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ROPE ANCHOR FOR SWIMMING POOL INSTALLATIONS

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FIG. 3.

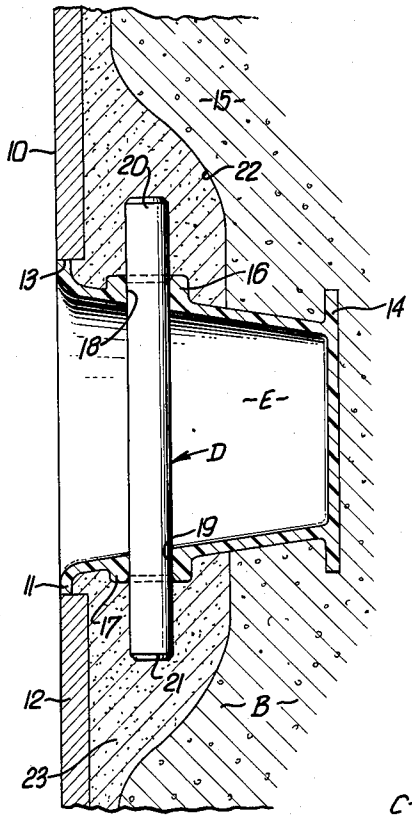


FIG. 1.

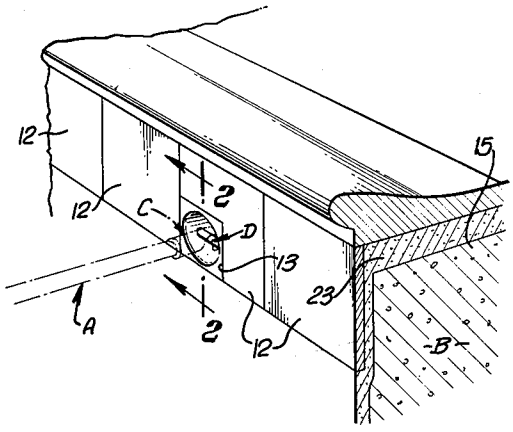


FIG. 2.

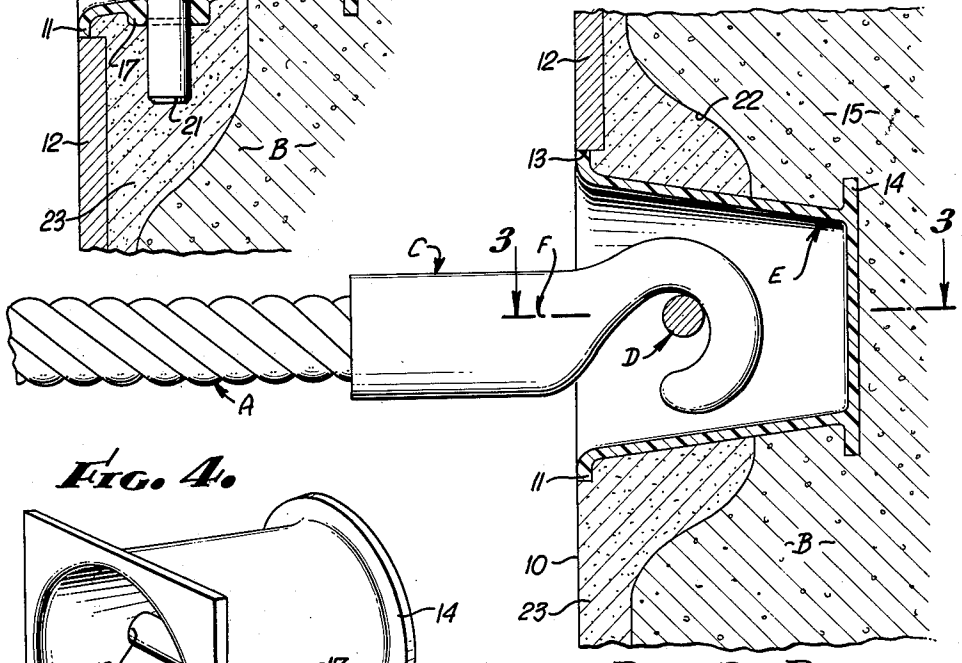
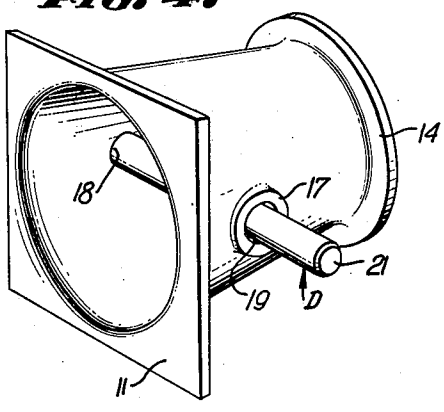


