United States Patent [19]

Hackworth

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[54] **SAFETY ANCHOR SYSTEM FOR MOBILE HOMES**

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[52] **U.S. Cl.** **52/23,** 52/4, 52/316

[51] **Int. Cl.** **E04d 1/34**

[58] **Field of Search** ..... 52/3–5, 52/23, 150, 173, 151, 170, 295, 166, 316; 248/361 A, 361 R

[56] **References Cited**

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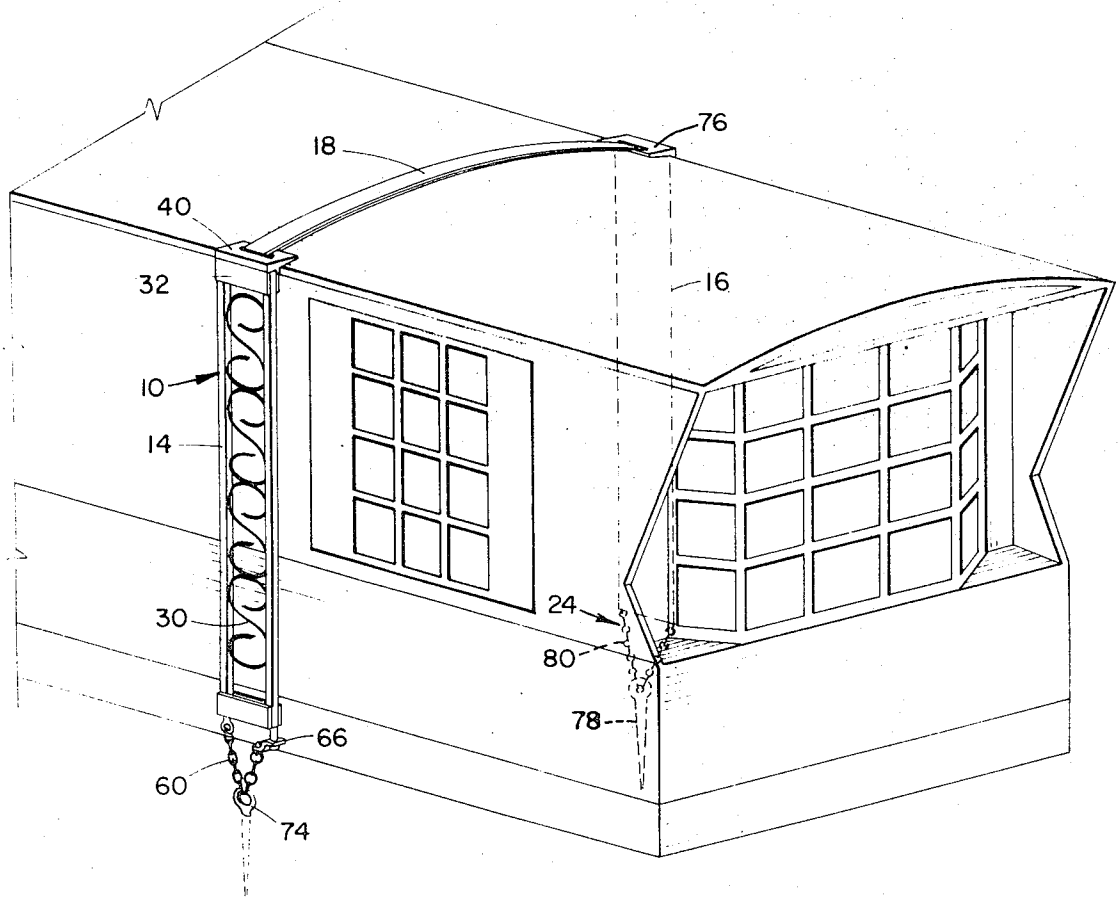
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Attorney—William S. Dorman

[57] **ABSTRACT**

A safety anchor system for mobile homes comprising a pair of vertically disposed elongated ornamental side braces positioned one on each side of the mobile home, a roof strap bracket rigidly secured to the top of each side brace, an elongated strap positioned across the roof of the mobile home and having each end thereof secured to the roof strap brackets and adjustable anchor means secured to the bottom of each side brace for anchoring the system to the ground thereby placing substantially all of the loading on the roof plating strong points of the mobile home.

