

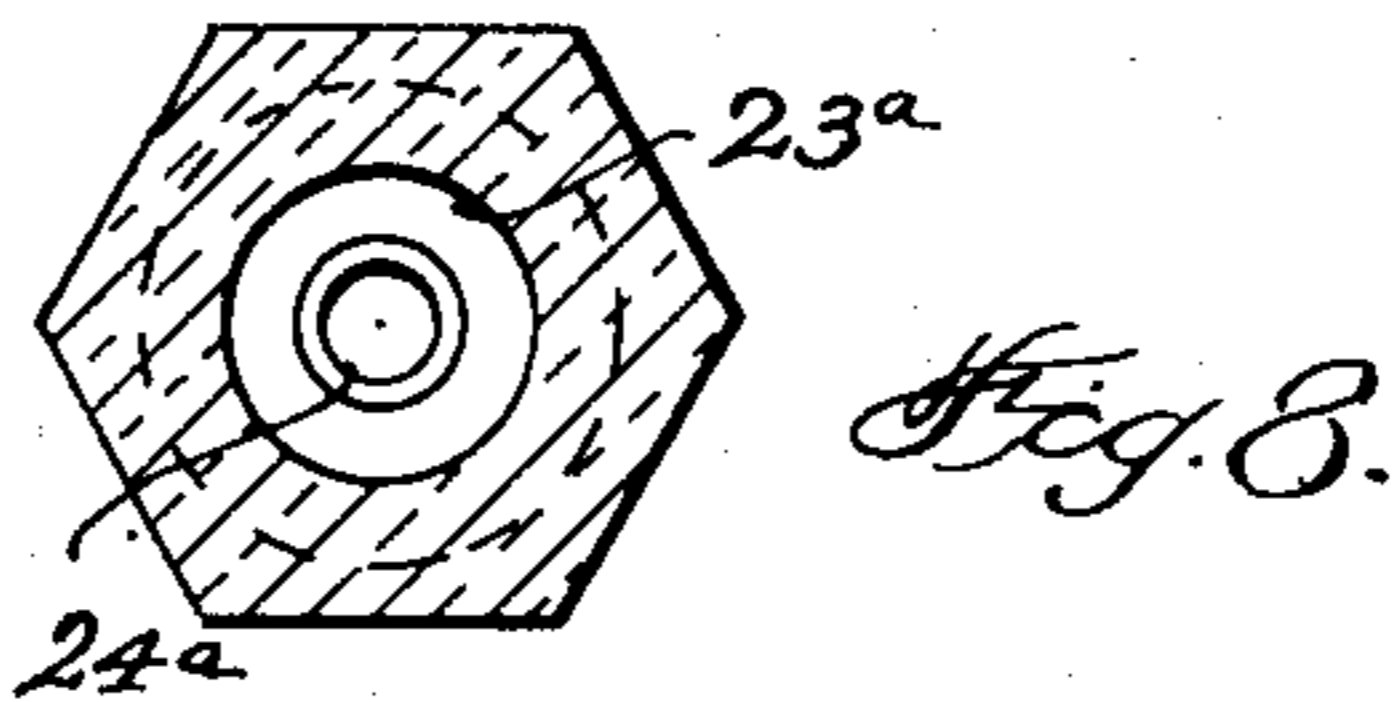
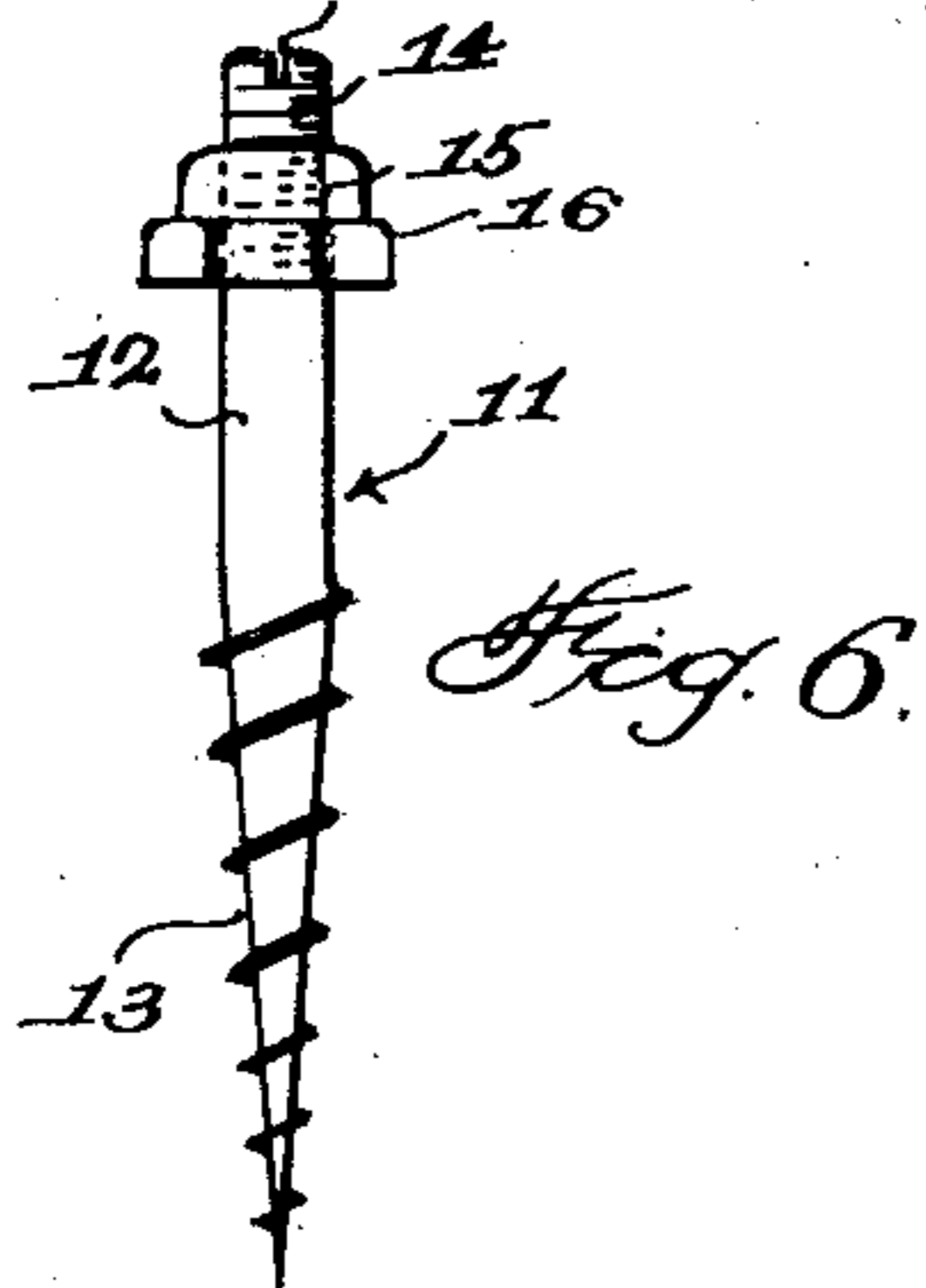