FIG. 4.



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ROPE ANCHOR FOR SWIMMING POOL INSTALLATIONS

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This invention relates to swimming pool equipment and particularly to rope anchors.

A typical swimming rope used to divide areas of the swimming pool is provided with metal hooks at opposite ends. Anchors at the sides of the swimming pool have latch means which can be engaged by the hooks. An important consideration is to ensure that the anchor is entirely recessed into the wall so that when the rope is removed, there are no hazardous projections. The anchors must also be firmly attached to the wall in order to withstand the rather considerable stresses often imposed upon them.

A typical prior anchor is one made of chrome plated brass and having a generally cup-like configuration with the edges of the cup flush with the wall. If the wall is tiled, a circular hole in the tile is formed for the cup. A stem extending into the wall from the base of the cup has suitable flanges or projections for interlocking the cement of which the wall is made. The stem is provided with a threaded recess receiving an eyebolt. The eyebolt is detachably engaged by rope hooks. This prior anchor structure is expensive because the cup must be cast, machined and chrome plated. A not inexpensive chrome plated heavy duty eyebolt is also required. Fitting the circular cup into tile work is difficult and expensive.

The primary object of this invention is to provide an improved, yet simpler rope anchor. For this purpose, use is made of a moldable plastic cup body having the requisite ribs and flanges for interfitting the cement wall. The cup face is formed by a rectangular (or square) flange simplifying the tile work. A simple chrome plated brass bar extends transversely across and through the anchor cup, there being provided integral supporting bosses at the diametric disposed portions of the cup. Only the bar, made by cutting bar stock material, need be finished.

Another object of this invention is to provide an anchor structure in which the only chrome plated part can be inserted after the cup is attached to the wall. This reduces the care required of concrete workers. By observing certain simple forming techniques, this object is achieved, and the bar is set into a deep plaster wall facing.

This invention possesses many other advantages, and has other objects which may be made more clearly apparent from a consideration of one embodiment of the invention. For this purpose, there is shown a form in the drawings accompanying and forming a part of the present specification. This form will now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of this invention is best defined by the appended claims.

Referring to the drawings:

FIGURE 1 is a pictorial view of a section of a swimming pool wall at which the improved rope anchor is installed;

FIG. 2 is an enlarged vertical sectional view taken along a plane corresponding to line 2—2 of FIG. 1;

FIG. 3 is a sectional view taken along a plane indicated by line 3—3 of FIG. 2; and

FIG. 4 is a pictorial view of the rope anchor apart from the swimming pool wall structure.

In FIG. 1 there is illustrated a rope A that extends

from a wall B of a swimming pool in order to separate or divide areas of the pool. The rope A carries conventional hooks C at opposite ends. A bar D is mounted in an anchor cup E, and is accessible for detachable engagement with one of the rope hooks C.

The cup E is made of moldable plastic material, and is generally of frusto-conical form open only at its larger end. The cup is set into the wall B near its top with the cup axis F disposed horizontally and at right angles to the wall B. The open end of the cup E is provided with a rectangular or square face plate or flange 11 placed flush with the wall surface 10. In the present example, a horizontal row of tile 12 lines the top of the wall surface 10 at the area of the cup E. Hence, simple rectangular recess 13 is provided in the tile 12. The frusto-conical or tapered configuration of the cup E ensures outward drainage of water.

