ABSTRACT: A manually applicable anchor bolt positioning, depth-gauging, setting and thread protecting device for an anchor bolt of a type which is embedded in a concrete foundation. The cap is sleeved over and protectively encloses the screw-thread stud. It is temporarily held by struck-out thread-engaging detents. The J-shaped shank, with the base-equipped cap attached, is sunk in the wet concrete with the outer free end of the adapter or gauging finger contacting the pouring form. The overall base provides a depth gauge. When the usual "mud sill" is readied for use the finger-tab of the flange-blear tear strip is caught hold of and the tear strip is ripped free to sever the base flange, and divide the then fractured cap, after which it is discarded.
ANCHOR BOLT SETTER

This invention relates, broadly stated, to a new and improved anchor bolt setter, that is, a structurally distinct manually usable device which aids a user in laying out, gauging, positioning, levelling and reliably setting anchor bolts in a concrete foundation before the poured concrete hardens.

Briefly, the concept comprehends an encompassing and confining concrete form and the required amount of concrete which has been freshly poured, as usual, in the form with a view toward providing a floor or other foundation having a predetermined surface. The single anchor bolt shown is typical and has a 3-shaped lower end and anchorable shank and whose upper end embodies the upstanding screw-threaded stud. The anchor bolt setter comprises a flat-bottomed template-like base, more particularly, an annular flange forming a base. This flange is provided on one outer peripheral or marginal edge with a radial outstanding gauge finger which is likewise flat-bottomed and is disposed in a plane common with the plane of the base. It is provided at an outer free end with means which is capable of overhanging an adjacent marginal edge of the poured concrete and which is fashioned into an abutment and is designed and adapted to contact an inward surface of a cooperating frame member of the concrete form. This base is provided with an integral vertically elongated cap the bottom of which is open and the upper end of which is closed. This cap is sleeved over and encloses the aforementioned stud and protects the threads. More explicitly the cap has self-contained means for releasably engaging the screw threads on the stud. The closed upper end and body portion are each provided with a frangible normally intact but pull responsive tear strip whose lower or free end is provided with a finger-gripping button. When the tear strip is pulled upon and ripped free it divides the flange and the half portions of the body and also the upper end in such a manner as to uncover the stud, after which the then disrupted device can be discarded.

As will be hereinafter more fully appreciated the anchor bolt setter is simple, practical and easy to install. It is preferably made of economical disposable material and, as experience has shown, saves time and labor. No fasteners are required and no tools are needed. It is equipped at its lower separable end with an easily grippable finger tab for removal. The materials used can vary in color and can be fluorescent to designate otherwise unnoticeable protruding bolts and studs whereby to provide a safety factor. It is contemplated too that the bolt setter can be employed as a means of advertising products pertaining to construction work and allied activities.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIG. 1 is a fragmentary perspective view showing a portion of a concrete foundation and bordering form and showing the improved anchor bolt setter and how it is constructed and used.

FIG. 2 is an enlarged detail section also fragmentarily shown and taken on the plane of the section line 2-2 of FIG. 1.

FIG. 3 is a top plan view.

FIG. 4 is a section on the plane of the line 4-4 of FIG. 3 with the device removed from the anchor bolt.

And FIG. 5 is a fragmentary perspective view showing the upstanding stud uncovered and the anchor bolt setter ripped loose and detached.

Referring now to the views of the drawing the concrete form is denoted in FIGS. 1 and 2 by the numeral 10 and the poured concrete is denoted by the numeral 11. With reference to FIG. 2 the anchor bolt is denoted by the numeral 12 and is provided with a 3-shaped lower end 13 and a shank 16 whose upper end is screw-threaded to provide the salient screw-threaded stud 18. The anchor bolt setter is denoted by the numeral 20 and can be made of sheet material, suitable colorful commercial plastics, or such materials as may be designated by the manufacturer. The base means is designated, generally stated, by the numeral 21. The base means is comparable to a template and is characterized by a flat-bottomed annular or equivalent flange 24. This flange is provided on one marginal edge 26 with a relatively narrow outstanding flat-bottomed and conical extension which is here referred to as a gauge finger 28. The outer free end of the finger is downturned to provide an abutment 30 which overhangs the foundation and abuts the frame or foundation member 10 (see FIGS. 1 and 2). The numeral 32 designates a reinforcing rib which is joined with the finger at one end and has its other end joined to the lower end portion of the vertically elongated cap 34. This cap is open at the bottom as shown at 36 in FIG. 4. It is circular and closed at the top as at 38. It is of a height and cross section to properly enclose the screw-threaded stud 18 as best shown in FIG. 2. The sides are provided with circumferentially spaced struck-in tongues 40 which constitute detents interengageable with the threads of the stud. The frangible tear strip or sever means is denoted, generally stated, by the numeral 42. The median elongate portion 44 is commensurate in length with the length of the overall cap. The upper end portion 46 is central to and extends across the closed end and is normally intact as shown in FIGS. 1 and 4, inclusive. The lower end portion 48 bridges or extends across the width of the flange and projects beyond the edge portion 50 where it terminates in a finger-grip 52 which can be said to be of conveniently grippable buttonlike form.

