The invention described herein is a fence post bracket for inserting into a retaining wall or other structure capable of securely holding a fence post. The fence post bracket offsets the placement of the fence post from the center of the retaining wall so that the fence post placement is on the actual perimeter of the wall and not in the center. This results in a significant increase in usable land for large fenced areas.
FENCE POST BRACKET

BACKGROUND OF THE INVENTION

[0001] Retaining walls are used all over the world in thousands of different environments to support massive amounts of earth seeking the path of gravity. They are commonly made of blocks of concrete and/or other materials which are stacked and shaped depending on the desired end use. The blocks of these retaining walls usually have a hollow section therein. Often one desires to build a fence on top of the retaining wall. The fence does not require the structural capabilities of the concrete wall, and may thus be made of wood or similar materials.

[0002] The prior art teaches to build such a fence on top of the concrete block, generally centrally located over the block because that is how the blocks were designed. This is because fence post brackets of the prior art are designed to be connected to the concrete block in the hollow section of the concrete block, which is generally centrally located on the block. By connecting the fence post brackets this way, the prior art fence post brackets only displace the fence post vertically, directly above the central portion of a concrete block. The problem with this arrangement is that there is territory outside of the fence post and above the concrete block that is not captured by the fence, and is effectively lost to the owner. Depending on the size of the retaining wall block and fence and the number of feet of retaining wall, this lost amount of usable land may be worth a significant amount of money.

[0003] Fence post brackets according to the instant invention are designed to solve this problem by providing a fence post bracket that enables the fence post to be displaced to the edge of the retaining wall, thus capturing a significant amount of more “fenced-in” property for the owner.

SUMMARY OF THE INVENTION

[0004] In one embodiment of the invention there is disclosed a bracket for supporting a fence post comprising a base plate having a first end and a second end, a first fence post support plate capable of having a fence post attached thereto attached to the base plate at the first end and extending up from the base plate in a substantially orthogonal relationship to the base plate, and means for connecting the bracket to a structure positioned on the base plate at a position between the first fence post support plate and the second end. In another embodiment the bracket comprises a second fence post support plate. In another embodiment the second fence post support plate is positioned on the base plate between the first fence post support plate and the second end, and extends up from the base plate in a substantially orthogonal relationship to the base plate, and the first and second fence post support plates are substantially parallel to each other. In another embodiment the second fence post support plate comprises a first section capable of having, a fence post attached thereto and a second section attached to the first section, wherein the second section comprises means for connecting the bracket to a structure, and the second fence post support plate is attached to the edge of the second end. In another embodiment there is at least one aperture in each of the first and second fence post support plates. In another embodiment the means for connecting the bracket to a structure comprises at least one solid metal rod. In another embodiment the support means for supporting the second fence post support plate to the base plate and the means for connecting the bracket to a structure comprises a base plate between the second fence post support plate and the second end. In another embodiment the first fence post support plate is positioned at the first end of the base plate, and the support means for supporting the second fence post support plate comprises a brace comprising a first end attached to the base plate and a second end attached to the second fence post support plate. In another embodiment the second end of the brace is attached to the second fence post support plate at an angle of between 25° and 35°, more preferably between 29° and 31°. In one embodiment the first end of the brace is attached to the base plate at the second end. In another embodiment a third fence post support plate is attached to the base plate and extends up from the base plate in a substantially orthogonal relationship to the base plate, and the third fence post support plate is disposed substantially orthogonally to the first and second fence post support plates.

BRIEF DESCRIPTION OF THE DRAWINGS

[0005] The present invention will be readily understood by the following detailed description in conjunction with the accompanying drawings.

[0006] FIG. 1 shows a fence post bracket in accordance with one embodiment of the present invention.

[0007] FIG. 2 shows a fence post bracket in accordance with one embodiment of the present invention holding a fence post while the bracket is installed inside a retaining wall.

[0008] FIG. 3 shows a side view of a fence post bracket in accordance with one embodiment of the present invention holding a fence post while the bracket is installed inside a retaining wall.

[0009] FIG. 4 shows a prior art fence post installed in a retaining wall.

[0010] FIG. 5 shows a fence post bolted to a fence post bracket in accordance with one embodiment of the present invention installed in a retaining wall.

[0011] FIG. 6 shows a fence post bracket in accordance with one embodiment of the present invention.

[0012] FIG. 6A shows a top view of FIG. 6.