The inner closed end of the cup E is provided with a peripheral radially extending flange 14 that is interlocked by the concrete part 15 of the wall B.

The bar D, may be of chrome plated brass stock cut to a suitable length. It extends transversely through the middle of the cup E. Integrally formed bosses 16 and 17, disposed diametrically on the outside of the cup E, provide suitable guiding apertures 18 and 19 for opposite ends of the bar D. The cup E is moldable by suitable processes. Mold cavities may part along an axial plane corresponding either to FIG. 2 or FIG. 3.

The bar ends 20 and 21 are located far enough inwardly of the outer end of the cup E to be engaged by the concrete wall part 15. In the present example, as indicated in FIG. 3, the cement part 15 is recessed or hollowed out as at 22 so that only the end of the cup E is in the cement part 15, and more than half of the cup, including the bar connecting bosses 16 and 17 are out of the cement part 15. The recess 22 is readily formed by a removable insert attached to a concrete form, or by providing a depression in a gunite wall.

The recess 22 is ultimately filled by plaster or finish layer 23 of the wall B.

By ensuring that the recess 22 is of adequate size, the bar B can be inserted just before the plaster layer 23 is added, and the finish of the bar D does not depend upon the care of concrete workers.

The rope tension is transferred to the concrete wall part 15 via the bar D and the cup E. No material strain is placed on the plaster layer 23 since the cup E is sufficiently rigid.

The inventors claim:

1. In combination: a swimming pool wall having a concrete part and a plaster-like part; said concrete part having a frontal depression filled by said plaster-like part; a rope anchor cup having a base portion embedded in said concrete part at the bottom of said depression and projecting forwardly of said depression; a bar extending transversely through the cup and having ends located laterally beyond the cup; the plaster-like part of the wall surrounding the projecting ends of said bar and the said forwardly projecting portion of said cup; said depression having a size relative to said bar as to permit installation of said bar relative to the cup after the cup is embedded in the concrete part but prior to placement of said finish part of the wall.

2. In combination: a swimming pool wall having a concrete part and a plaster-like part; said concrete part having a frontal depression filled by said plaster-like part; a unitary rope anchor cup of substantially non-stretchable material and having a closed end and an opening at its opposite end; said cup extending inwardly of the wall with its axis substantially horizontal, the closed end of said cup having a flange surrounded by the concrete part of said

wall at the bottom of said depression; said cup having a pair of diametrically disposed bosses located peripherally and intermediate the length of the cup, and at the plaster-like part of said wall; and a substantially cylindrical bar fitting the boss apertures at opposite ends, and projecting beyond said bosses and into said plaster-like wall parts; said bar being of such size relative to said depression as to allow placement relative to the cup after the cup end is embedded in the concrete part but before the plaster-like part is placed over said concrete part; said bar being accessible through the cup opening for engagement with a hook of a rope anchor; the rope thrust on said bar being transferred to the cement part of the wall through the cup bosses.

3. In combination: a swimming pool wall having a concrete part, a plaster-like part and a finish tile part; said concrete part having a frontal depression filled by said plaster-like part; a unitary rope anchor cup of substantially non-stretchable material and having a closed end and an opening at its opposite end; said cup having a continuous rectangular flange surrounding said opening; said finish tile part having a rectangular recess in which said cup flange is flush fitted; said cup extending inwardly of the wall with its axis substantially horizontal, the closed end of said cup having a flange surrounded by the concrete part of said wall at the bottom of said depression;

said cup having a pair of diametrically disposed bosses located peripherally and intermediate the length of the cup, and at the plaster-like part of said wall; and a substantially cylindrical bar fitting the boss apertures at opposite ends, and projecting beyond said bosses and into plaster-like wall part; said bar being of such size relative to said depression as to allow placement relative to the cup after the cup end is embedded in the concrete part but before the plaster-like part is placed over said concrete part; said bar being accessible through the cup opening for engagement with a hook of a rope anchor; the rope thrust on said bar being transferred to the cement part of the wall through the cup bosses.

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