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(54) Mounting post.

(57) A post, comprising: an elongated shaft (12) formed of cementitious material;

means (14) for reinforcing said shaft, said means being embedded in said cementitious material;

an elongated channel member (16) embedded in said shaft and having an opening facing outwardly of said shaft, said channel member having inwardly turned edges (20) along said opening; and

clip means (24) received in said channel member for supporting and retaining an element (22) on said shaft, said clip means being slidable along said channel member and including side portions dimensioned to abut against said inturned edges to hold said clip means on said channel member.

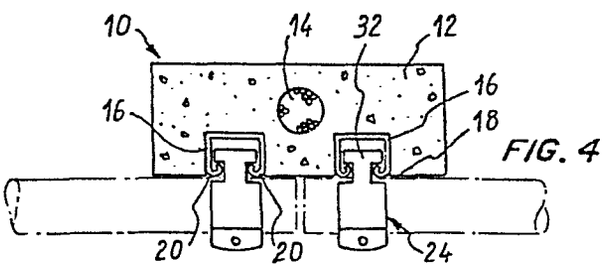

FIG. 4

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MOUNTING POST

The present invention relates to a mounting post for fences, signs or the like, and especially to such posts which are adapted for use in a variety of circumstances for mounting a variety of different elements.

Various post configurations have been suggested for producing durable and versatile posts. For example, U.S. Patent 1,334,881 to Bennett shows a reinforced concrete post which contains stressed reinforcing wires. A fibrous securing strip is attached to the concrete post using bolts. The securing strip can be either molded into the post or can be attached after the post is completed.

U.S. Patent 894,794 to Hufford shows a concrete fence post having reinforcing members in the form of hollow tiles embedded at ground level.

U.S. Patent 786,462 to Percival shows a molded fence post having a series of mortises for receiving the ends of fence rails, wires or the like.

U.S. Patent 888,719 to Mendenhall shows a concrete fence post having reinforcement elements at ground level and having a plurality of bolts embedded in the post. The bolts are used to attach a clamping bar to the post.

One object of the present invention is to provide a mounting post which is highly durable and is sufficiently versatile to be used to mount differing elements.

Another object of the present invention is to provide a mounting post which is relatively easy to construct.

A further object of the present invention is to provide a mounting post which can be produced in different configurations with different external shapes and appearances.

In accordance with the above and other objects, the present invention is a mounting post comprising an elongated shaft formed of cementitious material. Means for reinforcing the shaft are embedded in the cementitious material and an elongated channel member is embedded in the shaft. The channel member has an opening facing outwardly of the shaft. The channel member has inturned edges along the opening. Support means are received in the channel member for supporting and retaining an element on the shaft. The support means are slidable along the channel member and include side

portions dimensioned to abut against the inturned edges to hold the support means within the channel member.

In accordance with other aspects of the invention, the reinforcing means comprises a prestressed steel cable.

The post may also include a sleeve inserted into an upper surface of the post connected directly to the cable. The sleeve has female threads to mate with a bolt on a mechanical post setting device.

In accordance with other aspects of the invention, the support means may comprise a spring bolt including a bolt having outer lateral sides forced against the edges of the channel member by a spring.

The support means may also comprise a wire insert for supporting barbed wire, or the like.

The above and other objects of the present invention will become more readily apparent as the invention is more clearly understood from the detailed description to follow, reference being had to the accompanying drawings in which like reference numerals represent like parts throughout and in which:

Figure 1 is an elevational view showing a first embodiment of the mounting post of the present invention;

Figure 2 is an elevational view showing a second embodiment of the mounting post of the present invention;

Figure 3 is an elevational view showing a third embodiment of the mounting post of the present invention;

Figure 4 is a plan sectional view of the mounting post of Figure 1;

Figure 5 is a top plan sectional view of the mounting post of Figure 2;

Figure 6 is an elevational view of a fourth embodiment of the mounting post of the present invention;

Figure 7 is a top plan view of the mounting post of Figure 6;

Figure 8 is a perspective view showing one clamping element used in the mounting post of Figure 1;

Figure 9 is a plan view showing a wire retainer used in the present invention;

Figure 10 is a perspective view showing the wire retainer of Figure 9 mounted in a channel member of the present invention; and

Figure 11 is a top plan view of an alternate clamping element to be used in the present invention.

