FLEXIBLE MAILBOX POST ASSEMBLY

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ABSTRACT

A mailbox post assembly includes a lower post having an upper surface, and an upper post having a lower surface. A flexible member is securnely interposed between the upper surface of the lower post and lower surface of the upper post. The flexible member is configured to allow the upper post to flex relative to the lower post. Preferably, the flexible member is part of a flex assembly further including a lower post mounting bracket, an upper post mounting bracket, and a shear washer. The flex assembly is preferably covered with a snow and ice shield.
FLEXIBLE MAILBOX POST ASSEMBLY

FIELD OF THE INVENTION

[0001] This invention relates generally to mailbox posts, and more particularly to a flex assembly for a mailbox post and mailbox post assembly incorporating such flex assembly.

BACKGROUND OF THE INVENTION

[0002] Mailbox posts are often damaged when under structural stress such as from, for example, the accumulation of heavy wet snow or ice on the posts. Damage to posts can also be caused when accidentally struck by objects such as snow plows or when intentionally struck by vandals. Frequent replacement of the entire posts when damaged, including removing and attaching posts to a base, can be burdensome, time consuming, expensive and annoying.

[0003] In view of the foregoing, it is an object of the present invention to provide a flexible mailbox post assembly that overcomes the above-mentioned drawbacks.

SUMMARY OF THE INVENTION

[0004] In an aspect of the present invention, a mailbox post assembly includes a lower post having an upper surface, and an upper post having a lower surface. A flexible member is securely interposed between the upper surface of the lower post and lower surface of the upper post. The flexible member is configured to allow the upper post to flex relative to the lower post.

[0005] Preferably, the flexible member is part of a flex assembly further including a lower post mounting bracket, an upper post mounting bracket, and a shear washer. The lower post mounting bracket is seated on the upper surface of the lower post. The flexible member is accommodated on the lower post mounting bracket. An upper post mounting bracket is preferably disposed on the flexible member such that the flexible member is interposed between the lower post mounting bracket and the upper post mounting bracket. The upper post mounting bracket has at least two upwardly extending sidewalls defining holes for securing the sidewalls to the upper post. A shear washer is mounted on the upper post mounting bracket. The flex assembly is preferably covered with a snow and ice shield.

BRIEF DESCRIPTION OF THE DRAWINGS

[0006] FIG. 1 is a perspective view of a flexible mailbox post assembly embodying the present invention.

[0007] FIG. 2 is an exploded perspective view of the mailbox posts and flex assembly of the flexible mailbox post assembly of FIG. 1.

[0008] FIG. 3A is a perspective view of an upper portion of the mailbox post assembly showing the mailbox supports and decking.

[0009] FIG. 3B is a disassembled view of the mailbox supports and decking.

[0010] FIG. 4A is a right side view of the flexible mailbox post assembly in a rearward flexed position.

[0011] FIG. 4B is a front view of the flexible mailbox post assembly in a sideward flexed position.

[0012] FIG. 4C is a left side view of the flexible mailbox post assembly in a non-flexed position.

[0013] FIG. 5A is a side view of a bottom plate mounting bracket of the flexible mailbox post assembly in accordance with the present invention.

[0014] FIG. 5B is a top plan view of the bottom plate mounting bracket.

[0015] FIG. 6A is a top plan view of a flexible member of the flexible mailbox post assembly in accordance with the present invention.

[0016] FIG. 6B is a side view of the flexible member.

[0017] FIG. 7A is a top plan view of a top plate of the flexible mailbox post assembly in a flat, preformed state in accordance with the present invention.

[0018] FIG. 7B is a side view of the top plate with its sides bent into its operational shape.

[0019] FIG. 8A is a top plan view of a washer plate of the flexible mailbox post assembly.

[0020] FIG. 8B is a side view of the washer plate.

[0021] FIG. 9A is a top plan view of a snow and ice shield of the flexible mailbox post assembly in accordance with the present invention.