[0013] FIG. 7 shows a fence post bracket in accordance with one embodiment of the present invention.

[0014] FIG. 7A shows a top view of FIG. 7.

[0015] FIG. 7B shows a top view of FIG. 7, with modifications.

[0016] FIG. 8 shows the fence post bracket of FIG. 7 installed in a retaining wall.

[0017] FIG. 9 shows a fence post bracket in accordance with one embodiment of the present invention.

[0018] FIG. 10 shows the bracket of FIG. 9 installed in a retaining wall.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0019] The present invention will be described in connection with particular embodiments using the attached Figures. These embodiments are illustrative only of the present invention, and not exhaustive of the inventions embodiments.

[0020] FIG. 1 depicts a bracket 1 in accordance with a preferred embodiment of the present invention. Bracket 1 comprises a base plate 3 having a first end 4 and a second end 5. The invention contemplates that the base plate 3 may be any length or width depending on the desired end use so long as
the fence post bracket 1 is capable of supporting a fence post. The width of the base plate 3 is generally dictated by the size of fence post being installed. For example a 4-inch base plate 3 is appropriate for a 4-inch fence post. The width of the base plate 3 may be larger or smaller than the fence post if so desired. The base plate 3 may be larger if there is supplemental hardware such as an external basket installed inside between the first fence post support plate 6 and the second fence post support plate 7. The base plate 3 may be any length desired depending on the amount of offset of the first and/or second fence post support plates 6, 9 that is necessary from the means for connecting the bracket to a structure 8a and 8b, the size of the fence post and the desired structural integrity of the resulting fence. Preferably for a four-inch post the base plate is between about 6.0 and 9.0 inches, more preferably between 7.0 and 8.0 inches. In this embodiment the base plate 3 has attached thereto a first fence post support plate 6 such that the plane of the face of the first fence post support plate 6 is substantially orthogonal to the plane of the face of the base plate. As used herein, “attached to the base plate” includes an embodiment where the first fence post support plate 6 is integral with the base plate 3 and is formed by bending, as well as an embodiment where the two pieces are formed separately then joined thus making an integral piece as if by welding, or glue for example. The invention contemplates that if the bracket is manufactured by bending the corner of the base plate 3 and the first fence support plate 6 may form a substantially orthogonal relationship due to a slight manufacturing deformation at the corner, but that a plane of the face of the first fence support plate 6 will. The face of the fence support plates shall be that surface that the fence shall sit against. By “substantially orthogonal” it is meant to include ±20°, however it is preferred that the degree of difference be closer to ±5°. The first and second fence post support plates 6, 9 may be any length desired depending on the ends use and desired stability. For example, if using a 4-inch fence post, the first and second fence post support plates may have a length independently or the same of between 1 inch and 3 feet or larger, depending on the height of the fence post attached thereto. For a six foot fence a preferred length is between 12 and 24 inches. As used herein plate means a relatively flat, thin piece of material, preferred is steel and may be formed by any method such as forging, rolling or casting. Any thickness is suitable depending on the desired end use but between 1/8 inch and 1/2 inch is preferred if using metal.

The invention contemplates that many methods may be used to connect the fence post to the first and second fence post support plates 6, 9. Preferably the first and second fence post support plates 6, 9 have at least one aperture 7b therein for attaching hardware such as nails or bolts through to a fence post. In a more preferred embodiment there are at least two apertures 7a, 7b and 13a, 13b in each of the first and second fence post support plate and the apertures 7a, 7b and 13a, 13b are parallel to one another such that a bolt may pass through the fence post and each of the first and second fence post support plates 6, 9. The location of the apertures 7a, 7b and 13a and 13b may be positioned to optimize stability.

In some embodiments and referring again to FIG. 1 the fence post bracket 1 may comprise a second fence post support plate 9 having support means 10. The invention envisions support means 10 for supporting the any fence post support plate to the base plate 3 or other location encompassing any structure such as a solid or hollow, brace, plate, bar, block, rod or combination and/or plurality of such and similar structures to support the second fence post support plate 9. Multiple braces may be used at the same time. In FIG. 1 a brace 10 having a first end 11 connects to the base plate 3 at the edge of the base plate second end 5 at an angle θ and a second end 12 that is attached to the second fence post support plate 9. Angle θ may be any angle depending on the desired stability. In a preferred embodiment using a 4-inch post, the angle 614 is between 55° and 65°, more preferably between 57° and 63° and most preferably between 59° and 61°.