5 Claims, 6 Drawing Figures



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SHEET 1 OF 4

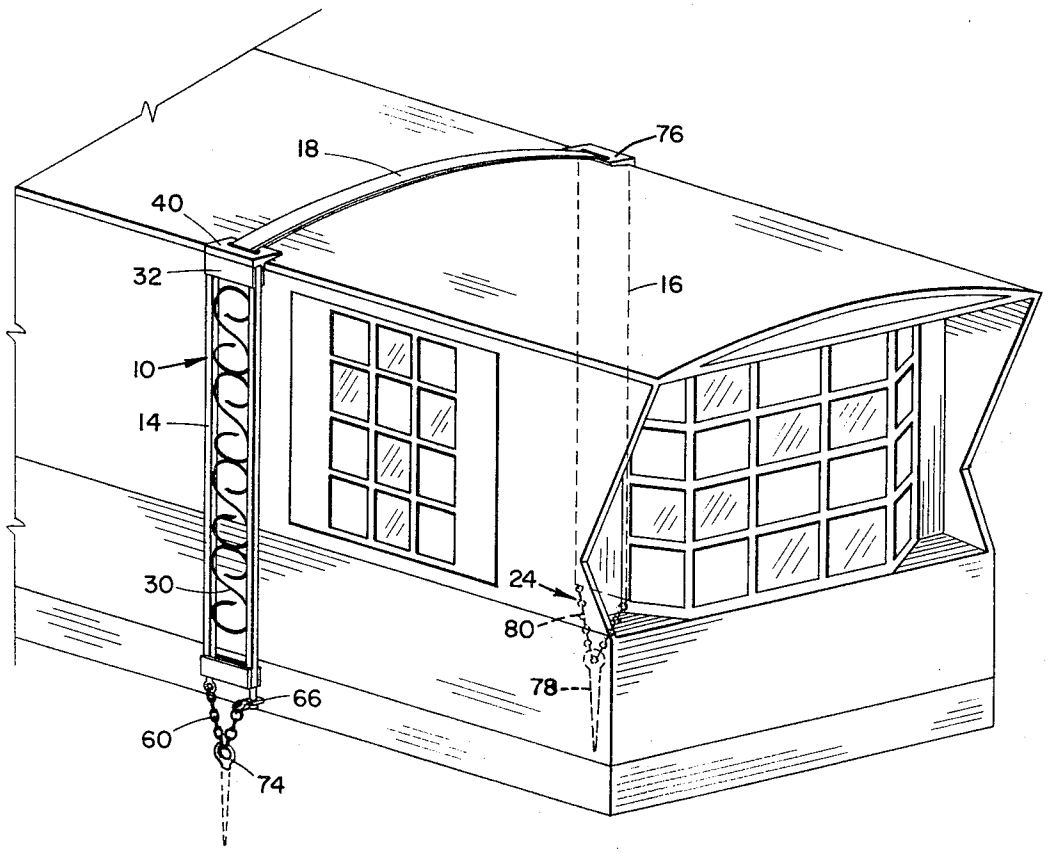


Fig. 1

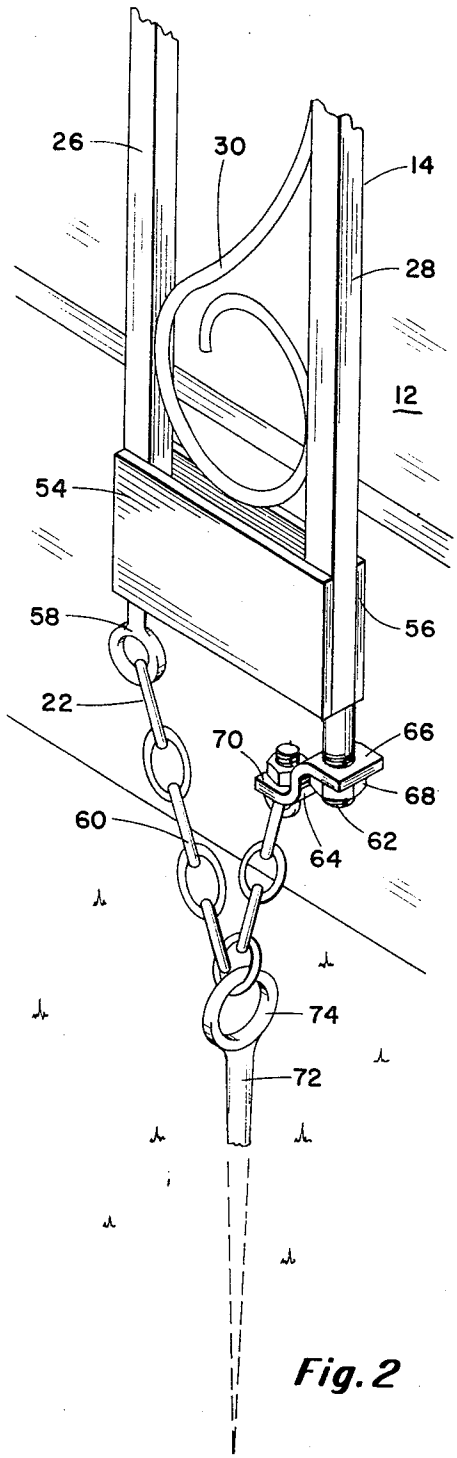

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Fig. 2

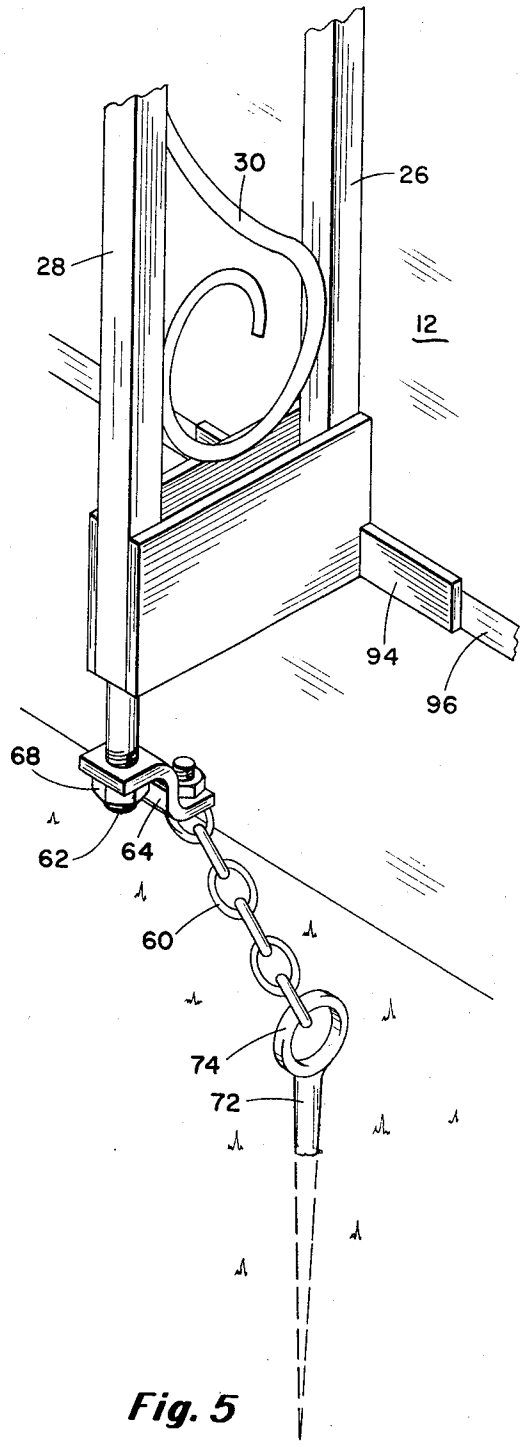

