A universal offset traffic sign bracket includes a first clamp cantilevered from a base support, the first clamp including a clamp beam, a fixed member connected to an end of the first clamp beam, and a moving member movably connected to the first clamp beam; a second clamp connected to the first clamp moving member and compressible against the first clamp fixed member, the second clamp including a spike plate for gripping a traffic sign post between the spike plate and the first clamp fixed member.
UNIVERSAL OFFSET TRAFFIC SIGN BRACKET

CROSS-REFERENCE TO RELATED APPLICATION

[0001] This non-provisional application claims priority to co-pending Provisional Application Ser. No. 61/128,363, filed May 20, 2008, and which is herein incorporated by reference.

FIELD OF THE INVENTION

[0002] The present invention relates to brackets for traffic signs. More particularly, the present invention relates to apparatus for mounting traffic signs using an offset base and universally adaptable bracket.

BACKGROUND

[0003] Traffic signs frequently must be mounted along the side of roads so that the display portion is close to the edge of the traffic, but the base support cannot be set close to the traffic pattern. Often such signs must be set up temporarily for transient road conditions or construction, but often they are permanently mounted this way. The base support must be mounted offset, safely away from the traffic on the road, and the display portion of the sign must be supported in a cantilevered fashion.

[0004] Although techniques for mounting an offset sign using cantilevered support is known, the problem arises that each installation must be custom designed and built, which drives up costs and time. This is especially true for traffic signs installed temporarily for road construction, transient hazards, or detours. A standardized solution, which can be used essentially universally for traffic signs, would save substantial cost and time.

[0005] Most standard traffic signs come equipped with an attachment system to fix the sign to a wooden, fiberglass, wood-plastic composite, or aluminum post—generally the materials are soft enough to be drilled through—but the posts are of non-uniform thickness because they are often procured separately or locally. Often the posts are reused with new projects. The cross-sections of these posts also vary in shape—some are square, rectangular, or round. Therefore, a universal traffic sign offset mounting bracket should be compatible with this standard traffic sign attachment system, and with mounting posts of various dimensions, shapes.

[0006] The offset distance required for each sign also varies, but for most applications falls within a range of up to 6 feet (2 meters).

[0007] Thus, there is a need for an offset traffic sign bracket that can that is compatible with most standard traffic and hazard sign attachment systems, that can adjust the offset distance within a range, and can accommodate a variety of mounting post dimensions and materials.

SUMMARY AND ADVANTAGES

[0008] A universal offset traffic sign bracket, includes a first clamp cantilevered from a base support, said first clamp including a clamp beam, fixed member connected to an end of said first clamp beam, and a moving member movably connected to said first clamp beam, and, a second clamp connected to said first clamp moving member and compressible against said first clamp fixed member, said second clamp including a spike plate for gripping a traffic sign post between said spike plate and said first clamp fixed member.

[0009] A universal offset traffic sign bracket for mounting a traffic sign to a sign post, said universal offset traffic sign bracket including a sliding clamp, said sliding clamp including: a clamp beam including first end and second ends, a fixed compression element fixedly attached to said clamp beam proximal to said first end and projecting approximately normal to said clamp beam, a sliding compression element including a base and a projecting end, said sliding compression element mounted slidingly to said clamp beam at said base and between said fixed compression element and said second end of said clamp beam, and projecting normal to said clamp beam in the same orientation as said fixed compression element, wherein said sliding compression includes locking means for locking said sliding compression element at a selected point along said clamp beam, and mounting means proximal to said clamp beam second end for attaching said clamp beam to a support, such sliding compression element further including a threaded compression member threaded through said projecting end, and a gripping member comprising a spike plate with a stiffening member.

[0010] The universal traffic sign bracket of the present invention presents numerous advantages, including: (1) simplicity and ease of use; (2) ability to mount a wide variety of sign posts; (3) ability to use a standard bracket with virtually all roadside signs; (4) flexibility of positioning for cantilevered use; (5) ability to safely position even temporary signs offset from the road side to element collision hazards with sign poles.

[0011] Additional advantages of the invention will be set forth in part in the description which follows, and in part will be obvious from the description, or may be learned by practice of the invention. The advantages of the invention may be realized and attained by means of the instrumentalities and combinations particularly pointed out in the appended claims. Further benefits and advantages of the embodiments of the invention will become apparent from consideration of the following detailed description given with reference to the accompanying drawings, which specify and show preferred embodiments of the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] The accompanying drawings, which are incorporated into and constitute a part of this specification, illustrate one or more embodiments of the present invention and, together with the detailed description, serve to explain the principles and implementations of the invention.

[0013] FIG. 1 shows a perspective view of an embodiment of a universal offset traffic sign bracket is shown.

[0014] FIG. 2 shows a perspective exploded view of an embodiment of a universal offset traffic sign bracket is shown.