The fence post bracket 1 according to the present invention comprises means for connecting the bracket to a structure, FIG. 1 8a, 8b. As used herein “structure” includes any block, combination of blocks, walls, especially retaining walls or other construction embodiment or physical location capable of holding a bracket and fence post. Also, the bracket may be used in cement without external support.

In one embodiment, when the bracket of the instant invention is used, the “means for connecting the bracket to a structure” 8a, 8b will be placed inside a hollow wall or block, and cemented therein. Other methods of connecting the bracket 1 to a structure are possible and within the scope of this invention. As used herein “means for connecting the bracket to a structure” 8a, 8b may include solid or hollow rods or pipes, thin plates or the like attached, by welding for example, to the bottom of the base plate 3. Multiple items may be attached in any pattern desired to optimize stability in the final installation. Also included in “means” is at least one aperture disposed on or in the area of the second end of the base plate 5. Exact location will depend on the length of the base plate 3 and the height of the fence post. Multiple apertures are contemplated by this invention. There are many possible ways to connect the bracket 1 to a structure through the aperture(s). A bolt of any length may be used. With multiple apertures a U bolt may be installed therein. Glues and cements may also be employed with the means. Any construction glue or cement is suitable with this invention.

It is understood that when the present invention refers to “said means located on the base plate at a position between the first fence post support plate the second end” this position includes positions on the base plate up to and including the second end and the second end edge.

In a preferred embodiment shown in FIG. 1 two pieces of #4 rebar 8a, 8b are welded to the bottom of the base plate 3 at 15a, 15b respectively. The ends of the rebar 8a, 8b may have any desired shape, be bent or otherwise that may facilitate connecting to other structures or wires for further support. The length of the means for connecting the bracket to a structure 8a, 8b may be any length depending on the desired end use and the size of the bracket. Their positioning on the bottom of the base plate 3 is designed to optimize stability. If desired, one, two, three or four pieces of support means 8a and 8b or rebar may be used.

FIG. 2 shows the fence post bracket 1 of FIG. 1 installed in a wall 17 and supporting a fence post 18. Base plate 3 is in contact with the top of the wall 17 and the base plate first end 4 meets the front edge of the wall 17. First fence post support plate 6 and second fence post support plate 9 cradle a fence post 18 and are supported by supporting means 10 that is attached to the base plate 3 at the base plate second end 5.

FIG. 3 shows the fence post bracket 1 of FIG. 1 installed in wall 17, which is used to retain a section of earth 19. The fence post bracket 1 supports a fence post 18 that is
offset from the means for connecting the bracket 1 to a structure 8a, 8b by an amount that can be determined by the length of the base plate 3. The wall 17 has voids 20 in the center that are typically filled with concrete after inserting the means for connecting the bracket to a structure 8a, 8b having first ends 15 and second ends 16. First fence post support plate 6 is at the base plate first end 4 and parallel to second fence post support plate 9 which is supported by support means 10 having a first end 11 attached to a base plate second end 5 to create angle 0 14 and a second end 12 attached to the second fence post support plate 9.

[0029] By comparing FIG. 3 with FIG. 4, the benefits of the instant invention are easily seen. FIG. 4 shows two prior art fence posts 21a, 21b located in or on retaining wall 17 holding back earth 19. Prior art fence post 21a is set in the center of the wall in void 20 and will be either held in place by a prior art bracket or cement. Prior art fence post 21b will be held in place by support of earth 19. In either case the amount of land that is not usable to the owner is the land on the outside of the fence 22. This amount of lost land can be significant and valuable.

[0030] FIG. 5 shows fence post bracket 1 that is stable and securely holds an offset fence post 18 attached to wall 17 holding earth 19. Bolts 40a, 40b and nuts 45a, 45b are used to connect the first and second fence post support plates 6, 9. Base plate 3 has a first end 4 that meets the edge 50 of the retaining wall 17, thus there is no lost land. The wall 17 is typically filled with concrete 60 after inserting the means for connecting the bracket to a structure 8a, 8b having first ends 15a, 15b and second ends 16a, 16b. Second fence post support plate 9 is supported by support means 10 having a first end 11 attached to a base plate second end 5 to create angle 0 14 and a second end 12 attached to the second fence post support plate 9.