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Fig. 5

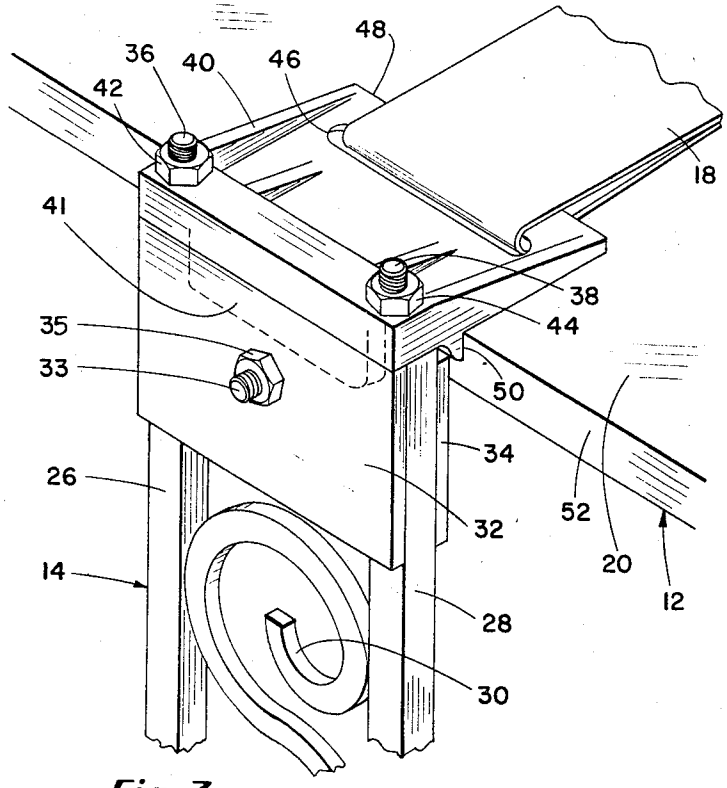

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Fig. 3

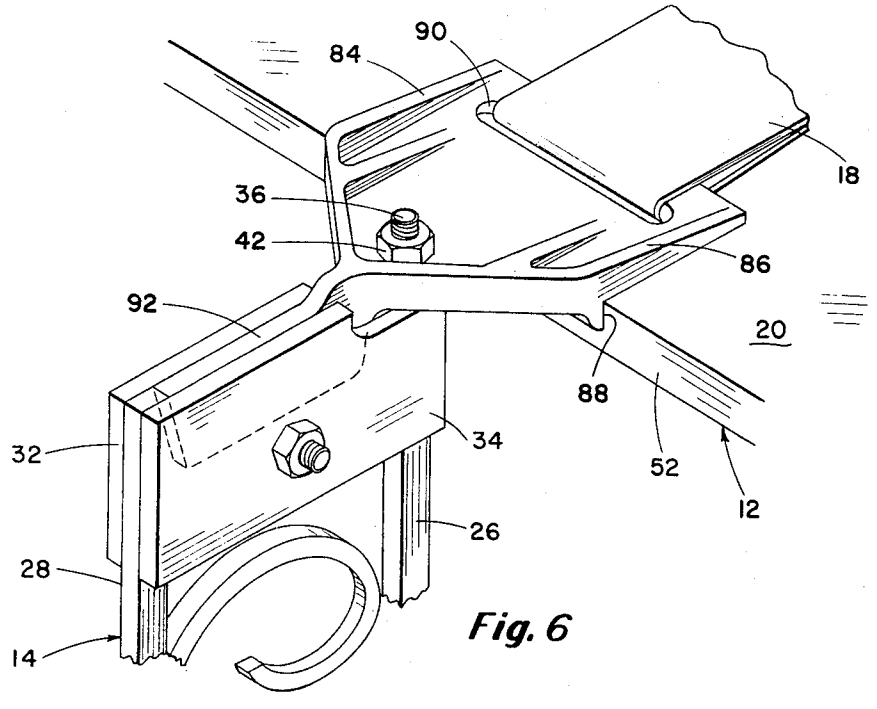

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Fig. 6