Now, with reference to Figures 1, 4 and 8, mounting post 10 will be described in detail. Post 10 includes a shaft 12 containing a prestressed steel cable 14 and two channel members 16.

Shaft 12 is formed of concrete with is strengthened by the prestressed cable 14. Cable 14 can be prestressed to maximum tension using conventional hydraulic equipped forms for mass production. The manufacture of shaft 12 would be apparent to one of ordinary skill in the art and will not be discussed in detail.

Shaft 12 is rectangular in shape with both channel inserts 16 being embedded in the same major surface. Each channel member 16 has an opening 18 facing outwardly of shaft 16 and has a pair of inturned edges 20. The channel inserts 16 may be formed of heavy gauge galvanized steel for maximum corrosion resistance. The length of channel inserts 16 depends on the height at which elements are to be attached. Post 10 is ideal for use as a corral fencing post for attaching rails 22. For this purpose, the channel inserts 16 extend from the top of the post to a position spaced from the point at which

the post enters the ground.

Rails 22 are generally circular, as shown in Figure 8. Clamps 24 are used to attach rails 22 to the channel inserts 16. Each clamp 22 contains symmetrical upper and lower clamp members 26 and 28, respectively, which are connected by a screw and nut connector 30 extending through openings formed in the upper and lower connectors, respectively. Each connector includes an arcuate portion which conforms to the shape of the rail 22, and a flange through which the nut and bolt arrangement 30 passes. Each connector also includes a T-shaped extension 32 which is received within the channel insert. The ends of the T abut against inturned sides 20 of the channel insert. Thus, when screw and nut arrangement 30 is tightened, the T-shaped elements are wedged against the edges 20 to hold the clamp 24 in place.

In order to facilitate insertion of post 10 into the ground, a sleeve 36 is inserted in the top of the post and connected directly to cable 14 by any convenient means. Sleeve 36 has female threading so that a male threaded bolt can be used for fast mechanical installation. The male bolt would be an extension of a setting arm from a post setting machine and would screw into sleeve 36 to thereby allow the arm to raise and

lower post 10 into position. Once placed in the ground, the male bolt would be unscrewed from the female sleeve freeing the arm for receiving the next post to be set.

The external appearance of post 10 can be modified to provide any desired appearance, such as a woodlog texture. This modified appearance can be produced by the form used to manufacture the post itself. Also, rails 22 can be formed of prestressed concrete with an inserted steel cable, if desired. Further, an irridescent chemical may be mixed with the concrete so that the post can be easily visible at night. Such irridescent chemicals are well known and readily available.

Figures 2 and 5 show a rectangular post 10' having channel inserts 16 opening through the minor surfaces of the post. Spring nut assemblies 50 are received in each of the channel inserts 16. Each spring nut assembly includes a nut 52 having a width sufficient to rest against the inturned edges 20 of the channel insert, and a spring 54 which extends between the back of the channel insert 16 and the nut 52 to urge the nut against the inturned edges 20. A wooden plank 54 is attached along each channel insert 16 through the use of bolts 56. It should be noted that the spring nut assemblies 50 can be moved longitudinally along the

channel insert to be positioned where they would be most effective.

Planks 54 serve as effective nailing surfaces for wooden slats 58 which are held with nails 60 extending through the wooden slats into the planks 54.

Figure 3 shows a post 10''' with a single channel insert 16 for use in mounting highway signs, city street signs, or other general post applications. Shown mounted on post 10''' is a gusset 66 which is attached using bolts 68 connected to spring nut assemblies in the channel insert 16. Gusset 66 is of heavy gauge galvanized steel for stabilization and strength in soft or sandy soil. Accordingly, channel insert 16 extends below the ground level of post 10'''. Gusset 16 is designed in a V-shape to permit easy insertion into the ground. In place of gusset 66, other mounting aids may also be attached to channel insert 16.

