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W. F. KALKBRENNER
ANCHOR FOR SECURING ELECTRICAL FIXTURES
AND THE LIKE TO CONCRETE WALLS
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Fig 2

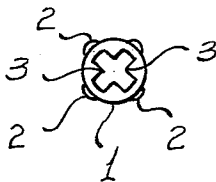


Fig 1

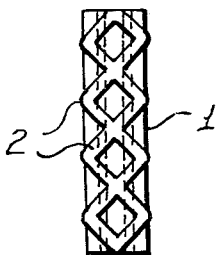


Fig 5



Fig 4

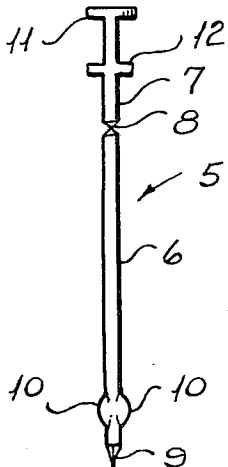
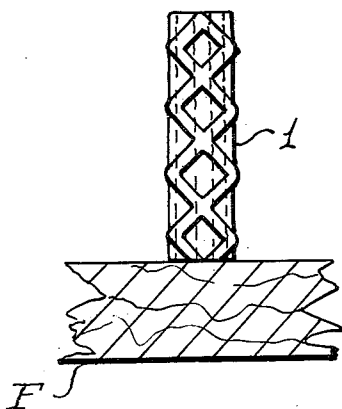


Fig 3

Fig 6

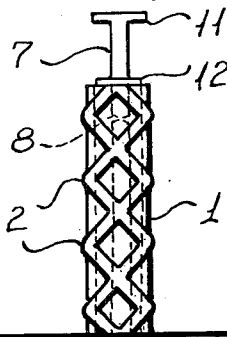
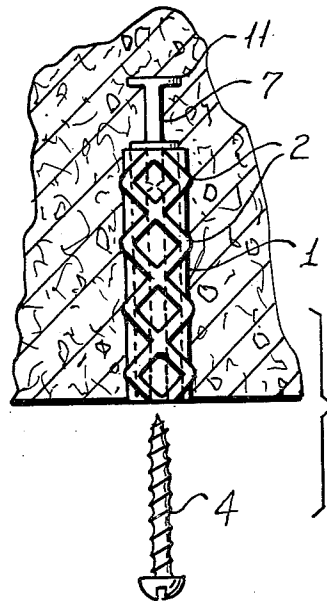


Fig 7



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ANCHOR FOR SECURING ELECTRICAL FIXTURES AND THE LIKE TO CONCRETE WALLS

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1 Claim. (Cl. 50-71)

This invention is a novel form of anchor for attaching electrical fixtures to concrete walls. The object of the invention is to provide a relatively inexpensive, easily mounted anchor and one which will be highly efficient in the carrying out of its intended purposes.

In its preferred practical form the anchor of the present invention comprises an elongated tube provided on its exterior with radially projecting ridges to preclude it from being withdrawn from hardened concrete in which it is embedded. The tube is provided with an interior bore through which an attaching spike may be passed to secure it to the form. The spike is provided at one end with a non-circular head from which is spaced a flange to close the corresponding end of the tube when the parts are assembled and adjacent the flange and within the confines of the tube said spike has a weakened portion so that the portion of the spike which extends into the form may be removed by twisting it free at the weakened portion after the form is removed. The interior of the tube is so formed as to facilitate the threading into said tube of a self threading screw, used to secure an electrical fixture to the anchor after the concrete of the wall in which the anchor is embedded is set.

An important feature of this invention is the ease with which the requisite number of these anchors may be attached to the form prior to the pouring of the concrete.

Features of the invention, other than those adverted to, will be apparent from the hereinafter detailed description and appended claims when read in conjunction with the accompanying drawing.

The accompanying drawing illustrates one practical embodiment of the invention, but the construction therein shown is to be understood as illustrative, only, and not as defining the limits of the invention.

FIG. 1 is a side elevation of the preferred form of tube portion of an anchor embodying the present invention.

FIG. 2 is a plan view of the tube portion shown in FIG. 1.

FIG. 3 shows the tube portion resting on a form.

FIG. 4 is a view of the spike adapted to be passed through the tube portion to secure it to the form.