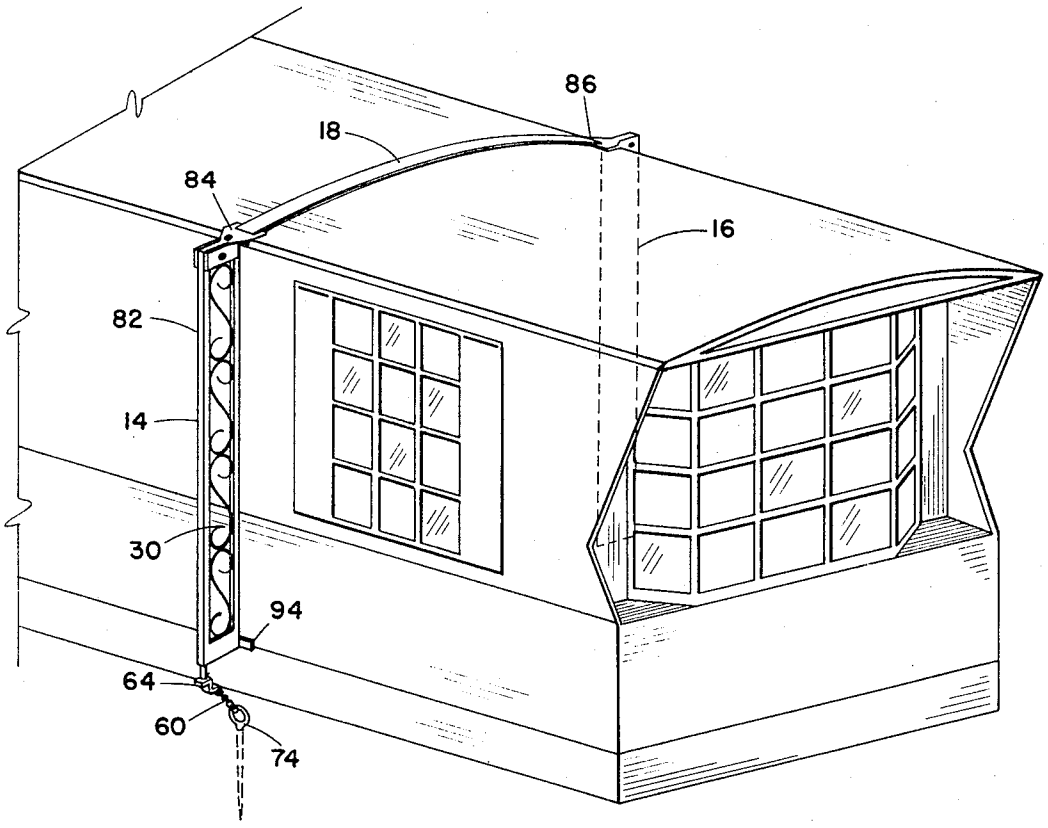


Fig. 4

SAFETY ANCHOR SYSTEM FOR MOBILE HOMES

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates to safety anchor systems for anchoring mobile homes into place after they have been positioned in a desired location and more particularly, but not by way of limitation, to a safety anchor system for mobile homes having ornamental side braces to enhance the exterior decor of the mobile home and at the same time meeting insurance company requirements for insurability of the mobile home against wind and weather damage.

