Sept. 29, 1964 D. H. SHAFFER 3,150,429

CEMENT ANCHOR BOLT GAUGE

Filed June 7, 1962

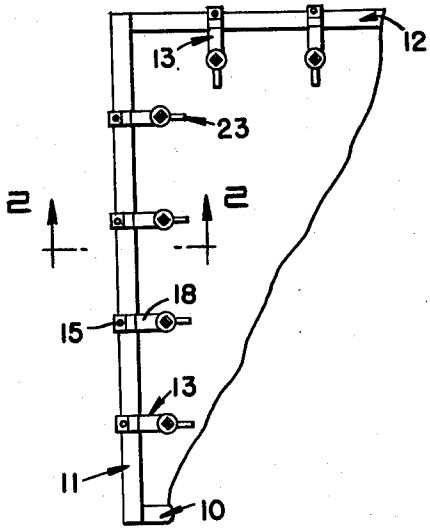


FIG. 1.

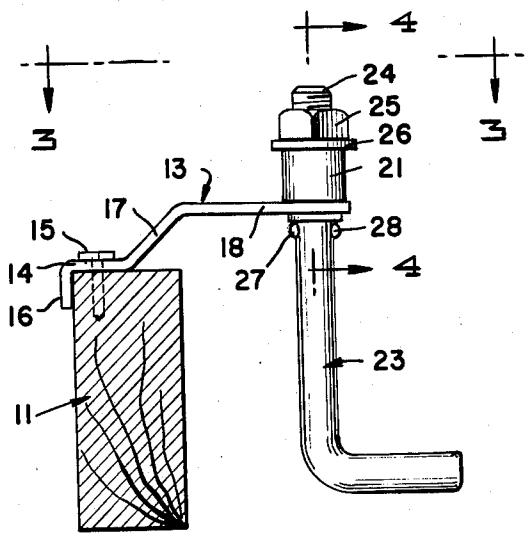


FIG. 2.

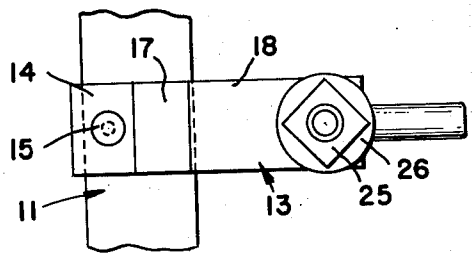


FIG. 3.

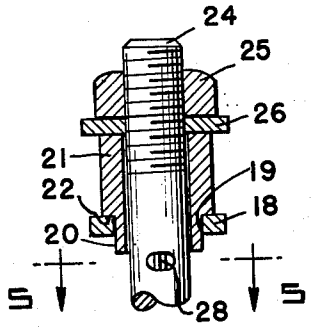


FIG. 4.

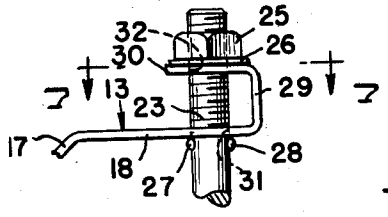


FIG. 6.

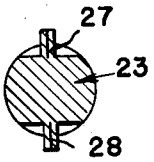


FIG. 5.

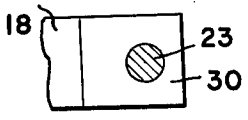


FIG. 7.

INVENTOR.
DANIEL H. SHAFFER

BY Donnelly, Mentag & Hessington

ATTORNEYS

United States Patent Office 3,150,429 Patented Sept. 29, 1964

3,150,429

CEMENT ANCHOR BOLT GAUGE

Daniel H. Shaffer, 23015 Shakespeare Ave., East Detroit, Mich.

Filed June 7, 1962, Ser. No. 200,793
1 Claim. (Cl. 25—118)

This invention relates to an anchor bolt gauge for supporting an anchor bolt within a concrete form during the operation of pouring the concrete mixture into the form and around the inner end of the anchor bolt.

