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Caldwell et al.

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[54] **MULTI-PURPOSE STAKE**

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[73] Assignee: **Grizzly Corporation,** Jacksonville, Ill.

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[52] **U.S. Cl.** ..... **248/156,** 52/677, 135/15 PE, 248/70, 248/87, 256/57

[51] **Int. Cl.** **A45f 3/44,** E04c 5/16

[58] **Field of Search** ..... 248/70, 87, 156; 211/29; 135/15 PE; 256/57; 52/155, 370, 677, 679

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[57] **ABSTRACT**

A disposable, inexpensive, multi-purpose stake of V-shape horizontal cross section having a sharpened end for penetrating the earth and a flat end for driving therein with a plurality of spaced apertures spaced along its length and a flange extending outwardly from the free ends of each of the legs of said "V" and interchangeable attachments to be used thereon either as a screed support for concrete flat work, as a nail stake for concrete form board installations, as a tent tethering peg, or as a grade stake having a simple attachment of a banner thereto.

1 Claim, 7 Drawing Figures

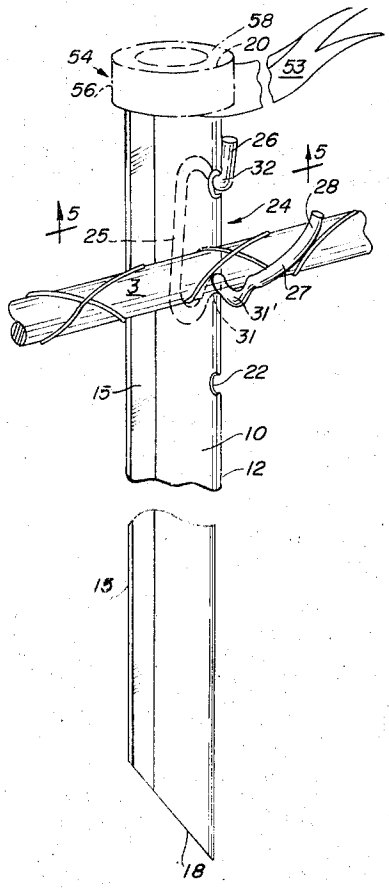


FIG - 1

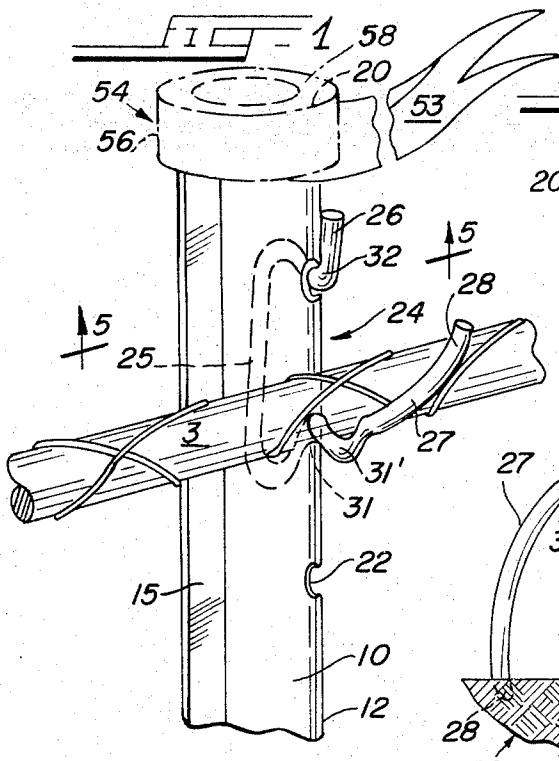
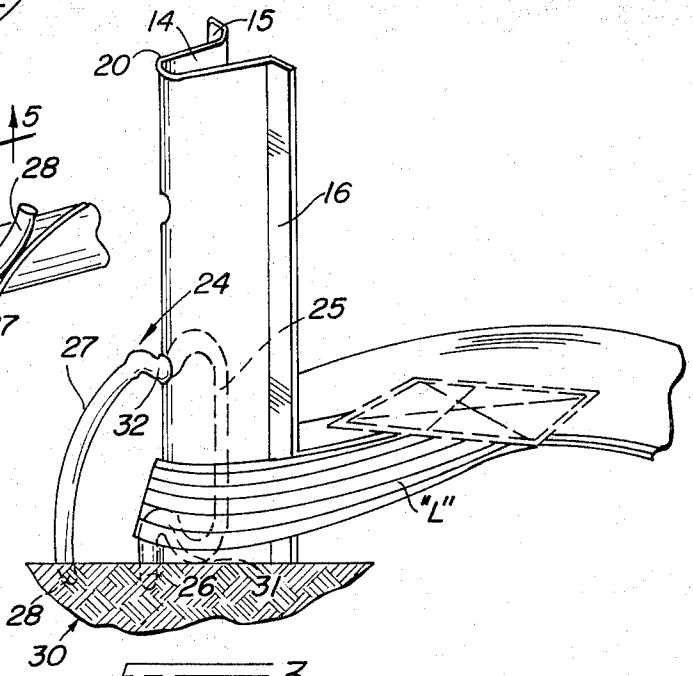