Figures 6 and 7 show a post 10'''' which is round and contains a single channel insert 16. Post 10'''' is designed for use as vineyard tresseling for machine harvesting of wine grapes. Eyebolts 70 are attached to channel insert 16 through spring nut assemblies 50. Eyebolts 70 are passed through washer 72 before being attached to the spring nuts 50 so that the washers and spring nuts apply pressure to opposite sides

of the inturned edges 20, thereby holding the eye bolts in place to receive vines or the like. Figure 7 also shows a top view of the sleeve 16 used to connect the post of the present invention to a post installing machine.

It should be clearly understood that each of the posts of the present invention is of the same general reinforced concrete construction having a sleeve 16 mounted in the top and connected to the reinforcing steel cable to facilitate insertion of the posts.

In addition to those described above, various other mounting clamps and inserts can be used for attaching elements to the post. For example, Figures 9 and 10 show a clip 80 used for mounting barbed wire 82 to a channel insert 16. Each clip 80 has a protruding nose 84 which extends outwardly of the channel insert 16 and through which the barbed wire 82 passes. At each side of clip 80, a recurved portion 86 is formed to abut against the inwardly curved edges 20 of the channel insert 16 to prevent the clip 80 from being pulled free. Clips 80 can be formed from spring steel or the like so that legs 88 are pressed against the sides of channel insert 16.

Figure 11 shows another arrangement for holding barbed wire or the like. The device in Figure 11 includes a plate 90 having curved edges 92 which fit

behind the inwardly curved edges 20 of a channel insert. A second plate 94 is positioned outside of the channel insert. Plates 90 and 94 are connected by a bolt 96 which pulls the plates together to hold the device onto a channel insert. A spiral wire 98 extends outwardly from plate 94 to hold barbed wire or the like.

The foregoing description is set forth for purposes of illustrating the present invention but is not deemed to limit the protection being sought. Clearly, numerous additions, substitutions and other changes can be made to the invention without departing from the scope thereof as set forth in the appended claims.

WHAT IS CLAIMED IS:

1. A post, comprising:

an elongated shaft (12) formed of cementitious material;

means (14) for reinforcing said shaft, said means being embedded in said cementitious material;

an elongated channel member (16) embedded in said shaft and having an opening facing outwardly of said shaft, said channel member having inwardly turned edges (20) along said opening; and

clip means (24) received in said channel member for supporting and retaining an element (22) on said shaft, said clip means being slidable along said channel member and including side portions dimensioned to abut against said inturned edges to hold said clip means on said channel member.

2. A post according to Claim 1, wherein said reinforcing means comprises a prestressed steel cable extending throughout the length of said shaft.

3. A post according to Claim 2, further including a threaded sleeve connected to said steel

cable, said threaded sleeve being exposed through an end of said shaft for attachment to a post setting machine.

4. A post according to Claim 1, wherein said support and retaining means comprises a bolt received in said channel member, and means for biasing said bolt against said inturned edges.

5. A post according to Claim 1, wherein said means for supporting and retaining an element on said shaft comprises a clamp having complementary clamp halves, means for urging said clamp halves toward one another, and means on each of said clamp halves for extending into said channel member and holding said clamp half against said channel member.

6. A post according to Claim 1, wherein said means for supporting and retaining an element comprises a spring steel wire member having a open nose portion extending from said channel member, and spring loaded legs forced against sides of said channel member.

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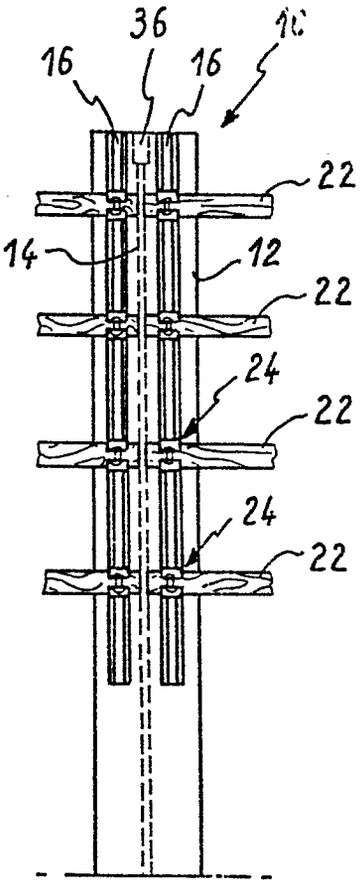