In the manufacture of concrete bases or foundations for metal columns, and for the manufacture of concrete slabs for garages, it is customary to imbed in the concrete mixture one end of a bolt called an anchor bolt, with the other end of the bolt projecting upwardly sufficiently to permit it to be connected to a metal column or to a two-by-four, or the like. At the present time, it is customary to manually insert the anchor bolts into the fresh concrete mixture before it has hardened, and it is not possible by this method to align the anchor bolts at a uniform distance from the edge of the concrete slab and at uniform spaced distances from each other. With the anchor bolt gauge or bracket of the present invention it is possible to maintain the anchor bolts at a pre-determined uniform distance from the edge of the concrete slab, in an upright condition, and at predetermined uniform spaced distances from each other, whereby a carpenter can quickly and easily form holes through a base board two-by-four, or other board which is to be secured to the anchor bolts, in a quick and efficient manner.

It is the primary object of the present invention to provide an anchor bolt gauge or bracket for properly supporting an anchor bolt within a concrete form during the pouring operation of the concrete mix into the form, and which gauge or bracket may be used over and over again.

It is another object of the present invention to provide an anchor bolt gauge which is simple and compact in construction, economical of manufacture, and efficient in use.

Other objects, features and advantages of this invention will be apparent from the following detailed description and appended claims, reference being had to the accompanying drawing forming a part of the specification wherein like reference numerals designate corresponding parts of the several views.

In the drawing:

FIG. 1 is a fragmentary plan view of a garage concrete slab form, and showing a plurality of the anchor bolt gauges of the present invention mounted on the form;

FIG. 2 is an enlarged elevational, fragmentary, sectional view of the structure illustrated in FIG. 1, taken along the line 2—2 thereof, and looking in the direction of the arrows;

FIG. 3 is a top plan view of the structure illustrated in FIG. 2, taken along the line 3—3 thereof, and looking in the direction of the arrows;

FIG. 4 is a fragmentary, enlarged, elevational sectional view of the structure illustrated in FIG. 2, taken along the line 4—4 thereof and looking in the direction of the arrows;

FIG. 5 is an enlarged horizontal sectional view of the structure illustrated in FIG. 4, taken along the line 5—5 thereof and looking in the direction of the arrows;

FIG. 6 is a fragmentary, side elevational view of a second embodiment of the invention; and

FIG. 7 is a fragmentary, horizontal sectional view of the structure illustrated in FIG. 6, taken along the line 7—7 thereof, and looking in the direction of the arrows.

Referring now to the drawings wherein the invention is shown in a preferred form, a concrete form is shown in partial plan illustration. In building a garage, a rectangular concrete slab is used, and the form for pouring the concrete slab normally comprises four two-by-fours, or the like. In FIG. 1 the front two-by-four is illustrated by the numeral 10, the side two-by-four is illustrated by the numeral 11, and the rear two-by-four of the concrete form is illustrated by the numeral 12. The concrete form two-by-fours 10 through 12 are connected together in any suitable manner, as by nailing them together. The anchor bolt gauge of the present invention is illustrated generally in FIG. 1 by the numeral 13. As shown in FIG. 1, a plurality of the anchor bolt gauges 13 are mounted along the sides of the concrete form on which the walls of the garage are to be formed.

As best seen in FIGS. 2 and 3, the anchor bolt gauge comprises the base or fastening portion 14 which is horizontally formed and adapted to be secured to the cement form two-by-four 11 by means of the wood nail 15 which passes through a suitable hole in the base 14. Integrally formed on the outer end of the base portion 14 is the vertical and downwardly extended retainer flange 16 which is integrally formed on the outer end of the base portion 14. Integrally connected to the inner end of the base portion 14 is the upwardly and inwardly sloping arm portion 17, to the outer end of which is integrally connected the horizontal inwardly extended support arm 18.

As shown in FIG. 4, a hole 19 is formed in the outer end of the support arm 18 and mounted in said hole 19 is the reduced lower end 20 of the seamless steel tubing 21. The lower end 20 of the tubing 21 is fixedly secured in the hole 19 by any suitable means, as by having the lower end thereof welded therein or flared in place. It will be seen that the tubing lower end 20 is reduced in outer diameter, as compared to the upper end of the tubing 21, so as to form a shoulder 22 which rests on the upper side of the support arm 18.