FIG. 5 is a plan view of the spike.

FIG. 6 shows the tube portion secured to the form by the spike.

FIG. 7 shows the parts as they appear after the concrete has been poured and set and the form removed. This figure additionally shows a self threading screw to cooperate with the anchor for the securing of an electric fixture thereto.

Referring to the drawings 1 designates a hollow cylindrical tube. It is preferably made of some metal, e.g., aluminum, which may be readily tapped by a conventional self tapping screw. The tube is provided on its exterior with crossing raised helical ridges 2, adapted to firmly grip the concrete to hold the tube in place after the concrete has set. These ridges preferably extend for the full length of the tube.

The interior passage or bore through the tube is preferably shaped as shown in FIG. 2 to provide annularly spaced apart projections, such as beads 3, which extend for the full length of the tube. The purpose of these projections is to facilitate the entry of a self tapping screw 4, such as shown in FIG. 7. By their use, small

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particles of metal incident to the tapping operation of the screw when screwed into the constricted passage on the tube, will lodge between the beads so that the screw may be more readily inserted. The spike, generally indicated by the reference character 5, is shown best in FIGS. 4 and 5. Its shank has two parts 6 and 7 axially connected to one another by a weakened portion 8. The lower end of the part 6 is pointed as at 9 and adjacent to the point are swedged and flattened fins 10.

The part 7 of the spike is provided at its free end with a driving head 11 shown as oval in FIG. 5, although it may be square or any other non-circular shape which will preclude the rotation of the part 7 within the concrete after the concrete is set. Intermediate the head 11 and the weakened portion 8 is an integral circular sealing flange 12 of overall diameter greater than the inner diameter of the tube so that, when the spike is driven into the form, this flange will act as a closure for the upper end of the tube and thus preclude the entrance of concrete into the latter. The anchor of this invention is used in the following manner.

The tube 1 is placed in perpendicular relation to and upon the form F at a predetermined location where the screw of an electric fixture is required. The spike 5 is then passed downwardly through the tube and hammered into the form F until the flange 12 rests upon the end of the tube remote from the form, as shown in FIG. 6. Having thus mounted the anchor on the form, the concrete is poured and allowed to set sufficiently for the removal of the form.

When the form is removed, the entire tube and the spike remain embedded in the concrete, but with the lower end of the spike projecting beyond the face of the concrete. Since the part 7 of the shank is anchored within the concrete by the non-circular head, a wrench, plier or claw hammer may be employed to grip the shank portion 6 at the fins 10 and, by rotation of said portion 6, the latter may be twisted free of the part 7 at the weakened portion 8 to release said part 6. The part 6 of the spike may be then withdrawn from the anchor either by hand or by claw hammer or pinch bar according to the tightness of said part within the anchor, leaving the anchor embedded in the concrete C as shown in FIG. 7.

Having installed in the concrete the requisite number of anchors to support the predetermined electrical fixture, the latter is brought into cooperative relation with these anchors and screws 4 passed through the fixtures and into the several tubes to mount the fixture in position on the wall or ceiling, as the case may be.

It will thus be apparent that the anchor of this invention may be easily and quickly incorporated in concrete by unskilled operatives and serves as a convenient, strong and efficient support for any reasonable load that may be imposed thereon.

The foregoing detailed description sets forth the invention in its preferred practical form, but the invention is to be understood as fully commensurate with the appended claim.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

An anchor comprising: an open ended elongated tube one end of which is adapted to be seated on a form, said tube being of exterior shape to preclude its rotation in and withdrawal from concrete in which it is adapted to be embedded and having in its interior inwardly extending bead projections, said tube being of sufficiently soft material to permit the tapping of said projections by a self tapping screw, and a spike having a shank extending through the tube and adapted to be driven into said form, said shank being provided at one end with a non-circular driving head to keep the spike from turning in the con-

crete and, spaced from said driving head, a radial sealing flange of a diameter greater than the internal cross section of the tube and adapted to seal one end of said tube against the entrance of concrete when said shank is extending through and beyond the other end of the tube, said spike being provided between the sealing flange and its free end with a weakened section and also having near the latter end a portion of non-circular cross section which when rotated after the tube has been embedded in concrete and the form removed will sever that end portion of the spike at said weakened section.

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