

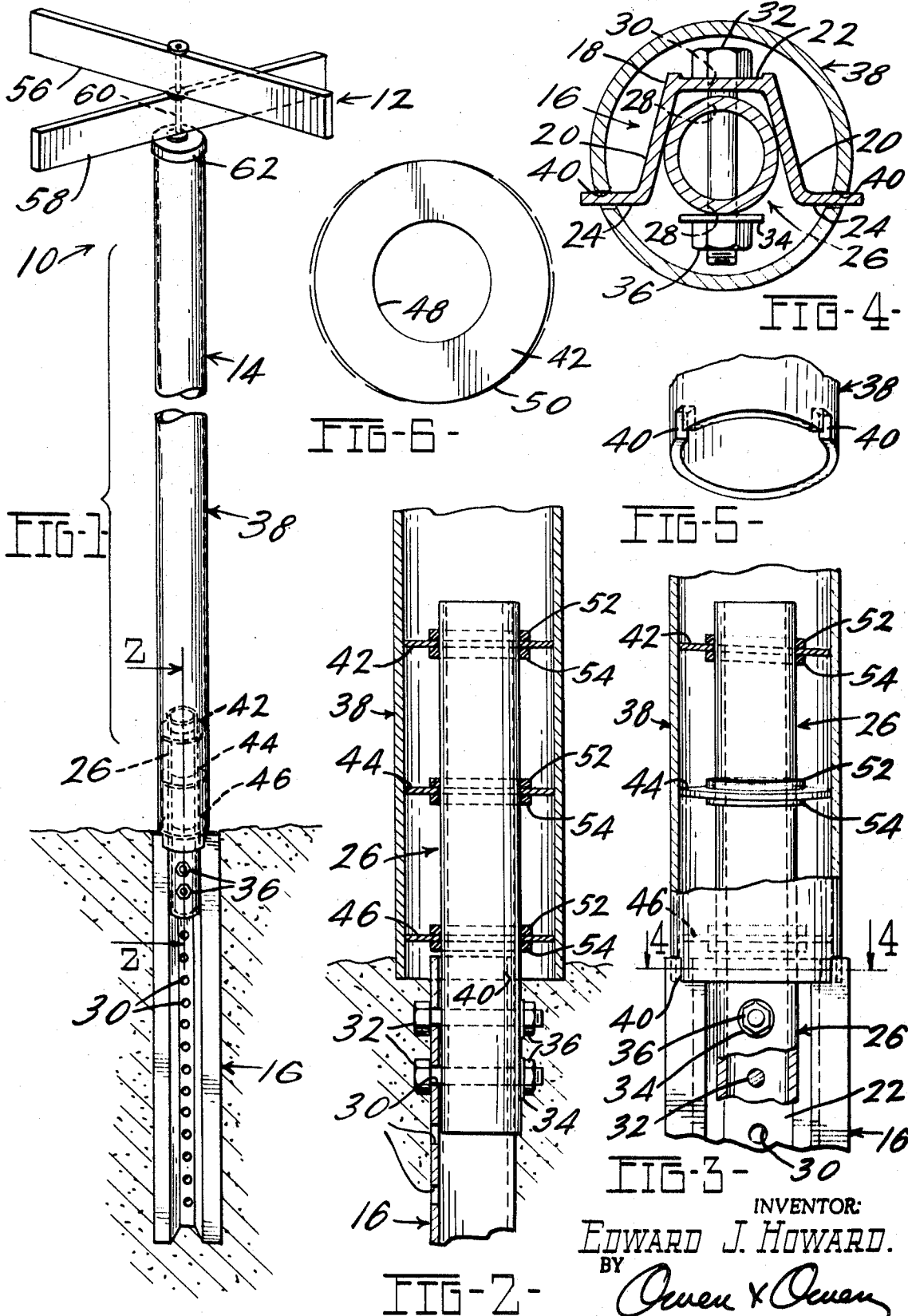
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SUPPORT CONSTRUCTION FOR SIGNS

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SUPPORT CONSTRUCTION FOR SIGNS

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4 Claims

ABSTRACT OF THE DISCLOSURE

A street sign support is of the break-away type and includes a first post driven completely into the ground, a second post bolted to said first post and extending above the ground, and a third, sign-supporting post extending down over the second post to a point near the ground and carrying a street sign assembly at the top. The third post has notches in the lower end thereof fitting over flanges of the first post to prevent relative rotation between the third and first posts. The third post and the second are connected by means of washers which bite into the outer surface of the second post and the inner surface of the third when an attempt is made to separate these two posts.

This invention relates to a sign support and particularly to a street sign support of the break-away type.