As shown in FIGS. 2, 3 and 4, an anchor bolt, generally indicated by the numeral 23, is adapted to have the threaded upper end 24 thereof passed through the tubing 21 and to be secured in place in the tubing 21 by means of the nut 25 and the washer 26. As best seen in FIGS. 2 and 5, the anchor bolt 23 is provided with a pair of stops 27 and 28 which are formed on the anchor bolt by swaging or upsetting the anchor bolt on two opposite sides thereof so as to press the metal outwardly to form the stops 27 and 28 which are adapted to abut against the lower end of the tubing reduced portion 20. It will be seen that the stops 27 and 28 permit the anchor bolts 23 to be positioned in the cement form at pre-determined and equal depths whereby the length of anchor bolt extended upwardly out of the concrete mixture after it is formed will be constant for all of the anchor bolts.

FIGS. 6 and 7 illustrate a second embodiment of the invention. The basic difference between the embodiment of FIGS. 6 and 7 and the embodiment of FIGS. 1 through 5 is that in the embodiment of FIGS. 6 and 7 the tubing 21 is deleted and other structure substituted therefor. As shown in FIGS. 6 and 7, the support arm 18 has integrally connected thereto at the outer end thereof the vertical upwardly extended arm 29. Integrally connected to the upper end of the arm 29 is a second or upper support arm 30. The support arm 30 is horizontal and is disposed parallel to the support arm 18 and in an upper spaced apart position. The support arm 18 is provided with the hole 31 therethrough and the support arm 30 is provided with a similar aligned hole 32.

As shown in FIGS. 6 and 7, the anchor bolt 23 is adapted to be inserted through the holes 31 and 32 and to be fixedly secured in place on the support arms 18 and 19 by means of the nut 25 and the lock washer 26. The stops 27 and 28 would engage the lower side of the support arm 18 to limit the upward movement of the anchor bolt 23. The anchor bolt gauge of FIGS. 6 and 7 is adapted to be used in the same manner as the previously described embodiment of FIGS. 1 through 5. It will be understood that the embodiment of FIGS. 6 and 7 also includes the bracket portions 14, 16 and 17 as shown in FIG. 2 for the first embodiment.

Experience has shown that with an anchor bolt gauge of the present invention, it is possible to mount a plurality of anchor bolts in a cement slab for a garage floor with all of the anchor bolts being mounted at predetermined, uniformly spaced apart, positions, spaced from each other and from the sides of the slab, whereby it is possible for a carpenter to quickly and easily mount the base boards for the side walls on the anchor bolts and secure the base boards quickly in place.

While it will be apparent that the preferred embodiment of the invention herein disclosed is well calculated to fulfill the objects above stated, it will be appreciated that the invention is susceptible to modification, variation and change without departing from the proper scope or fair meaning of the subjoined claims.

What I claim is:

An individual anchor bolt gauge for supporting an anchor bolt within a concrete form during the operation of pouring concrete mixture into the form and around the lower end of the anchor bolt comprising:

a base portion;

means for securing said base portion to said concrete form;

a retainer flange integrally formed on the outer end of the base portion and extending substantially perpendicularly therefrom for abutting engagement with the outer side of the concrete form for positioning the bolt gauge;

a support arm integrally connected to the inner side of said base portion and extending over and within said concrete form; and

holding means on the outer end of said support arm for detachably holding the upper end of an anchor bolt in an upright position with the lower end of the anchor bolt extending downwardly into the concrete form, said holding means including a second support arm integrally connected to said first-named support arm and spaced therefrom, said support arms being provided with aligned holes through which the upper end of the anchor bolt is detachably mounted.

References Cited in the file of this patent

UNITED STATES PATENTS

1,329,362	Bowe	Feb. 3, 1920
1,976,595	Asleson et al.	Oct. 9, 1934
2,150,176	Levy	Mar. 14, 1939
3,013,323	Williams	Dec. 19, 1961