FIG. 1

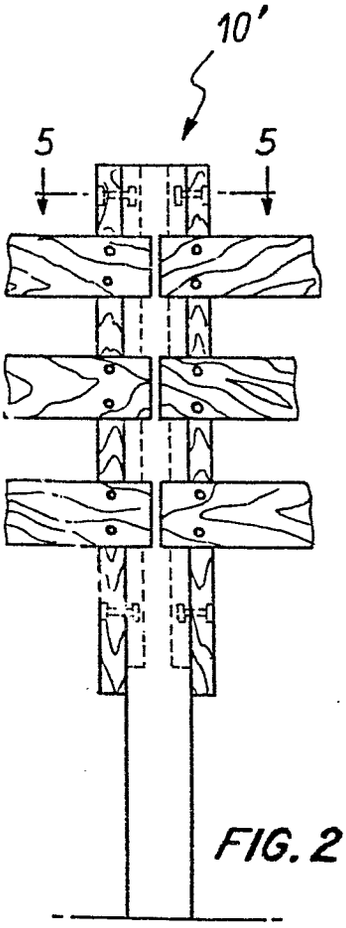

FIG. 2

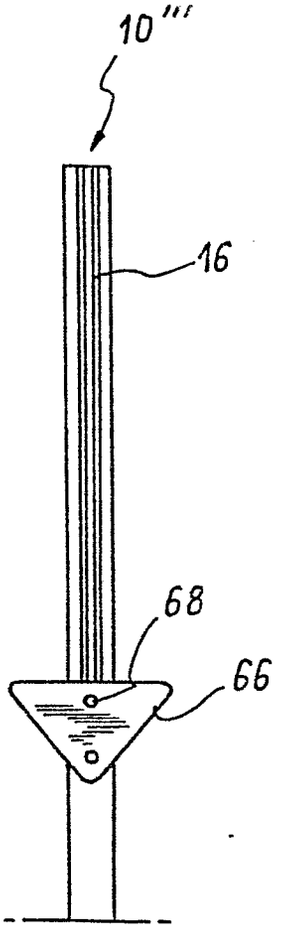

FIG. 3

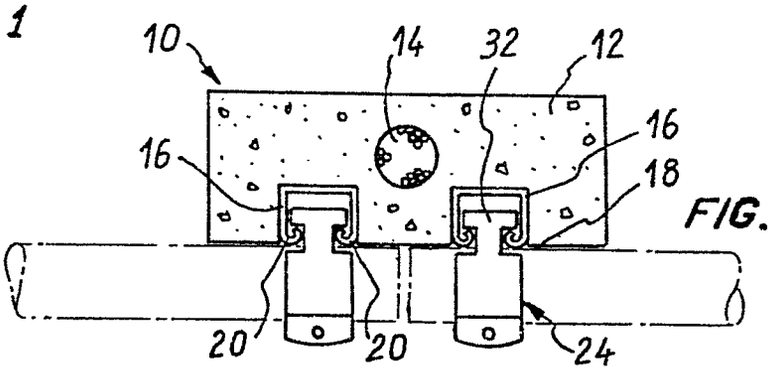

FIG. 4

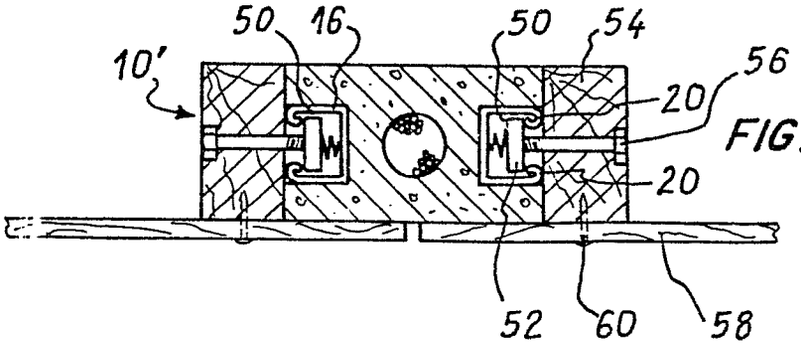

FIG. 5

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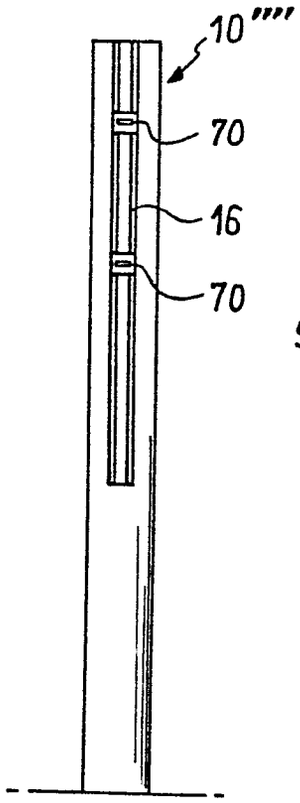