FIGS. 1, 3, 5 and 4 show the overall device 20 in its intact form. FIGS. 1, 2 and 5 in particular show the positioning and gauging aspect of the device.

In practice the cap is placed on or over the anchor bolt and down as far as it will go. This manner of use is to allow sufficient threads to project above the level of the final or finished foundation as suggested in FIG. 5 and to facilitate placement of the mud sill (2 x 4 or 2 x 6). This is to prevent the cap from becoming stuck in its given position by the aforementioned indented detents 40 as evident particularly in FIG. 2. The assembly, that is, the bolt with the cap on it is then placed in the foundation in such a way that the tip 30, the aforementioned abutment, overhangs the edge of the poured concrete and abuts the form as shown in FIGS. 1 and 2. The cap is thus maintained in a substantially vertical position. After the foundation hardens this cap protects the threads of the bolt and is readily viewable. It provides a safety feature and primarily protection for the threads of the stud 18 of the anchor bolt 12. When the "mud sill" is ready to be set the cap is removed by gripping the finger tab or button 52 and pulling upwardly and outwardly in a now generally well known manner. The tear strip 42 functions to split or divide the severable flange 22, cap and upper end 38 of the cap as is believed to be evident in FIG. 5. The device which now has no satisfactory use can be and preferably is discarded.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

We claim:

1. For use in conjunction with an encompassing and confining concrete form and a batch of wet concrete which has been freshly poured into said form to provide a foundation with a prescribed level surface; an anchor bolt having a 3-shaped lower end portion adapted to be temporarily sunk in said concrete and a screw-threaded sill retaining upper end portion which when properly embedded is adapted to project a predetermined distance at right angles to and beyond said surface, and comprising an anchor bolt positioner, the improvement comprising a base having an aperture receiving said bolt and a radial gauge finger which is disposed in a plane common with the plane of
said base, said finger being provided at an outer free end with form abutment means capable of overhanging an adjacent marginal edge of the poured concrete and contacting an inward surface of a frame member of said form, a cap projecting upwardly from said base and enclosing the portion of said bolt above said base, said cap having means releasably engaging certain ones of the aforementioned screw-threads.

2. The structure defined in and according to claim 1, and wherein the means at the outer end of said gauge finger comprises a lateral abutment, and also wherein the means embodied in said cap comprises lugs struck out from side portions of the cap, said lugs providing detents and said detents cooperatively engaging said threads.

3. The structure defined in and according to claim 1, and wherein said base comprises a flat-bottomed annular flange, said finger being relatively narrow and having a flat bottom coplanar with the flat bottom of said flange, said cap being elongated cylindrical in transverse cross section, open at the end proximal to said flange and closed at its opposite end.

4. The structure defined in and according to claim 3, and wherein said flange and the closed end and body portion of said cap are each provided with a frangible normally intact but pull responsive tear strip which when manually pulled upon and freed divides the flange and half portions of the cap so that the flange and cap can be bodily removed and discarded in a manner to expose and uncover said upper end portion.

5. The structure defined in and according to claim 4, and wherein said tear strip has (1) an upper end portion which extends centrally across, is of a length equal to the diameter of said closed end into severable half portions (2) embodies a major median portion coextensive in length with the length of said body portion and (3) a lower end portion bridging said flange and projecting beyond an outer peripheral edge thereof and terminating in a buttonlike finger-grip.

6. For use on a screw-threaded portion of an anchor bolt, a readily applicable and subsequently removable templatelike bolt locating, position gauging, setting and thread protecting device, said device comprising a rigid base having a central aperture and a radial gauge finger which is disposed in a plane common with the plane of said base, said finger being provided at an outer free end with means capable of overhanging an adjacent marginal edge of the poured concrete and contacting an inward surface of a frame member of said form, a cap extending from said base and adapted to enclose the threaded portion of said bolt, said cap having means releasably engaging certain ones of the aforementioned screw-threads, sever means on said device adapted to divide said device into segments.

7. The structure defined in and according to claim 6, and wherein said base comprises a flat-bottomed annular flange, said finger being relatively narrow and having a flat bottom coplanar with the flat bottom of said flange, said cap being elongated cylindrical in transverse cross section, open at the end proximal to said flange and closed at its opposite end, said flange and the closed end and body portion are each provided with said sever means, said sever means comprising a frangible normally intact but pull responsive tear strip which when manually pulled upon and freed divides the flange and half portions of the cap so that the flange and cap can be bodily removed and discarded in a manner to expose and uncover said upper end portion.

8. The structure defined in and according to claim 7, and wherein said tear strip has (1) an upper end portion which extends centrally across, is of a length equal to the diameter of said closed end and serves to divide said closed end into severable half portions (2) embodies a major median portion coextensive in length with the length of said body portion and (3) a lower end portion bridging said flange and projecting beyond an outer peripheral edge thereof and terminating in a buttonlike finger-grip.