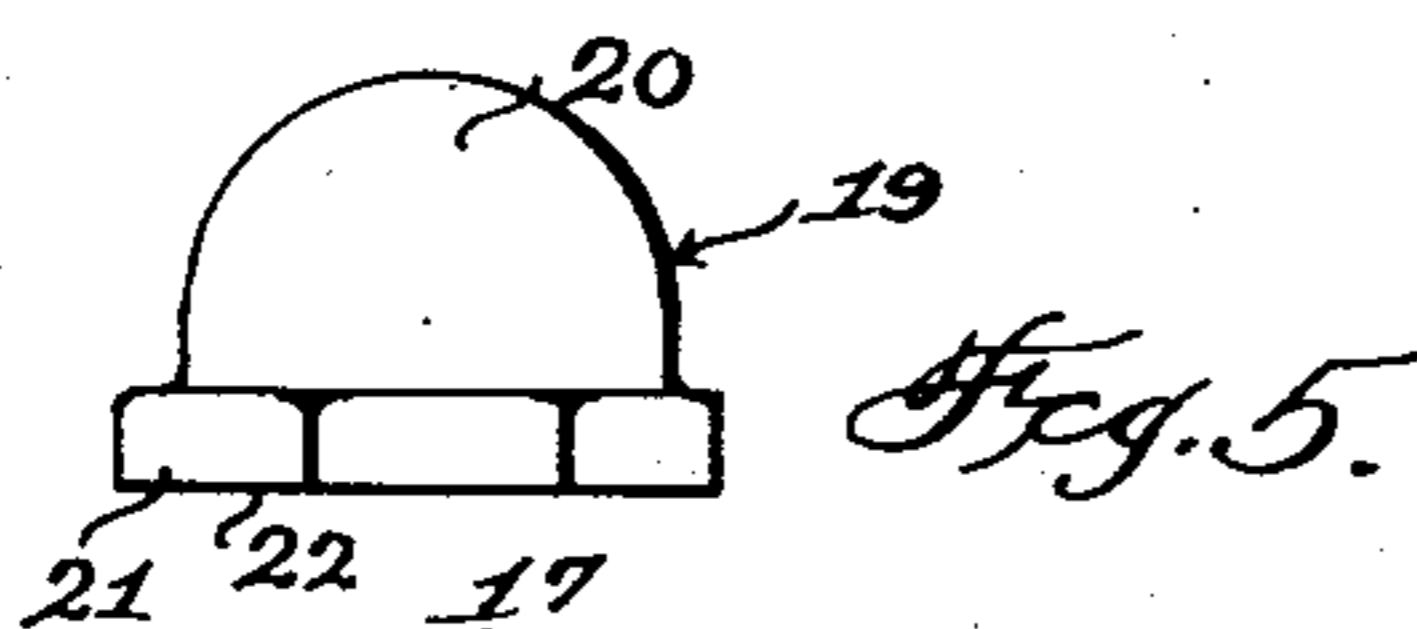