[0022] FIG. 9B is a side view of the snow and ice shield.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0023] Referring to FIGS. 1 through 4C, a flexible mailbox post assembly embodying the present invention is indicated generally by the reference number 10. The flexible mailbox post assembly 10 comprises a base 12 (see FIGS. 4A through 4C), a lower post 14 mounted to the base, and an upper post 16 flexibly coupled to the lower post 14 via a flex assembly 18. The base 12 is preferably made generally of concrete or other solid foundation material. The lower post 14 and the upper post 16 each preferably include four sides and are made generally of wood, but can be made of plastic or other suitable materials without departing from the scope of the present invention.

[0024] The flex assembly 18 includes a flexible member 20 interposed between the lower post 14 and the upper post 16. The flexible member 20 is preferably made of rubber, a rubber-like composite or other elastic, resilient and/or flexible material. Preferably, the flexible member 20 is about ⅜ inch thick, about 3½ inches wide and about 3½ inches long, but can take other dimensions without departing from the scope of the present invention. The flexible member 20 defines a hole in a central portion for receiving a fastener therethrough to secure the flexible member 20 to the lower post 14 and the upper post 16. In an exemplary embodiment, the hole is about 0.328 inch in diameter, but can take other practical dimensions.

[0025] As best shown in FIG. 2, an exemplary embodiment of the flex assembly 18 also includes a lower post mounting bracket 22 seated on and secured to an upper surface 24 of the lower post 14. The flexible member 20 is accommodated on the lower post mounting bracket 22. An upper post mounting bracket 26 for the upper post 16 is disposed on the flexible member 20 such that the flexible member is interposed between the lower post mounting bracket 22 and the upper post mounting bracket 26. A shear washer 28 is mounted on the upper post mounting bracket 26. The upper post 16 is seated on the shear washer 28 disposed within the upper post mounting bracket 26. A fastener 30 such as a shear lag bolt extends through the upper surface 24 of the lower post 14, the lower post mounting bracket 22, the flexible member 20, the upper post mounting bracket 26, the shear washer 28 and through a lower surface 32 of the upper post 16 to secure the flex assembly 18 to the lower post 14 and to the upper post 16. The upper post mounting bracket 26 is also preferably
secured to the upper post 16 by additional fasteners 34 such as self tapping screws extending through at least two sidewalls 36 of the upper mounting bracket 26 into side surfaces 38 of the upper post 16.

[0026] As shown in FIGS. 3A and 3B, the flexible mailbox post assembly 10 preferably further includes two side supports 40 each coupled to an opposite side of the upper post 16 relative to each other. A mailbox bracket 42 is fixedly seated on the side supports 40. A mailbox of the user's preference can then be mounted on the mailbox bracket 42.

[0027] With reference to FIGS. 1 and 2, the flexible mailbox post assembly 10 preferably further includes a snow and ice shield 44 configured as a sleeve to slide along the upper post 14 and the lower post 16 into position over the flex assembly 18 to cover and thereby protect the flex assembly from snow, ice and other causes of possible damage otherwise resulting from exposure.

[0028] The components of the flex assembly 18 in the exemplary embodiment will now be explained in greater detail. With reference to FIGS. 5A and 5B, the lower post mounting bracket 22 is preferably rectangular in a flat, pre-formed shape before bending it during fabrication into its functional shape. The lower post mounting bracket 22 defines a hole 46 in a central portion for receiving the fastener 30 therethrough. The lower post mounting bracket 22 preferably includes at least two sidewalls 48 extending upwardly from opposite sides of the lower post mounting bracket 22 for receiving and properly positioning the flexible member 20 therewithin. In an exemplary embodiment, the lower post mounting bracket 22 is fabricated from steel stock, and is about ½ inch thick, and the side lengths are about 4 inches by about 3½ inches in a flat, preformed state. Upon forming the sidewalls in a bending operation, the lower post mounting bracket 22 is generally square and has side lengths of about 3½ inches by about 3½ inches. The sidewalls 48 extend upwardly about ⅝ inch from a floor portion 50. The hole 46 defined in the lower post mounting bracket 22 for receiving the fastener 30 is about 0.328 inch in diameter.

[0029] With reference to FIGS. 6A and 6B, the flexible member 20 is fabricated from rubber, a rubberlike composite or other elastic, resilient and/or flexible material. The flexible member 20 preferably includes an intermediate 52 in a central portion for receiving the fastener 30 therethrough. In an exemplary embodiment, the flexible member is generally square. The dimensions are about ¾ inch thick, and the side lengths are about 3½ inches by about 3½ inches. The intermediate structure 52 defined in the flexible member 20 for receiving the fastener 30 is about 0.328 inch in diameter.

