wrench. In this case, when the withdrawal resistance has decreased, the bolt rotates, and when a predetermined withdrawal resistance is kept, the bolt does not rotate. Therefore, the operating efficiency is very high.

BRIEF DESCRIPTION OF DRAWINGS

[0031] FIG. 1(A) is a sectional side view of a first embodiment, FIG. 1(B) is a sectional view taken along line B-B in FIG. 1(A), FIG. 1(C) is a sectional view taken along line C-C in FIG. 1(A), FIG. 1(C') is a sectional view of another example, FIG. 1(D) is a sectional view taken along line D-D in FIG. 1(A), FIG. 1(E) is a view showing a radially expanded state, and FIG. 1(F) is a view showing a state in which a member has been attached.

FIG. 2(A) is a sectional side view of a second embodiment, FIG. 2(B) is a side view of a third embodiment, FIG. 2(C) is a side view of a fourth embodiment, and FIG. 2(D) is a side view of a fifth embodiment.

FIG. 3(A) is a partially cutaway side view of a sixth embodiment, FIG. 3(B) is a partial side view of a seventh embodiment, FIG. 3(C) is a partially cutaway side view of a eighth embodiment, FIG. 3(D) is a sectional view taken along line D-D in FIG. 3(C), and FIG. 3(E) is a partially cutaway side view of a ninth embodiment.

FIG. 4(A) is a sectional side view of a tenth embodiment, FIG. 4(B) is a partially cutaway side view of an eleventh embodiment, FIG. 4(C) is a sectional side view of a twelfth embodiment, and FIG. 4(D) is a sectional side view of a thirteenth embodiment.

FIG. 5(A) is a sectional side view of a fourteenth embodiment, FIG. 5(B) is a sectional side view of a fifteenth embodiment, FIG. 5(C) is a sectional view taken along line C-C in FIG. 5(B), FIG. 5(D) is a sectional side view of a sixteenth embodiment, FIG. 5(E) is a sectional side view of main portions

end is exposed outside the installation region, at least a portion of the hollow shaft that is exposed outside of the installation region is formed with fixing threads, and the fixing male screw is engageable with a nut for mounting another member.

6. An expansion anchor comprising:

a hollow shaft to be inserted, from a tip end thereof, into a pre-formed hole formed in an installation region, a bolt to be screwed into the hollow shaft from outside the installation region, and a multiplicity of metal balls accommodated in a hole of the hollow shaft between the bolt and the tip end of the hollow shaft;

wherein the hollow shaft is formed with a radially expansive portion that is radially expanded by the balls in response to pushing action caused by screwing of the bolt into the hollow shaft;

wherein the radially expansive portion of the hollow shaft is formed with a plurality of axially elongated slits that are circumferentially spaced from each other; and

wherein the balls move radially outward in group in response to a push from the bolt while the multiplicity of metal balls remain in the hole of the hollow shaft between the bolt and the tip end of the hollow shaft.

7. The expansion anchor according to claim 6,

wherein the balls include diametrically different balls.