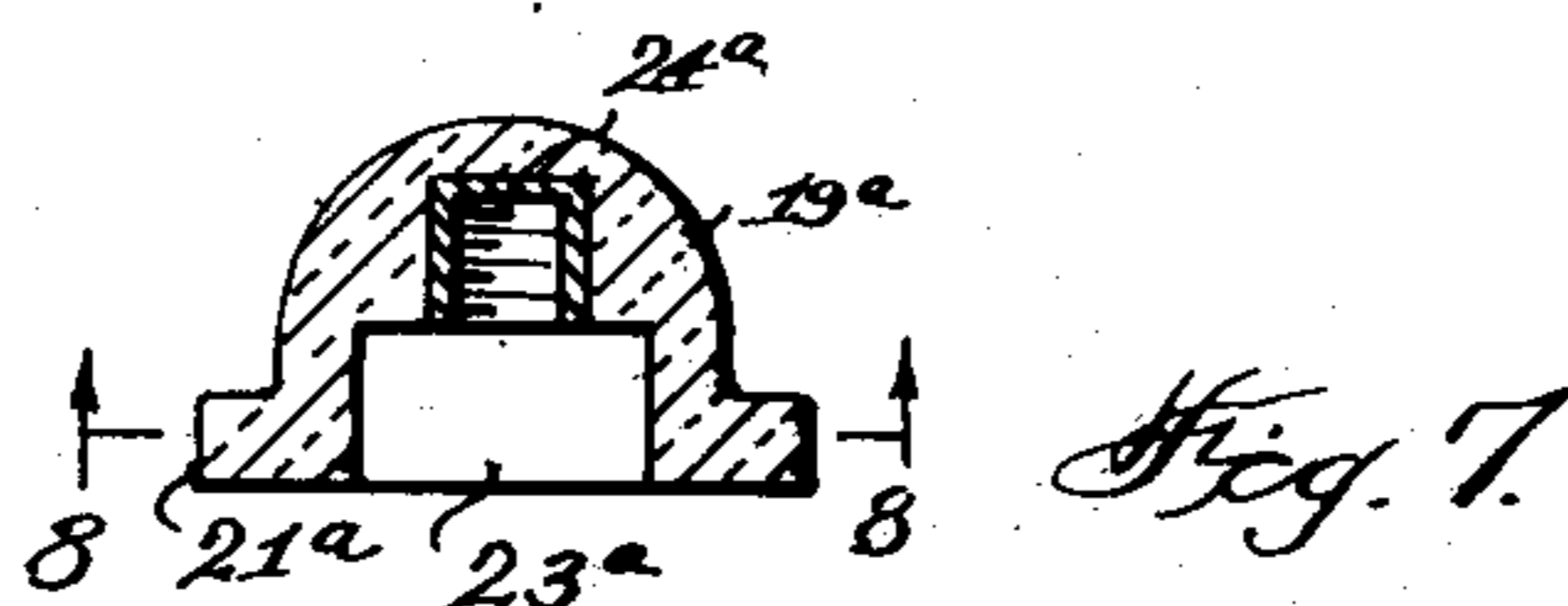
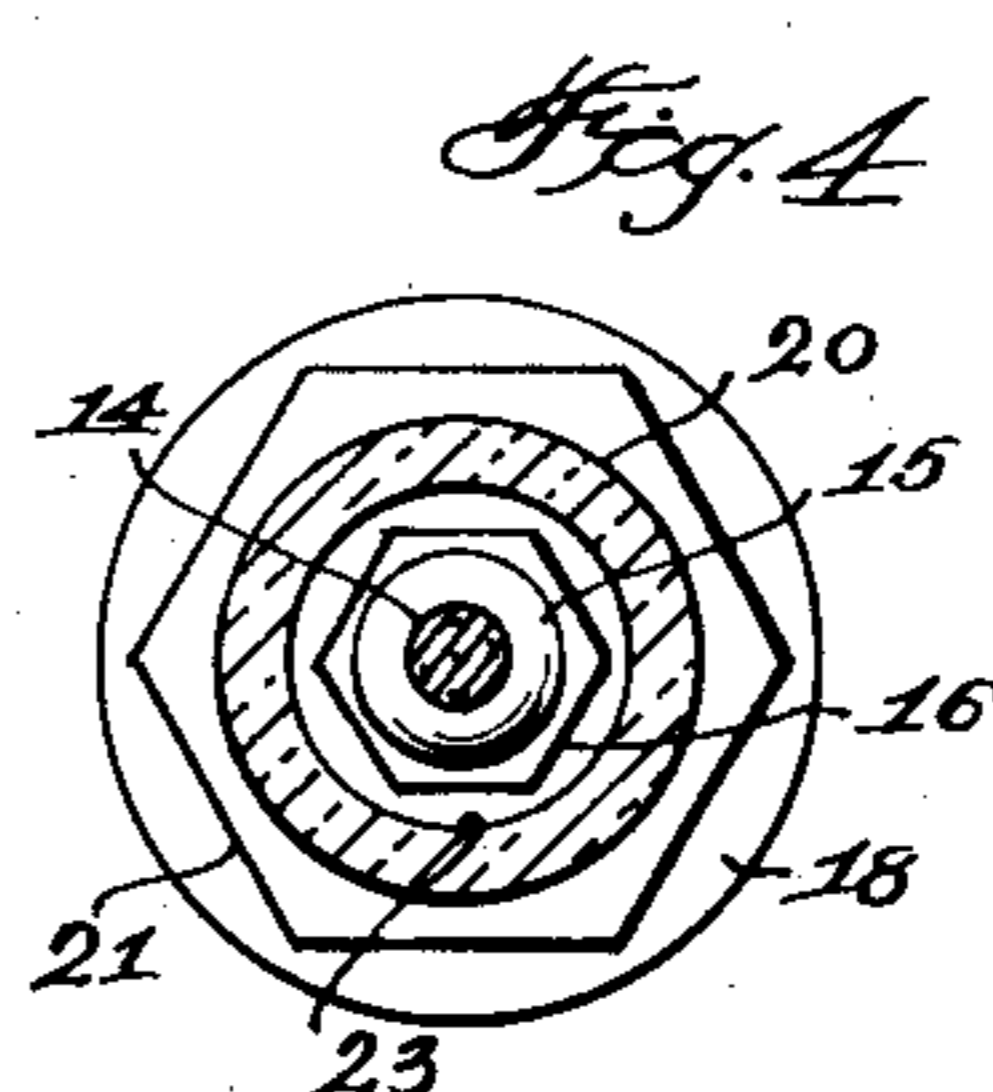