[0030] With reference to FIGS. 7A and 7B, the upper post mounting bracket 26 is preferably rectangular in a flat, pre-formed shape before bending it during fabrication into its functional shape. The upper post mounting bracket 26 defines a hole 54 in a central portion for receiving the fastener 30 therethrough. The upper post mounting bracket 26 also defines a plurality of additional holes 56 on each side of the central portion for receiving the additional fasteners 34 to attach the upper post mounting bracket 26 to the upper post 16. As shown in FIG. 7D, the upper post mounting bracket 26 when formed into a functional shape after a bending operation preferably includes the at least two sidewalls 36 extending upwardly from opposite sides of a floor portion 62 of the upper post mounting bracket 26 for receiving and properly positioning the upper post 16 therebetween. The additional holes 56 are defined in each of the sidewalls 36 for receiving the additional fasteners 34 therethrough. In an exemplary embodiment, the upper post mounting bracket 26 is fabricated from steel stock about ½ inch thick. The floor portion 62 is about 3½ inches by about 3½ inches, and the sidewalls 36 extend upwardly about 4⅛ inches from the floor portion 62.

[0031] With reference to FIGS. 8A and 8B, the shear washer 28 is fabricated from steel stock. The shear washer 28 preferably defines a hole 64 in a central portion for receiving the fastener 30 therethrough. In an exemplary embodiment, the shear washer 28 is generally rectangular. The dimensions are about 0.187 inch thick, and the side lengths are about 3½ inches by about 3½ inches. The hole 64 defined by the shear washer 28 for receiving the fastener 30 is about 0.328 inch in diameter.

[0032] Turning now to FIGS. 9A and 9B, the snow and ice shield 44 is preferably fabricated from a durable material such as plastic. The shield 44 has an upper portion 66 having four sides 68 defining an upper channel 70 for receiving one or more of the posts 14, 16 therethrough. The upper channel 70 is preferably dimensioned to snugly receive the four side surfaces 38 of the posts 14, 16. In an exemplary embodiment, the upper channel 70 is generally square with side lengths of about 3½ inches by about 3½ inches. The shield 44 further includes a lower portion 74 having four sides 76 defining a lower channel 78. The four sides 76 of the lower portion 74 flair outwardly from an upper edge 80 to a lower edge 82 thereof such that the dimensions of the lower channel 78 at the upper edge 80 are about 4⅛ inches by 4⅛ inches, and the dimensions of the lower channel 78 at the lower edge 82 are about 6½ inches by 6½ inches. The increasing dimensions of the lower channel 78 provide space for accommodating the flex assembly 18 therein and for providing space to permit the upper post 16 to flex relative to the lower post 14.

[0033] As shown in FIGS. 4A through 4D, the flex assembly 18 is configured to enable the upper post 16 and the lower post 14 to flex relative to each other to relieve environmental stress on the posts caused by, for example, the accumulation of heavy wet snow or ice thereon. Providing some “give” to the posts 14, 16 prevents the posts from snapping or otherwise being damaged by the environmental stress. For example, the flex member 20 composed of, for example, a rubberlike composite material, has a resiliency which enables it to temporarily deform its shape to enable the upper post 16 to flex relative to the lower post 14. As shown in FIG. 4A, the flexible member 20 is configured to allow the upper post 16 to be flexed in a sideward direction relative to the lower post 14. FIG. 4C shows the upper post 16 in an non-flexed or straight line orientation relative to the lower post 14 when environmental factors are no longer stressing the posts.

[0034] In an extreme flexing situation, the fastener 30 of the flex assembly 18 is preferably a shear lag bolt which is designed to break and thereby protect the rest of the flex assembly from being damaged. The broken shear lag bolt can then be quickly, inexpensively and easily replaced to restore the flex assembly 18 to working condition.

[0035] In sum, the flex assembly 18 can be installed on any new or existing standard wooden mailbox post that is mounted in a concrete base. The flex assembly 18 provides the mailbox posts 14, 16 flexibility to withstand heavy wet snow and ice. The flex assembly 18 allows front-to-back and
side-to-side flexibility and easy installation. The flex assembly 18 requires little to no maintenance.