2. Description of the Prior Art

Most presently available mobile home anchor systems attach to the mobile home at the bottom frame thereof thereby leaving the upper portion of the mobile home to withstand the side loads caused by wind acting thereon. These systems leave much to be desired, both in terms of safety and effort to the inhabitants of the mobile home. The anchor systems presently available which attach to the top frame of the mobile home systems are normally provided with unsightly steel rods or tubes extending down the side of the mobile home and anchored into the ground in some manner. Besides being unsightly, this type of anchor system still does not put the loading where it should be, that is, across the roof plating which is the strongest possible point for anchoring the mobile home.

SUMMARY OF THE INVENTION

The present invention contemplates a novel safety anchor system for mobile homes particularly designed and constructed for overcoming the above disadvantages. The present invention provides an ornamental side brace extending vertically down each side of the mobile home and anchored at the bottom thereof to the ground. A non-corrosive metal band is attached to the upper end of these side braces and extends across the roof to anchor the unit on each side thereby placing all of the loading on the roof plating which is the strongest possible point for anchoring the system. Since the roof strap is pulled tightly across the roof of the mobile home the loading is distributed completely across the top of the roof plating, rather than being loaded at the attach points to the mobile home itself. The side braces may then be mounted against the bottom frame members at the base thereof to provide additional stability against side loads caused by wind acting against the mobile home. Therefore, the present invention has provided a safety anchoring system particularly designed to enhance the exterior decor of the mobile home system and at the same time meet with insurance company requirements for insurability of the said mobile home.

DESCRIPTION OF THE DRAWINGS

Other and further advantageous features of the present invention will more fully appear in connection with a detailed description of the drawings in which:

FIG. 1 is a perspective view of a mobile home with a safety anchor system embodying the invention installed in place.

FIG. 2 is a detailed perspective view of the anchor means of the anchor system described in FIG. 1.

FIG. 3 is a detailed perspective view of the roof strap attach brackets of the anchor system of FIG. 1.

FIG. 4 is a perspective view of a mobile home having an anchor system embodying the invention wherein the side brace members are turned edgewise with respect to the side of the mobile home.

FIG. 5 is a detailed perspective view of the anchor means attached to the bottoms of the side braces of FIG. 4.

FIG. 6 is a detailed perspective view of the roof strap attach bracket used with the anchor system of FIG. 4.

DETAILED DESCRIPTION OF THE DRAWINGS

Referring to the drawings in detail, reference character 10 generally indicates a safety anchor system installed on a mobile home 12. The anchor system comprises a first ornamental side brace 14 which is vertically disposed and positioned against the side of the mobile home 12 and a substantially identical side brace 16 vertically disposed and positioned against the opposite side of the mobile home 12. An elongated flexible non-corrosive metal roof strap 18 is positioned transversely across the roof 20 of the mobile home 12 and attached at each end thereof to the upper portion of the side braces 14 and 16 in a manner that will be hereinafter set forth. A first anchor means 22 is adjustably connected to the bottom of the side brace 14 and serves to secure said side brace 14 to the ground. A second substantially identical anchor means 24 is adjustably secured to the bottom of the side brace 16, and serves to secure the side brace 16 to the ground.

The side brace 14 comprises a pair of spaced elongated parallel metal tubes 26 and 28 which are substantially square in cross-sectional shape and having metal ornamental scrollwork secured therebetween such as the substantially S-shaped ornamental segments 30 which are attached to the metal tubes 26 and 28 in any well known manner such as by welding. It is noted that these scroll pieces 30 serve not only to enhance the exterior decor of the anchor system but also provide additional strength for the side braces 14 and 16. The upper end of the side brace 14 is provided with a pair of substantially identical rectangular shaped plates 32 and 34 which are secured to the metal tubes 26 and 28 in any well known manner such as by welding. The rectangular plates 32 and 34 are each secured to both the metal tubes 26 and 28 and on opposite sides thereof to maintain the spaced relationship between the metal tubes 26 and 28 at the upper end thereof and further to strengthen the side brace 14 at its upper end. The rectangular metal plates 32 and 34 are provided with a centrally disposed bore (not shown) for receiving a threaded bolt 33 therethrough. A threaded nut 35 is disposed on the said bolt 33 whereupon tightening of the nut 35 will tend to squeeze the plates 32 and 34 together for a purpose that will be hereinafter set forth. The metal tube 26 is provided at the upper end thereof with a vertically extending threaded stud member 36 which is in axial alignment with the metal tube 26. A substantially identical vertically disposed stud member 38 is also rigidly secured to the upper end of the tube 28 and in substantial alignment therewith.