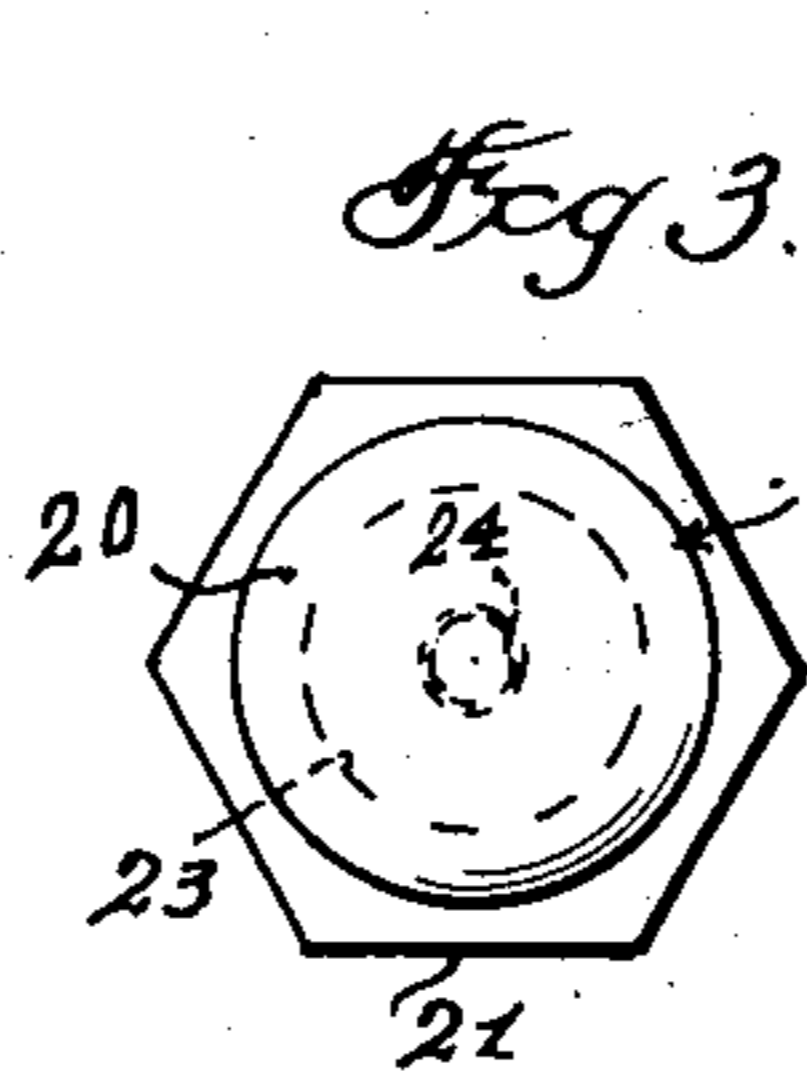
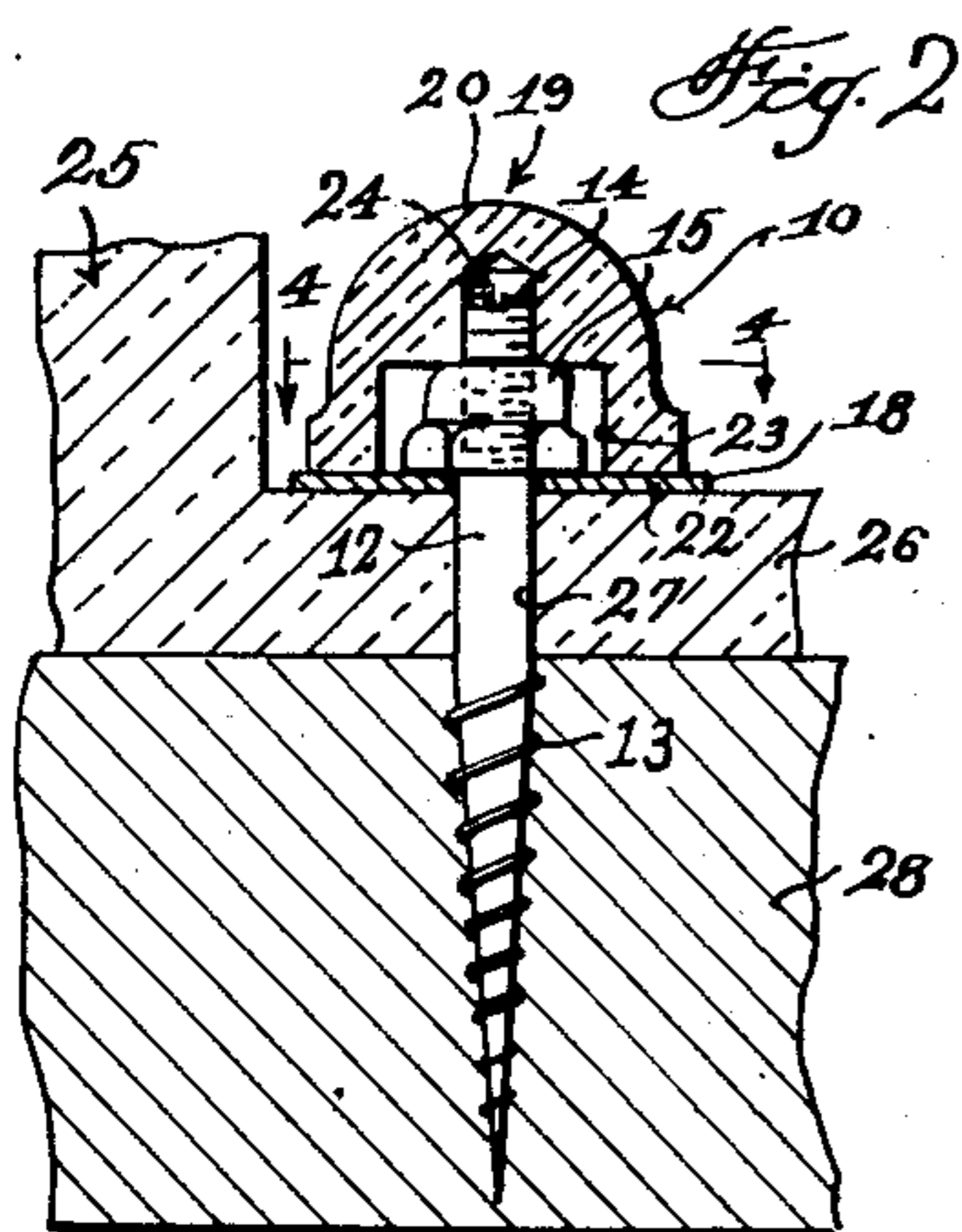