[0015] FIG. 3 shows a side view of an embodiment of a universal offset traffic sign bracket is shown.

[0016] FIG. 4 shows another side view of an embodiment of a universal offset traffic sign bracket is shown.

REFERENCE NUMBERS USED IN DRAWINGS

[0017] Turning now descriptively to the drawings, in which similar reference characters denote similar elements throughout the several views, the figures illustrate the present inven-
tion. With regard to the reference numerals used, the follow-
ing numbering is used throughout the various drawing figures:

| [0018] | 10 UNIVERSAL TRAFFIC SIGN BRACKET  
| [0019] | 20 SLIDING CLAMP  
| [0020] | 22 SLIDING CLAMP BEAM  
| [0021] | 24 SLIDING CLAMP BEAM FIRST END  
| [0022] | 26 SLIDING CLAMP BEAM SECOND END  
| [0023] | 27 CLAMP BEAM MOUNTING MEANS  
| [0024] | 28 FIXED COMPRESSION MEMBER  
| [0025] | 29 SLIDING COMPRESSION MEMBER  
| [0026] | 30 Threaded Compression Member  
| [0027] | 32 Sliding Compression Member Base  
| [0028] | 34 Sliding Compression Member Proj-ecting End  
| [0029] | 35 Sliding Compression Member Locking Means  
| [0030] | 36 Threaded Rod  
| [0031] | 37 Threaded Compression Element Flat Facing Element  
| [0032] | 38 Threaded Compression Element Handle  
| [0033] | 40 Gripping Member  
| [0034] | 42 Spike Plate  
| [0035] | 44 Stiffening Member  
| [0036] | 46 Spikes  

**DETAILED DESCRIPTION**

[0037] Before beginning a detailed description of the sub-
ject invention, mention of the following is in order. When
appropriate, like reference materials and characters are used
to designate identical, corresponding, or similar components
in differing figure drawings. The figure drawings associated
with this disclosure typically are not drawn with dimensional
accuracy to scale, i.e., such drawings have been drafted with
a focus on clarity of viewing and understanding rather than
dimensional accuracy.

[0038] In the interest of clarity, not all of the routine fea-
tures of the implementations described herein are shown and
described. It will, of course, be appreciated that in the de-
velopment of any such actual implementation, numerous imple-
mentation-specific decisions must be made in order to
achieve the developer’s specific goals, such as compliance
with application- and business-related constraints, and that
these specific goals will vary from one implementation to
another and from one developer to another. Moreover, it will
be appreciated that such a development effort might be com-
plex and time-consuming, but would nevertheless be a routine
undertaking of engineering for those of ordinary skill in the
art having the benefit of this disclosure.

[0039] A universal offset traffic sign bracket is provided,
including a first clamp cantilevered from a base support, said
first clamp including a clamp beam, fixed member connected
to an end of said first clamp beam, and a moving member
movably connected to said first clamp beam, and a second
clamp connected to said first clamp moving member and
compressible against said first clamp fixed member, said sec-
ond clamp including a spike plate for gripping a traffic sign
post between said spike plate and said first clamp fixed mem-
er.

[0040] A universal offset traffic sign bracket includes a
sliding clamp, said sliding clamp including a clamp beam
including first end and second ends, a fixed compression
element fixedly attached to said clamp beam proximal to said
first end and projecting approximately normal to said clamp
beam; a sliding compression element including a base and a
projecting end, said sliding compression element mounted
slidingly to said clamp beam at said base and between said
fixed compression element and said second end of said clamp
beam, and projecting normal to said clamp beam in the same
orientation as said fixed compression element, wherein said
sliding compression includes locking means for locking said
sliding compression element at a selected point along said
clamp beam, and mounting means proximal to said clamp
beam second end for attaching said clamp beam to a support,
sliding compression element further including a threaded
compression member threaded through said projecting end,
and a gripping member comprising a threaded compression
member.

[0041] Referring to FIGS. 1 through 5, an embodiment for
a universal offset traffic sign bracket 10 includes a first clamp
20 cantilevered from a base support (not shown). First clamp
20 includes clamp beam 22, fixed member 29 connected to an
d24 of first clamp beam 22, and moving member 30 mov-
ably connected to first clamp beam 22. Second clamp 30, in an
embodiment a threaded compression member, is connected to
first clamp moving member 29 and is compressible against
first clamp fixed member 28. Second clamp 30 includes a
spike plate 42 for gripping a traffic sign post between spike
plate 42 and first clamp fixed member 28.