FIG. 6

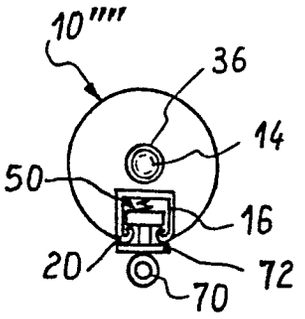

FIG. 7

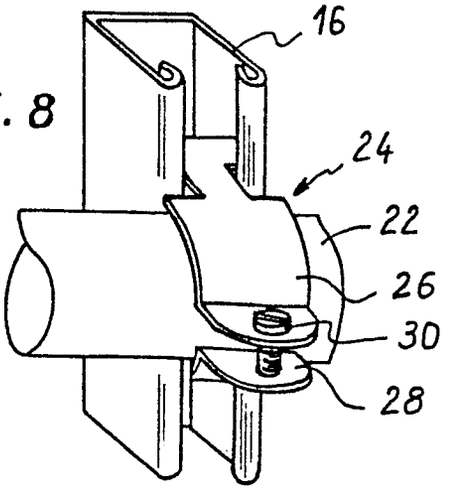

FIG. 8

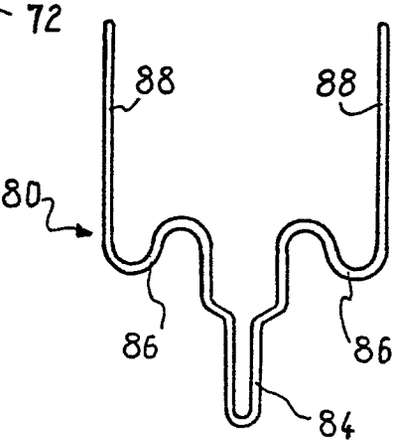

FIG. 9

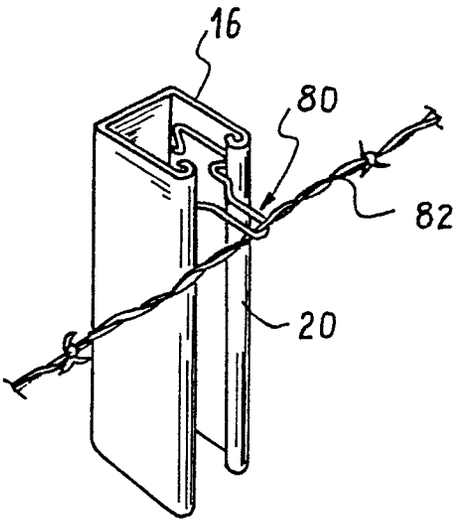

FIG. 10

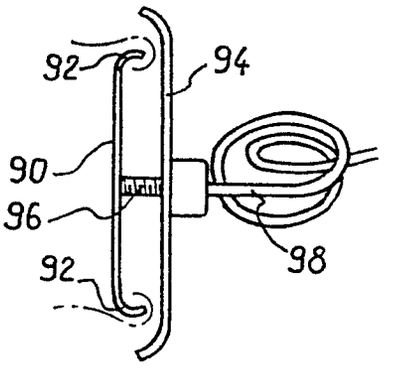

FIG. 11