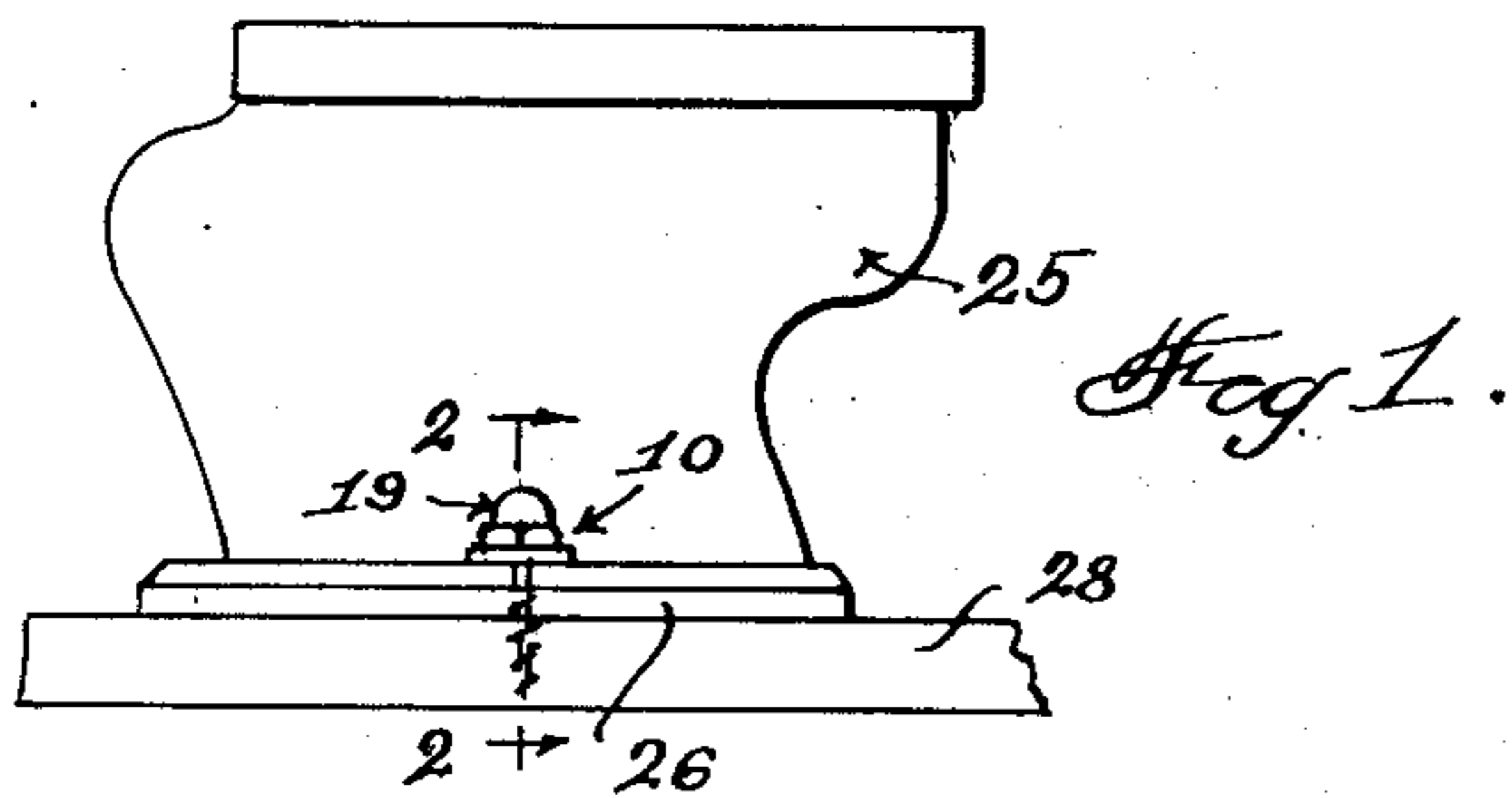
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FASTENING UNIT FOR TOILET FIXTURES

