its axial extent, equal to those of the rod, said collar having a hole entirely through it for conformably receiving the plunger, and said plunger being displaced into the collar by the spring, to hold the rod in permanent position, upon insertion of the rod between said fixture and another fixture, said plunger having side wall structure fitting in the hole of the collar in perpendicular sidewise engagement with the latter inside said hole, for support of the plunger by the collar against removal of the rod by sidewise displacement, and said collar being externally shaped to be pushed directly axially into the aforesaid socket through the rod-facing opening of said socket.

5. A rod device adapted to seat in a pair of spaced, facing sockets, said rod device having compressible means at each end for holding the rod in place, each of said compressible means being concealed when the rod device is inserted in the sockets, and one of said compressible means comprising recessed structure in the corresponding end of the rod, an outwardly spring-pressed plunger in said recess, and collar means transversely dimensioned identically with the rod and adapted to seat substantially wholly within the corresponding socket and having a hole for conformably receiving the plunger, said plunger having side wall structure fit-

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ting in the hole of the collar means in perpendicular sidewise engagement with the latter inside said hole, for support of the plunger by the collar means against removal of the rod by sidewise displacement, and said collar means being externally shaped to be pushed directly axially into its aforesaid corresponding socket through the rod-facing opening of said corresponding socket.

6. A rod device as described in claim 5, wherein the compressible means at the other end of the rod comprises a spring projecting from said end, adapted to be compressed against the bottom of the other socket when said other end of the rod is inserted in the last-mentioned socket, said last-mentioned spring being shaped and dimensioned to be wholly enclosed by said other socket upon insertion of the rod.

7. A rod device as described in claim 5, wherein the compressible means at the other end of the rod comprises recessed structure in said other end of the rod, an outwardly spring-pressed plunger in said last-mentioned recess, and collar means transversely dimensioned identically with the rod and adapted to seat substantially wholly within the corresponding other socket and having a hole for conformably receiving said last-mentioned plunger.

8. A rod device comprising a rod having a recess in one end, a coil spring in the recess, a sliding plunger in the recess outwardly pressed by the spring, a separate collar transversely dimensioned identically with the rod and containing a cavity of the size of the plunger entirely through the collar, said collar being shaped and arranged to be seated wholly within a fixture socket to receive the plunger, the other end of the rod having a plane transverse surface, and a leaf spring attached to said last-mentioned surface, to project endwise from the rod, said leaf spring being shaped for compressive engagement with the bottom of another fixture socket into which said other end of the rod is adapted to be inserted, and said leaf spring being dimensioned to be wholly enclosed by said other socket upon said insertion of said other end of the rod, said plunger having side wall structure fitting in the cavity of the collar in perpendicular sidewise engagement with the latter inside said cavity, for support of the plunger by the collar against removal of the rod by sidewise displacement, and said collar being externally shaped to be pushed directly axially into the first-mentioned fixture socket through the rod-facing opening of said socket.

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