FIG - 2



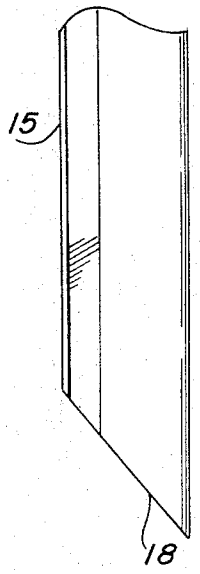


FIG - 3

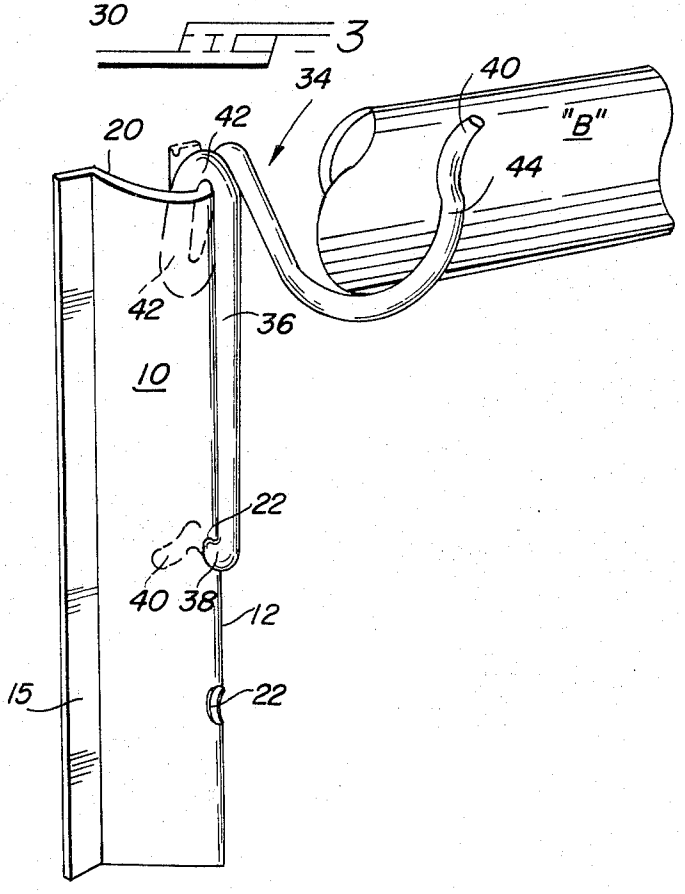


FIG. 4

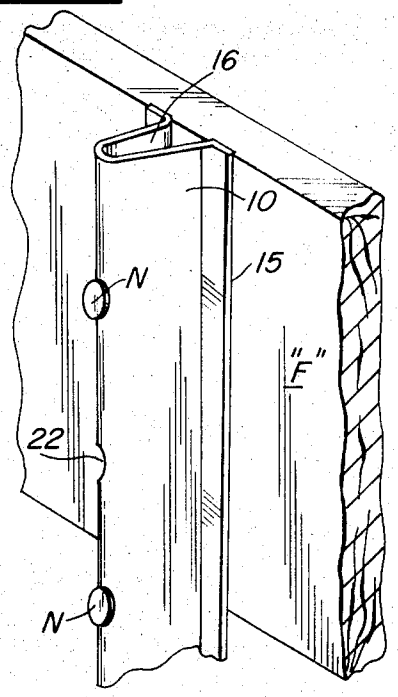


FIG. 5

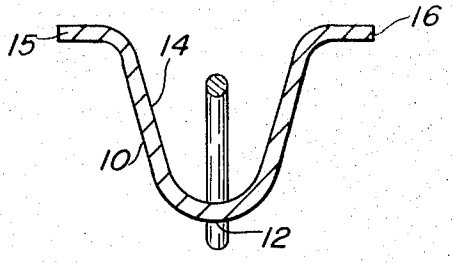


FIG. 7

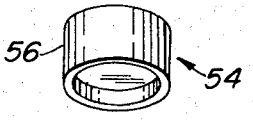
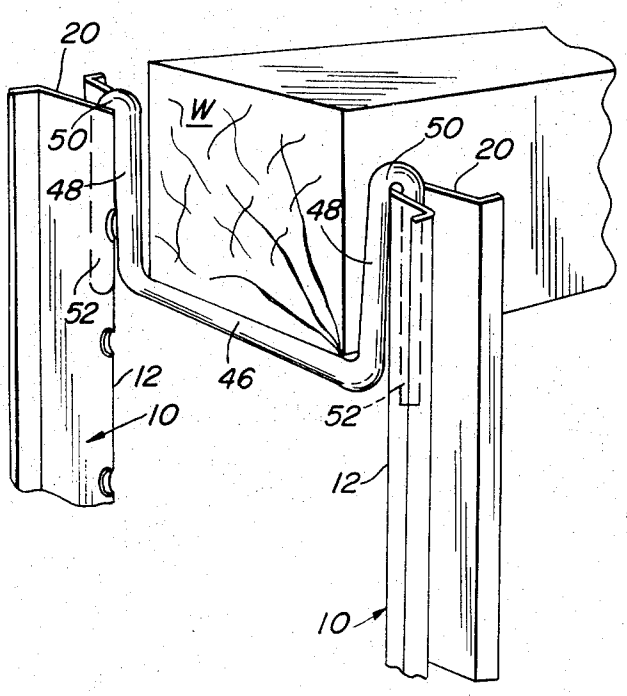


FIG. 6



MULTI-PURPOSE STAKE

BACKGROUND OF THE INVENTION

In the leveling up of grades or the striking off of concrete pavement slabs by screeding, in the tethering of animals with a rope or chain as for grazing, in the extending of canvas supported by one or more poles with a rope as for tenting, or in the construction of concrete form boards, it has been customary to use wooden stakes, posts, pegs or poles. Wooden stakes, posts, pegs or poles all suffer from the same disability in that they do not have the strength and tenacity that is characteristic of steel in similar applications and under the repeated blows of a hammer or sledge, all tend to disintegrate and soon must be thrown away. Expensive lumber thus wasted, like the nailing of a banner to a wood pole to make a grade stake, is costly and does not make for job profit, and is ecologically unsound.

There is thus an economic need for an inexpensive, one-time use stake suitable for serving such multi-purpose applications as stated above wherein the selection is made of the particular attachment chosen for the application desired. Such a stake would in itself be a nail stake and by simple conversion with a banner attached thereto, be a grade stake, or with an interchangeable attachment, a screed bar support stake, a tethering post or a tent peg, as the case may be.

SUMMARY OF THE INVENTION

The gist of this invention lies in the adaptation of a V-shaped section, thin sheet-metal stake having a sharpened end for penetrating and a flat end for driving the stake into the ground to receive a set of interchangeable attachments that serve a variety of purposes for converting the stake to either a grade or a nail stake, a tethering or a tent peg, or a screed bar support stake, as may be desired. The stake comprises a U or V-shaped crown with the free ends each extending at right angles outwardly therefrom. A series of apertures in the crown of the V-shaped section spaced along the length of the crown convert it to a nailing stake for concrete form work.