[0031] FIG. 6 discloses another embodiment of the present invention where the means for connecting the bracket to a structure comprises two apertures 108a, 108b. A bolt 115a may be inserted through the apertures and nut 150 may or may not be used. Bracket 101 of FIG. 6 uses a plate 110, 110a as support means for the second fence post support plate 109. The plates 110 and 110a have a support means first end 111 and 111a respectively, that is attached to the base plate second end at a position between the second fence post support plate 109 and the edge of the second end 105 and a support means second end 112, 112a are attached to the second fence post support plate 109. A third fence post support plate 125 having a top edge 126, a first edge 127 and a second edge 128 and a bottom edge 129. The second edge 128 may be eliminated in some embodiments by making the third fence post support plate 125 integral with the support means 110a. In some embodiments of the present invention the height and width of the third fence post support plate 125 is variable. The edge 127 may extend to the first fence post support plate 106 if so desired. The edge 129 may not extend all the way to the bottom of the base plate first end 103. The base plate first end 104 has extending substantially orthogonally from it's edge a first fence post support plate 106 having apertures 107a, 107b therein for communicating with apertures 113a, 113b. The fence post support plates 106, 109, 125 may be attached to an edge of the base plate 103 or they may be attached to the top of the base plate 103.

[0032] FIG. 6A shows a top view of FIG. 6 and clearly depicts a first fence post support plate 106, a second fence post support plate 109, the top of the third fence post support plate 126, fence post 18, support means 110 and 110a and two apertures 108a, 108b near the base plate second end 105.

[0033] FIG. 7 shows a bracket 201 in accordance with another embodiment of the present invention and FIG. 8 depicts the FIG. 7 bracket in use. FIG. 7A shows a top view of the FIG. 7 bracket 201. Bracket 201 includes a first fence post support plate 206 having two apertures therein 207a, 207b and connected thereto is the means for connecting the bracket to a structure 208a, 208b, which in this embodiment comprises two rods welded to the back of the first fence post support plate 206, the rods having a first end 215, 216 and a second end 215a, 216b. Fence post support means 210 comprises a first end 211 that is designed to communicate with the wall 17 in use providing support to the fence post bracket 201. The size of support means 210 is variable depending on the desired end use and amount of stability desired. Support means second end 212 is attached to the first fence post support plate 206. If desired two or more of similar support means may be employed on brackets in accordance with this invention for increased stability. As shown in FIG. 7, 8 the brace 210 is a triangular plate of steel but the invention includes those support means 10 previously disclosed herein.

[0034] FIG. 7 discloses a bracket 201 having a first fence post support plate 206 and an attached side fence support plate 225 having a top 226 and a first edge 227, second edge 228, and a bottom edge 229. The side fence support plate 225 may be integral with the first fence post support plate and be formed by bending, for example, or the two pieces may be welded together and made integral in that manner. FIG. 8 shows a fence post 18 held by side fence post support plate 225 and bolts 240a, 240b and nuts 245a, 245b. Concrete 60 secures the means for connecting a bracket 208a to a structure. The edge of the fence post 18 abuts the end of the wall 17 at point 50, depicting how effective the brackets are in capturing all of the usable space available to owner. FIG. 7B shows a top view of an embodiment where there is a second side fence support plate 230.

[0035] FIGS. 9 and 10 show an alternative embodiment of the present invention. Fence post bracket 301 comprises a second fence post support plate 309 that is integral with the means for connecting the bracket to a structure 308 and it is the place of attaching the integral unit to the base plate 303 second end 305 that may be termed the juncture that splits the two sections. The first fence post support plate 306 connects to the base plate first end and contains two apertures 307a, 307b for communicating with apertures 313a, 313b respectively using bolts 340a, 340b and nuts 345a, 345b of FIG. 10. When the means for connecting a bracket to a structure 308 is cemented 60 in a wall 17, it can be seen by point 50 where the fence post 18 essentially abuts the property line of the fence, that there is very little if any property lost.

[0036] One having ordinary skill in the art will appreciate that there are many ways to manufacture the brackets of the instant invention. Preferably the brackets are made of galvanized steel, but any other material is suitable, depending on the desired end use. Other bracket coatings are also possible such as plastics and paints known in the art.

[0037] While this invention has been described in connection with a preferred embodiment, it is clearly to be understood that this is done only by way of example and not as a limitation to the scope of our invention as set forth in the objects thereof and in the appended claims.
What is claimed is:

1. A bracket for supporting a fence post, comprising:
   a base plate having a first end and a second end,
   a first fence post support plate capable of having a fence
   post attached thereto attached to the base plate at the first
   end and extending up from the base plate in a substan-
   tially orthogonal relationship to the base plate, and
   means for connecting the bracket to a structure positioned
   on the base plate at a position between the first fence post
   support plate and the second end.