[0042] Referring to FIGS. 1 through 5, an embodiment for
a universal offset traffic sign bracket 10 includes a sliding
clamp 20 and a second clamp 30. Sliding clamp 20 includes
clamp beam 22 with first end 24 and second end 26. Fixed
compression element 28 is fixedly attached to clamp beam
22 proximal to first end 24 and projects approximately normal
to clamp beam 22. Sliding compression element 29, which
moves along clamp beam 22, includes base 32 and a project-
ing end 34. Sliding compression element 29 is mounted slid-
ingly to clamp beam 22 at base 32 between fixed compression
element 28 and second end of clamp beam 26, and projects
normal to clamp beam 22 in the same orientation as fixed
compression element 28. Sliding compression element 29
includes locking means 35 for locking sliding compression
element 29 at a selected point along clamp beam 22. In an
embodiment locking means 35 consists of a set screw. Mount-
ing means 27 is located proximal to clamp beam second end
26 for attaching clamp beam 22 to a support. In an embodi-
ment, mounting means 27 consists of bolt holes for receiving
threaded fasteners or rivets. Alternatively, clamp beam 22
may extend full length and provide its own base, which can be
planted into the ground or concrete, or mount to a structural
member of a road, bridge, etc.

[0043] Sliding compression element 29 includes a threaded
compression member 30 threaded through projecting end 34.
Threaded compression member 30 includes a threaded rod 36
with handle 38. Flat facing element 37 is rotatingly attached
to threaded rod 36, so that it will remain fixed against stiffener
40 as threaded rod 36 is threaded tight.

[0044] Gripping member 40 consists of a spike plate 42
with a stiffening member 44. Spike plate 42 is a flat plate with
protruding spikes 46. In an embodiment stiffening member
44 consists of a square tube member, for simplicity. In an
embodiment spike plate 42 and stiffening member 44 are
made from steel, so as to be harder than the typical sign post
material to be gripped. Flat facing element 37 can be attached
to stiffening member 44, and stiffening member 44 can be
attached to spike plate 42, by welding, through industrial
strength glue, and other means well known and understood by those of ordinary skill in the art. [0045] In operation, a universal offset traffic sign bracket may be mounted first to a base using mounting means 27. Mounting may be vertical or horizontal, depending on the desired orientation of the traffic sign. Alternatively, clamp beam 22 may extend far enough that second end 26 is planted in the ground or into a concrete base. After being set in place, bracket 10 receives a traffic sign post (not shown) between fixed compression member 28 and sliding element 29. Sliding element 29 is unlocked, and slid along clamp beam 22 until close to the sign post. Gripping member 40 is then inserted between threaded compression member 30 and the traffic sign post, with the spike plate 42 against the sign post. Turning threaded compression member handle 38 extends threaded compression member 30, thereby compressing spike plate 42 against the sign post, so that spikes 46 dig into and hold firm the sign post. Stiffening member 44 provides structural support and distributes the force along a length of the sign post for stability.

[0046] The two-stage clamping system, providing gross adjustment using sliding member 29 and final adjustment using threaded compression member 30 allows for speed and simplicity in mounting, and accommodates a wide variety of sign post sizes. Spike plate 42 provides the ability to tightly engage most sign posts by digging into the sign post, as they are generally either wood or wood/plastic composite material. However, where spike plate 42 and stiffening member 44 are made from steel, even an aluminum sign post is grippable, as the spikes will still be able to dig slightly into the aluminum post for gripping. Thus, the universal offset traffic sign bracket provides a simple and rapid means to mount virtually any standard traffic sign in the desired orientation.

[0047] Those skilled in the art will recognize that numerous modifications and changes may be made to the preferred embodiment without departing from the scope of the claimed invention. It will, of course, be understood that modifications of the invention, in its various aspects, will be apparent to those skilled in the art, some being apparent only after study, others being matters of routine mechanical, chemical and electronic design. No single feature, function or property of the preferred embodiment is essential. Other embodiments are possible, their specific designs depending upon the particular application. As such, the scope of the invention should not be limited by the particular embodiments herein described but should be defined only by the appended claims and equivalents thereof.

1. A universal offset traffic sign bracket, comprising:
   a. a first clamp cantilevered from a base support, said first clamp including a clamp beam, fixed member connected to an end of said first clamp beam, and a moving member movably connected to said first clamp beam;
   a second clamp connected to said first clamp moving member and compressible against said first clamp fixed member, said second clamp including a spike plate for gripping a traffic sign post between said spike plate and said first clamp fixed member.

2. A universal offset traffic sign bracket comprising:
   a. a sliding clamp, said sliding clamp including:
      a. a clamp beam including first end and second ends;
      a fixed compression element fixedly attached to said clamp beam proximal to said first end and projecting approximately normal to said clamp beam;
      a sliding compression element including a base and a projecting end, said sliding compression element mounted slidingly to said clamp beam at said base and between said fixed compression element and said second end of said clamp beam, and projecting normal to said clamp beam in the same orientation as said fixed compression element,
   wherein said sliding compression includes locking means for locking said sliding compression element at a selected point along said clamp beam; and,
   a gripping member comprising a spike plate with a stiffening member.

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