A soft plastic cap for attaching the banner to the flat end of the stake converts the stake to a grade stake or an advertising banner. The attachment end of the banner enveloping the flat end of the rod has the plastic cap forcibly slid thereover securing the banner thereto.

The series of apertures in the crown of the V-shaped section spaced along the length of the stake also comprise the points of support of the interchangeable attachments enumerated for the variety of special purposes. An open C-shaped hook of spring-steel wire having two adjacent stub sections each with extending stub-ends for insertion in the apertures in the stake converts it to a reinforcing bar holder or in an inverted arrangement to a tethering or a tent peg attachment.

An open hook of spring-steel wire having a straight length with a foldover loop at one end for clamping onto the top edge of the stake terminating in a single hooked section for snap-in insertion through one of the apertures in the crown of the sheet-metal V-shaped section of the stake converts the stake for use as a screed bar support attachment.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a perspective view of the stake of this invention including the reinforcing bar holder attachment conversion, also showing in dash outline an attachment as a grade, advertising or direction stake;

FIG. 2 is a fragmentary perspective view of a tent peg attachment conversion of the stake;

FIG. 3 is a fragmentary perspective view of a screed bar support attachment conversion of the stake;

FIG. 4 is a fragmentary perspective view of the nailing stake conversion of the stake for concrete forms;

FIG. 5 is a fragmentary cross-sectional view of the half-section, sheet-metal stake along line 5—5 of FIG. 1;

FIG. 6 is a fragmentary perspective view of a dual stake wooden screed bar support conversion of the stake; and

FIG. 7 is a perspective view of a plastic cap for attachment of the banner to the stake.

DETAILED DESCRIPTION

Referring to the drawings, particularly FIG. 1, a sheet-metal stake 10 of V-shaped cross-section having a crown 12 with an inner side 14 and flanges 15 and 16 located astride and below said crown 12, as shown in FIG. 5, is provided with a sharpened end 18, as shown in FIG. 1, and a flat end 20. A plurality of spaced apertures 22 are located in the crown 12 intermediate of the sharpened end 18 and the flat end 20 for the reception, for instance, of one of the attachment holders as shown in FIGS. 1, 2 and 3 or for the reception of nails N to anchor a form board F for use when laying concrete, as shwon in FIG. 4.

A snap-in attachment made of one piece of spring-steel wire converts the stake 10 to, for instance, a reinforcing rod holder by using a pair of spaced stakes 10, only one of which is shown in FIG. 1. The attachment of FIG. 1 comprises a clip member 24 formed by a straight back section 25 having a first detent 31 which is offset in relation to and extends inwardly in relation to the lower end thereof. A second detent 31′ in said snap-in attachment connects to and is offset in relation with and extends outwardly from and coplanar with the detent 31. A hook 27 extends inwardly and upwardly from the second detent 31′ at the lower end of said straight back section 25 and terminates in a stub end 28. A stub end 26 which extends upwardly and outwardly from and connects to a detent 32 at the upper end of back section 25 terminates the upper end thereof. The stub ends 26 and 28 lie in the plane of the hook 27 and the back 25 and are separated from each other by a gap 30. The stub ends 26 and 28, the detents 31 and 32 and the apertures 22 form the means of attachment of the clip 24 to the stake 10. Attachment of the hook 27 thereto is achieved by compressingly springing the stub ends 26 and 28 inwardly toward each other and inserting the same into the spaced apertures 22 in the stake 10. The stub ends 26 and 28 are threaded therethrough from the inner side 14 of the crown 12 of the stake up to the extent of the detents 31 and 32 in the clip 24, as shown in FIG. 1. The extensible urging of the compressively sprung clip 24 secures the detents 31 and 32 in the spring wire in the apertures. Thus one end of the reinforcing rod 33 may be placed on and supported by the hook 27.

A snap-in attachment made of spring-steel wire for converting the stake 10 to a tent or a tethering peg using a single stake 10, as shown in FIG. 2, comprises the same clip member 24 as described above in the same geometric relation but here attached to the stake

in inverted relation into the apertures **22** whereby the loop L which is sewn to the bottom of a tent or tethering leash is supported on the crown **12** between the stub ends **26** and **28** of the hook **27.** As shown in FIG. **2,** the stake **10** is hammered in the ground whereby the stub **28** also is driven into the ground nearby to prevent accidental displacement of the loop L.