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FASTENING UNIT FOR TOILET FIXTURES

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2 Claims. (Cl. 285—34)

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This invention relates to a novel fastening unit for toilet fixtures such as water closet stools or bowls, lavatories, tubs and the like.

A porcelain cap is conventionally employed with fastenings for toilet fixtures and which is secured to the fastening by putty; however, such caps readily become loose after the putty has dried and are usually knocked off in sweeping or wiping around the toilet fixture. Accordingly, it is a primary object of the present invention to provide a fastening unit including an ornamental cap which is attached without the use of putty or similar binding means and which will be readily retained in an applied position and without danger of becoming lost or knocked off.

Another object of the invention is to provide a fastening wherein the ornamental cap additionally assists in retaining the fastener in a correctly applied position and minimizes the possibility of the fastening becoming loosened.

A further object of the invention is to provide a fastening unit which after being once applied may be disassembled for removal of a toilet fixture secured thereby from a supporting surface and which due to its construction will enable the toilet fixture to be quickly and easily replaced and secured to the supporting surface and without the necessity of removing an element of the fastening unit which is anchored in the supporting surface.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view of a water closet, bowl or stool showing one of the fastening units in an applied position;

Figure 2 is an enlarged vertical sectional view, partly in side elevation of the fastening unit taken substantially along a plane as indicated by the line 2—2 of Figure 1;

Figure 3 is a plan view of the cap element of the fastening unit;

Figure 4 is a horizontal sectional view of the fastening unit taken substantially along a plane as indicated by the line 4—4 of Figure 2;

Figure 5 is a side elevational view of the cap element;

Figure 6 is a side elevational view, partly in section of the remaining elements of the fastening unit shown assembled;

Figure 7 is a central vertical sectional view of a slightly modified form of the cap element, and

Figure 8 is a sectional view thereof taken substantially along a plane as indicated by the line 8—8 of Figure 7.

Referring more specifically to the drawing, the fastening unit in its entirety, as illustrated in Figures 1 to 6, is designated generally 10 and

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includes a rod, designated generally 11 having an intermediate portion 12 of circular cross section and of uniform diameter throughout its length and the exterior surface of which is smooth. The fastening element 11 includes an elongated tapered end provided with a thread forming a wood screw 13. The opposite, upper end of the rod 11 is provided with a conventional thread pitched in the same direction as the thread of the wood screw 13 and forming a threaded portion 14. A conventional nut 15 having an enlarged bottom portion provided with wrench lands 16 is sized to threadedly fit on the threaded rod portion 14. The outer end of the rod portion 14 is preferably but not necessarily provided with a kerf 17 adapted to receive a screwdriver bit. A yieldable washer 18 is adapted to be mounted on the rod 12 beneath the nut 15 and may be formed of any suitable material such as rubber.

The fastening unit 10 also includes a cap 19 which is illustrated as being formed of porcelain but which may be formed of any other suitable material such as a plastic. The cap 19 includes a substantially hemispherical upper portion 20 and an enlarged bottom portion which is provided with wrench lands 21 and a substantially flat bottom surface 22. The cap 19 is provided with a relatively large hollow internal chamber 23 which opens outwardly of its bottom surface 22 and the upper portion of the cap 19 is provided with an internally threaded socket 24 which is closed at its upper end and the lower end of which opens into the top of the chamber 23 and centrally thereof.

For the purpose of illustrating a preferred application and use of the fastening unit 10, a conventional water closet bowl or stool has been illustrated in Figure 1 and is designated generally 25; however, it will be readily apparent that the fastening unit 10 may be utilized with other toilet fixtures having a securing flange at the base thereof. The stool 25 is shown provided at its base with an outwardly projecting flange 26 having a series of fastening receiving openings extending therethrough, one of which is illustrated in Figure 2 at 27. The flat bottom surface of the stool 25 is adapted to rest on a suitable supporting surface such as a portion of a floor, as indicated at 28, after which one of the rods 11 is applied to each flange opening 27 thereof. This is accomplished by the wood screw portion 13 being inserted downwardly through the opening 27 and with the nut 15 applied to the rod portion 14 and advanced downwardly as far as possible thereon, a wrench or other suitable turning tool, not shown, may be applied to the wrench lands 16 of the nut 15 for turning the nut and the rod 11 therewith in a direction for advancing the wood screw 13 into the floor or surface 28. This is ordinarily accomplished with the yieldable washer