[0036] As will be recognized by those of ordinary skill in the pertinent art, numerous modifications and substitutions can be made to the above-described embodiment of the present invention without departing from the scope of the invention. Accordingly, the preceding portion of this specification is to be taken in an illustrative, as opposed to a limiting sense.

What is claimed is:

1. A mailbox post assembly comprising:
   a lower post having an upper surface;
   an upper post having a lower surface; and
   a flexible member securely interposed between the upper surface of the lower post and lower surface of the upper post, the flexible member being configured to allow the upper post to flex relative to the lower post.

2. A mailbox post assembly as defined in claim 1, further comprising a base, and wherein the lower post is configured to be mounted to the base.

3. A mailbox post assembly as defined in claim 2, wherein the base is made generally of concrete.

4. A mailbox post assembly as defined in claim 1, wherein the lower post and the upper post each are made generally of wood.

5. A mailbox post assembly as defined in claim 1, wherein the lower post and the upper post each include four sides.

6. A mailbox post assembly as defined in claim 1, wherein the flexible member is made of an elastic material.

7. A mailbox post assembly as defined in claim 1, wherein the flexible member is made of a rubberlike material.

8. A mailbox post assembly as defined in claim 1, wherein the flexible member is made of a resilient material.

9. A mailbox post assembly as defined in claim 1, wherein the flexible member is securely interposed by means of a fastener, the fastener extending through the upper surface of the lower post, through the flexible member, and through the lower surface of the upper post.

10. A mailbox post assembly as defined in claim 9, wherein the fastener is a shear lag bolt.

11. A mailbox post assembly as defined in claim 1, wherein the flexible member is part of a flex assembly, the flex assembly further including:
   a lower post mounting bracket seated on the upper surface of the lower post;
   the flexible member being accommodated on the lower post mounting bracket;
   an upper post mounting bracket disposed on the flexible member such that the flexible member is interposed between the lower post mounting bracket and the upper post mounting bracket, the upper post mounting bracket having at least two upwardly extending sidewalls defining holes for securing the sidewalls to the upper post; and
   a shear washer mounted on the upper post mounting bracket.

12. A mailbox post assembly as defined in claim 11, wherein the flex member is secured by interposed by means of a fastener, the fastener extending through the upper surface of the lower post, through the lower post mounting bracket, through the flexible member, through the upper post mounting bracket, through the shear washer, and through the lower surface of the upper post.

13. A mailbox post assembly as defined in claim 12, wherein the fastener is a shear lag bolt.

14. A mailbox post assembly as defined in claim 1, wherein the flexible member is about 3/4 inch thick, about 3/5 inches wide and about 3 1/2 inches long.

15. A mailbox post assembly as defined in claim 11, wherein the lower post mounting bracket includes a floor portion and two sidewalls disposed on opposite sides of the floor plate relative to each other, the two sidewalls extending upwardly from the floor portion.

16. A mailbox post assembly as defined in claim 15, wherein the lower post mounting bracket is about 3/5 inch thick, the floor portion is about 3/5 inches by about 3/5 inches, and the two sidewalls extend upwardly about 3/5 inch from the floor portion.

17. A mailbox post assembly as defined in claim 11, wherein the upper post mounting bracket includes a floor portion and two sidewalls disposed on opposite sides of the floor plate relative to each other, the two sidewalls extending upwardly from the floor portion.

18. A mailbox post assembly as defined in claim 17, wherein the upper post mounting bracket is about 3/5 inch thick, the floor portion is about 3/5 inches by about 3/5 inches, and the two sidewalls extend upwardly about 4 1/5 inches from the floor portion.

19. A mailbox post assembly as defined in claim 11, wherein the shear washer is generally rectangular.

20. A mailbox post assembly as defined in claim 19, wherein the shear washer is about 0.187 inch thick, and has side lengths of about 3/4 inch by about 3/4 inch.

21. A mailbox post assembly as defined in claim 1, further comprising a shield defining a channel for receiving one or more of the upper post and the lower post, the shelter being configured for covering the flexible member.