Street sign supports, particularly as used in residential neighborhoods, are commonly made of conventional two or two-and-one-half inch galvanized metal pipe. Such pipe is commercially available in twenty-one foot lengths which are cut in two equal lengths to provide two street sign supporting posts ten-and-one-half feet in length. The lower ends of the posts are driven about two feet into the ground, leaving a length of post of only about eight feet or so above the ground, which does not place the street signs as high as is usually desirable from the standpoint of visibility and particularly vandalism. The street sign posts are often set in concrete in which instance a shorter length of the post can be buried but this requires considerable more labor by the installation crew and requires at least two trips to the location to properly set the post.

The instant invention provides an improved street sign support which overcomes the above disadvantages and achieves several additional advantages. The new street sign support includes a first sign post having a flanged, U-shaped cross section with a length of about two feet, which is driven completely into the ground. A second post, in the form of a one-inch pipe roughly a foot in length, has a lower end received in the U-shaped portion of the first post and is bolted to the first post with about a six-inch length extending above the ground. A third, main post, in the form of a two or two-and-one-half inch pipe, is placed over the second post with the lower end extending down preferably to or slightly below the surface of the ground. The lower end of the third post is notched to receive the flanged portions of the first post to prevent rotation of the third post. The usual street sign assembly is then carried at the top of the third post.

The third post preferably is connected to the second post by a series of spaced washers, the inner diameters of which approximate the outer diameter of the second post with the outer diameters of the washers approximating the inner diameter of the third post. These washers are spaced apart and temporarily held on the second post prior to assembly with the third post. After the third and second posts are assembled, the washers will bite into both posts to prevent removal of the third post without the use of any external connection or fastener.

With this construction, the third or main post can extend substantially its entire ten-and-one-half foot length

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above the ground thereby to support the street sign assembly at a more desirable height. With the first flanged post driven into the ground completely, a stable, non-rotatable support is provided which does not require any special concrete installation. In addition, if the sign support is struck by a vehicle, the support will yield at the ground usually by bending or breaking of the first or second post with the third, main post then usually being re-usable.

It is, therefore, a principal object of the invention to provide a street sign structure having the features and advantages discussed above.

Many other objects and advantages of the invention will be apparent from the following detailed description of a preferred embodiment thereof, reference being made to the accompanying drawings, in which:

FIG. 1 is a view in perspective of a street sign structure embodying the invention;

FIG. 2 is an enlarged, fragmentary view in vertical cross section taken along the line 2-2 of FIG. 1;

FIG. 3 is a view similar to FIG. 2 but taken through a plane 90° to the plane in which FIG. 2 is taken;

FIG. 4 is a view in transverse cross section taken along the line 4-4 of FIG. 3;

FIG. 5 is a fragmentary view in perspective of a bottom edge of a signpost of the sign supporting structure; and

FIG. 6 is a top view of a washer embodied in the sign supporting structure.

Referring particularly to FIG. 1, a street sign structure embodying the invention is indicated at 10 and includes a street sign assembly 12 and a street sign support 14. The street sign support 14 includes a first post or elongate member 16 which preferably is driven completely into the ground. This post, which is preferably about two feet long, includes a U-shaped portion 18 having diverging legs 20 and a web 22, with flanges 24 extending outwardly in a common plane from the ends of the legs 20. The post 16 preferably is of a commercially available design, commonly used as stop sign posts and the like.

A second post or elongate member 26 preferably is of circular cross section and of a size to substantially fit within the U-shaped portion 18 of the post 16. The post 26 can be a ten-inch length of one inch diameter galvanized pipe with about six inches of the length extending upwardly above the upper end of the first post 16 and above the ground. The pipe 26 has suitably spaced openings 28 drilled therein to match openings 30 formed in the web 22 of the post 16, the openings 30 usually being formed along the entire length of the web. Only two of the openings 30 near the upper end of the post are used, however. The second post 26 is then affixed to the first post by a suitable fastening arrangement such as a pair of bolts 32 which extend through the openings 30 and 28 and receive washers 34 and nuts 36 on the opposite side of the post 26.

A third, main supporting post or hollow member 38 is then placed over the upper, exposed end of the second post 26. The lower end of the post 38 has a pair of notches 40 therein which are received on the flanges 24 of the first post 16. This provides positive mechanical cooperation between the first and third posts and prevents rotation or turning of the third post 38 relative to the first post 16 and the ground. In the assembled position, the lower end of the third post 38 is below the level of the ground and gives the appearance of being a post of conventional construction, with the lower end simply driven into the ground or set in concrete.