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18 applied to the rod 11 directly below the nut 15 so that after the wood screw 13 has been fully anchored in the floor or surface 28 and the rod portion 12 is in engagement with the flange opening 27, the nut 15 will be prevented from being tightened against the flange 26 with sufficient force to possibly break the flange by the yieldable washer 18 which is clamped between the upper surface of the flange 26 and the bottom surface of the nut 15. It will thus be seen that the nut 15 will effectively retain the flange 26 tight against the supporting surface 28. The cap 19 is then applied over the rod portion 14 and nut 15 and said cap is turned to screw the exposed upper end of the rod portion 14 into the socket 24 thereby threadedly connecting the cap to the rod 11 so that the cap will be readily retained in an applied position to conceal the upper end of the rod 11 and the nut 15. It will also be apparent that this threaded connection will prevent the cap 19 from being knocked off or readily disconnected accidentally from the rod portion 14. It will also be noted that the nut 15 will be accommodated in the cap chamber 23 and the cap will tend to prevent the nut 15 from working loose; however, the threads of the socket 24 do not retain the fastening in an applied position so that a sufficient force is never exerted against the cap 19 to cause stripping of the threads of the socket 24. It will thus be readily apparent that the fastening unit 10 affords an ornamental cap 19 which while having substantially the same appearance as the ornamental porcelain caps now employed with fastenings of toilet fixtures, is of a different internal construction enabling it to be mounted without the use of putty or other similar binders so that the cap will not become loose when the putty is dry, to thus afford an ornamental cap which may be readily retained in an applied position due to its construction yet is readily capable of being quickly removed and reapplied and which will additionally function to prevent the retaining nut 15 of the fastening unit from working loose and as a shield to conceal the nut and thus discourage an unauthorized removal thereof. It will likewise be understood that a similar fastening unit 10 is employed with each of the other fastening openings 27, not shown, of the fixture flange 26.

The fixture 25 may be quickly removed and replaced without disconnecting the rod 11 from the surface 28 by simply removing the cap 19 and nut 15 of each fastening unit from the threaded rod portion 14 and thereafter removing the flange 26 from the rod 11 together with the washers 18, by lifting upwardly on the fixture 25. Similarly, the fixture 25 may be reapplied over the portions of the rods 11 which project upwardly from the surface 28 after which the washers 18, nuts 15 and caps 19 are then applied in that order to each rod 11. Should it be necessary to remove the rod 11 from the surface 28, which is ordinarily not required, this may be accomplished by applying a screwdriver bit, not shown, to the kerf 17 for removing the wood screw portion 13 from the surface 28. Likewise, if desired, the kerf 17 may be used with a screwdriver in lieu of the nut 15 and a turning tool which engages the nut for initially applying the wood screw portion 13 to the surface 28 and before application of the nut 15 and washer 18.

Figures 7 and 8 illustrate a slightly modified form of the cap, designated generally 19a and

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which differs from the cap 19 only in that in lieu of the internally threaded socket 24, the upper portion of the cap 19a is recessed to receive an internally threaded metal socket 24a which is suitably secured therein and which opens downwardly into the chamber 23a, corresponding to the chamber 23. It will also be apparent that the wrench lands 21 of the cap 19 or the wrench lands 21a of the cap 19a may receive a turning tool, if necessary, for attaching the caps to the exposed rod ends 14.

Various other modifications and changes are likewise contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as hereinafter defined by the appended claims.

I claim as my invention:

1. The combination with a fastening including a retaining nut and a threaded shank extending threadedly through said retaining nut having an exposed threaded end projecting outwardly from the nut, of an ornamental porcelain cap having an inner surface, said cap having a relatively large chamber opening outwardly of said inner surface loosely surrounding the nut and in which the nut is disposed, and said cap having an internally threaded socket opening into said chamber in which the exposed end of the threaded shank is threadedly received for detachably mounting the cap over the nut and threaded shank, the depth of said chamber corresponding to the thickness of the nut whereby an outer face of the nut abuts an internal surface of the cap defining the inner surface of the chamber, when an inner face of the nut and an inner face of the cap are in abutting engagement with a member to be retained by the nut, so that the cap encloses the nut and threaded shank and prevents the nut from working loose on the threaded shank.

2. A fastening unit for a toilet fixture comprising a rod anchored in and extending upwardly from a supporting surface through a toilet fixture flange, said rod having a threaded upper end, a nut threaded on said threaded rod end and bearing on an upper side of the fixture flange, an ornamental porcelain cap having a bottom face bearing on the fixture flange, said cap having a chamber opening outwardly of said bottom face and loosely surrounding the nut, said cap having a threaded socket opening downwardly into the chamber and threadedly engaging the upper end of the rod above the nut for detachably securing the cap to the rod in a position over the nut, the depth of the chamber corresponding to the thickness of the nut, and said cap having an internal face bearing on an upper face of the nut to prevent displacement of the nut away from the fixture flange while engaged by the cap.

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