A snap-on attachment made of spring-steel wire for converting the stake **10** for supporting one end of a bar B which may be used as a support for one end of a screed for leveling fluid concrete is shown in FIG. **3.** Of course, a second stake and similar attachment are needed to support the opposite end of the bar B. In FIG. **3,** the clip member **34** comprises a straight section **36** having a detent **38** at a lower end thereof which is offset and extends inwardly therefrom and which terminates in a stub end **40** which extends downwardly from and is connected to said detent **38.** The stub end **40** is inserted into one of the apertures **22** in said stake **10** and threaded from the outer side of the crown **12** thereof up to the extent of the detent **38** in the clip **34,** as shown in FIG. **3.** A bent-back loop **42** which is first bent downwardly and then back upwardly and which is offset and inwardly extending from and connected to an upper end of said straight section **36** slidably engages and tightly clamps the straight section **36** against the outer face of the crown **12** adjacent to the flat end **20** of the top of stake **10** in the installation of the clip member **34** to the stake **10.** As this takes place, the stub end **40** is threaded into one of the apertures **22** to secure the clip **34** to the stake **10.** A semi-loop **44** is connected to bent-back loop **42** and extends from the upper end thereof forwardly in a direction opposite to the backward direction of the bent-back loop **42** and saddlably mounts one end of the tubular bar B therein.

A slide-on attachment made of one piece spring-steel wire for converting the stake **10** to a dual screed bar holder using two stakes **10** spaced apart and driven into the ground with their respective crowns **12** facing each other, as shown in FIG. **6,** comprises a saddle support **46** for vertical location and support of a 2 × 2 inch wooden bar W or a metal pipe or tube. Similar stakes and attachment are positioned at the opposite end of the bar W. Twin vertical side sections **48** which are spaced apart from each other a distance slightly over 2 inches and which are connected to the ends of the saddle support **46** slidably contact the crowns **12** of the opposed stakes **10** and locate the bar sidewise. Free ends **52** of the section **48** are bent back upon themselves to form loops **50** at said upper ends of the side sections **48** and project straight downwardly closely adjacent the side sections **48,** for slidably engaging the inner side and outer walls forming the crown **12** of each of the dual stakes **10** thereby securing the dual screed bar support attachment to the same.

One end of a banner **53** is placed on the flat end **20** of stake **10** and fastened thereon by a soft plastic cap **54** having a cylindrical side **56** and a closed top **58,** as shown in FIG. **1,** for a grade stake or advertising or directional conversion. Cap **54** is slidably engaged over the flat end **20** of stake **10** with the banner **52** inserted therebetween for attachment thereto. The stake **10** would be hammered in the ground where desired and the cap and banner attached as aforesaid.

The stake of this invention is stamped out of inexpensive, low-grade sheet steel having a thickness of about 1/32 inch. As such, the stake need not be recovered but allowed to rust away as the total cost of the stake and appurtenances is very inexpensive.

It will be understood that the details of construction shown may be altered or omitted without departing from the spirit of the invention as defined by the appended claims.

We claim:

1. The combination of a multi-purpose stake having a sharp end and a flat end for driving into the ground comprising:

a. a pair of walls of V-shaped cross-section having a crown with inner and outer sides, and a flange extending outwardly from each of the free ends of said cross-section of said walls;

b. a pair of spaced apertures in said crown adjacent said flat end; and

c. a one-piece, formed spring-wire, snap-in attachment means on said stake, said attachment means comprising:

1. a straight back section having an upper and lower end,

2. first and second detents offset and extending upwardly and downwardly, respectively, from and in coplanar relationship with each end of said straight back section,

3. a stub end extending upwardly from and connected to said second detent in parallel relationship with said straight back section,

4. a third detent offset and extending downwardly from and connected to said first detent, and

5. a hook coplanar with the first detent section extending upwardly from and connected to the third detent,

whereby, when said stub end and said hook are inserted through said apertures from the rear end of said crown, the straight back section will be thereagainst and said stub end and said hook will extend from the front surface of said crown.

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