The third post 38 is connected to the second post 26 by suitable means, preferably by annular or ring-like members or washers 42, 44, and 46. The washer 42 is

also shown in FIG. 6. Each washer includes a circular inner edge 48 which fits closely with the outer diameter of the second post 26. The washer has an outer generally circular but actually oval edge 50 the minimum diameter of which is substantially equal to the inner diameter of the main post 38, with the major dimension or axis thereof slightly exceeding the inner diameter of the post 38.

The washers 42, 44, and 46 are spaced apart equal distances on the second post 26 with the lowest washer 46 being slightly above the upper end of the first post 16 and with the upper washer 42 being about one inch below the upper end of the second post 26. Each of the three washers is held temporarily in place on the second post 26 by an upper ring 52 and a lower ring 54 of resilient material. The major axis of each of the washers is located at a 90° angle to the major axis or axes of the adjacent washer or washers.

With the washers temporarily held on the post 26 by the rings 52 and 54, they are at a slight angle, being cocked about the minor axis slightly, so as to fit into the post 38 when it is inserted over the post 26. When the post 38 is in place with the notches 40 over the flanges 24 of the first post 26, if an attempt is made to remove the post 38, the washers will bite into the inner surface of the post 38 and tend to distort, also biting into the outer surface of the second post 26, thereby effectively and fully preventing the removal of the post 38. If desired, the lower end portion of the post 38 can be jarred or tapped after it is in position to cause the washers to settle slightly and engage the adjacent surfaces of the posts 26 and 38 more fully.

Rather than the slightly oval-shaped washers 42, 44, and 46, concave washers can be employed having their concave surfaces facing downwardly so that the outer post 38 can be slipped over them when temporarily retained on the inner post but with the washer edges biting into the inner surface of the post 38 if an attempt is made to remove it.

The street sign assembly 12 can be of any particular design and does not, in detail, constitute part of the instant invention. As shown, it includes two sign plates 56 and 58 held together by a pin 60 which extends into an end cap 62 on the upper end of the post 38.

It will be seen from the above description that the sign construction 10 according to the invention has many advantages over those heretofore known. Since the main post 38 does not extend into the ground, the full height of ten-and-one-half feet is effective to place the sign assembly 12 that distance above the ground. Further, it is virtually impossible to turn the post 38 and thereby change the orientation of the street sign plates 56 and 58. The street sign support 14 also is easy to install by driving the post 16 into the ground without any special tools or excavation being required. It is also much easier to drive the post 16 into the ground than the overall post 38 with its upper end spaced high above the surface. In the event the sign support 14 is struck by a vehicle, the support will break near the ground, usually in the second post 26, with little or no damage to the main post 38.

Various modifications of the above described embodiments of the invention will be apparent to those skilled in the art, and it is to be understood that such modifications can be made without departing from the scope of the invention, the above embodiment being primarily for purposes of illustration and not limitation.

I claim:

1. A sign supporting structure comprising a first member to be at least partially embedded in the ground, a second member which is circular in transverse cross section affixed to said first member and adapted to extend above

the ground, a hollow member which is circular in transverse cross section and larger in diameter than said second member to receive said second member, means connecting said hollow member and said second member to prevent separation thereof and to prevent any upward movement of said hollow member relative to said second member, said connecting means comprising at least two ring-like members, each having an inner edge similar in size and shape to the outer surface of said second member and having an outer edge substantially similar in size and shape to the internal surface of said hollow member, whereby each of said ring-like members is caused to bind said hollow member and said second member when said hollow member is urged upwardly away from the said second member and, means to hold said ring-like members in vertically-spaced relationship on said second member, at least prior to the assembly of said second member and said hollow member, and said hollow member having means engageable with said first member to prevent rotation of said hollow member relative to said first member.

2. A sign supporting structure comprising an elongate first member having a portion which is generally U-shaped in transverse cross section with side flanges extending outwardly therefrom, the U-shaped portion of said member having an opening therein, a second member having a transverse circular cross section affixed to said first member, said second member being of a size to at least partially fit within the U-shaped portion of said first member, fastener means affixed to said second member and extending through said opening of said first member, a hollow post member having a circular transverse cross section larger than said second member and received over said second member, the lower edge of said hollow member having notches to receive the flanges of said first member, thereby to prevent rotation between said first member and said hollow member, and means connecting said hollow member and said second member to prevent separation of said hollow member and said second member.

3. A sign supporting structure according to claim 2 characterized by said U-shaped portion having a plurality of additional openings spaced longitudinally therealong.

4. A sign supporting structure according to claim 1 characterized further by said first member having a portion which is generally U-shaped in transverse cross section with side flanges extending outwardly therefrom, said second member being of a size to be at least partially fit within the U-shaped portion of said first member, said engageable means of said hollow member comprising notches on the lower edge of said hollow member to receive the flanges of said first member.

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EDWARD C. ALLEN, Primary Examiner

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