2. A bracket according to claim 1, further comprising:
   a second fence post support plate.

3. A bracket according to claim 2, wherein:
   the second fence post support plate is positioned on the
   base plate between the first fence post support plate and
   the second end, and extends up from the base plate in a
   substantially orthogonal relationship to the base plate, and
   the first and second fence post support plates are substan-
   tially parallel to each other.

4. A bracket according to claim 3, wherein:
   the second fence post support plate comprises a first sec-
   tion capable of having a fence post attached thereto and
   a second section attached to the first section, wherein:
   the second section comprises means for connecting the
   bracket to a structure, and
   the second fence post support plate is attached to the edge
   of the second end.

5. A bracket according to claim 4, further comprising:
   at least one aperture in each of the first and second fence
   post support plates.

6. A bracket according to claim 4, wherein:
   the means for connecting the bracket to a structure com-
   prise:
   at least one solid metal rod.

7. A bracket according to claim 3, further comprising:
   support means for supporting the second fence post sup-
   port plate to the base plate and the means for connecting
   the bracket to a structure is positioned on the base plate
   between the second fence post support plate and the
   second end.

8. A bracket according to claim 7, wherein:
   the first fence post support plate is positioned at the first
   end of the base plate, and the support means for supporting
   the second fence post support plate comprises a brace
   comprising a first end attached to the base plate and a
   second end attached to the second fence post support plate.

9. A bracket according to claim 8, wherein:
   the second end of the brace is attached to the second fence
   post support plate at an angle of between 25° and 35°.

10. A bracket according to claim 9, wherein:
    the second end of the brace is attached to the second fence
    post support plate at an angle of between 29° and 31°.

11. A bracket according to claim 10, wherein:
    the first end of the brace is attached to the base plate at the
    second end.

12. A bracket according to claim 11, wherein:
    the means for connecting the bracket to a structure com-
    prises at least one rod connected substantially orthogo-
    nally to the bottom of the base plate and extending
    substantially downward.

13. A bracket according to claim 12, further comprising:
    at least one aperture in each of the first and second fence
    post support plates.

14. A bracket according to claim 8, further comprising:
    a third fence post support plate attached to the base plate
    and extending up from the base plate in a substantially
    orthogonal relationship to the base plate, and the third
    fence post support plate is disposed substantially orthogo-
    nally to the first and second fence post support plates.

15. A bracket according to claim 14, wherein:
    the support means for supporting the second fence post
    support plate to the base plate comprises a brace having
    a first end attached to the base plate and a second end
    attached to the second fence post support plate.

16. A bracket according to claim 15, wherein:
    the first end of the brace is attached to the base plate, and
    the second end of the brace is attached to the second
    fence post support plate at an angle of between 25° and
    35°.

17. A bracket according to claim 16, wherein:
    the brace is a plate having a width equal to or less than
    the width of the base plate, and the first end of the brace
    is attached to the base plate at the second end.

18. A bracket according to claim 17, wherein:
    the means for connecting the bracket to a structure com-
    prises at least one rod connected substantially orthogo-
    nally to the bottom of the base plate and extending
    substantially downward and further comprising:
    at least one aperture in each of the first and second fence
    post support plates.

19. A bracket for supporting a fence post, comprising:
    a base plate having a first end and a second end, and
    a first fence post support plate capable of having a fence
    post attached thereto having at least one aperture therein
    and attached to the base plate at the first end and extend-
    ing up from the base plate in a substantially orthogonal
    relationship to the base plate, and
    a second fence post support plate capable of having a fence
    post attached thereto positioned on the base plate
    between the first fence post support plate and the second
    end, and extends up from the base plate in a substantially
    orthogonal relationship to the base plate, and the first
    and second fence post support plates are substantially
    parallel to each other, and further comprising
    means for connecting the bracket to a structure positioned
    between the second fence post support plate and the base
    plate second end.

20. A bracket according to claim 19, further comprising:
    a brace comprising a plate having a first end and a second
    end wherein the second end of the brace is attached to the
    second fence post support plate at an angle of between
    29° and 31° and the first end is connected to the second
    end of the base plate.

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