A rectangular shaped roof strap bracket 40 having two spaced bores (not shown) for receiving the threaded studs 36 and 38 therethrough is secured to the top of the side brace 14 and disposed at a substantially right angle thereto. The bracket 40 is also provided with a downwardly extending elongated arm member 41 which is located between the bores (not shown) and

is perpendicular to the rectangular portion of the said bracket 40. The arm member 41 is disposed within the side brace 14 between the metal plates 32 and 34. The bracket 40 is tightened against the upper end of the side brace 14 by means of two threaded nuts 42 and 44, and the nut 35 is tightened about the bolt 33 to squeeze the plates 32 and 34 against the arm member 41 to hold the bracket 40 in place. The bracket 40 is positioned onto the roof 20 of the mobile home 12 as depicted in FIG. 3. An elongated slot 46 is provided through the bracket 40 for receiving one end of the elongated metal roof strap 18 therethrough. The slot 46 is located adjacent to the edge 48 which is opposite to the edge having the afore-mentioned spaced bores for receiving the threaded studs 36 and 38 therethrough. The bottom face of the bracket 40 is provided with a downwardly extending elongated shoulder 50 for positioning the bracket 40 against the upper frame member 52 of the mobile home 12.

A pair of substantially identical rectangular shaped plates 54 and 56 are rigidly secured to the bottom ends of the metal tubes 26 and 28 in a manner similar to that of the upper rectangular plates 32 and 34. These bottom plates again may be welded to the metal tubes 26 and 28 to provide the suitable separation of the tubes 26 and 28 and further to provide strength to the bottom portion of the side brace 14. A metal hook 58 is attached to the bottom end of the metal tube 26 for receiving the end of an anchor chain 60 therein. A threaded vertically disposed stud member 62 is rigidly secured to the bottom of the metal tube 28 and in substantial alignment therewith for receiving an adjustable anchor bracket 64 therethrough. The anchor bracket 64 is substantially S-shaped and is provided at the upper end thereof with a bore 66 for receiving the stud member 62 therethrough. The bracket 64 is secured to the stud member 62 by means of a threaded nut 68. The lower portion of the S-shaped anchor bracket 64 is provided with a bore 70 for receiving the opposite end of the anchor chain therein. An elongated, cylindrical anchor stake 72 suitable for driving into the ground is vertically disposed and positioned beneath the side brace 14 adjacent to the trailer 12. The upper end of the anchor stake 72 is provided with an annular eyelet 74 for receiving the anchor chain 60 therethrough.

The oppositely disposed side brace 16 is equipped substantially identical to the side brace 14; that is, having an upper roof strap bracket 76 which is identical to the bracket 40 and having an anchor means 24 which is substantially identical to the anchor means 22 for the side brace 14.

In operation, the mobile home 12 is positioned in its desired location and is anchored into place by one or more of the safety anchor systems 10 hereinbefore described. The side braces 14 and 16 are placed into position on each side of the trailer 12 and the upper roof strap brackets 40 and 76 are secured to the side braces 14 and 16, respectively, in a manner as hereinbefore set forth. The elongated non-corrosive metal strap 18 is then secured to the roof strap brackets 40 and 76 in any well known manner (not shown). The anchor stakes 72 and 78 are then driven into the ground directly beneath the side braces 14 and 16, respectively. The anchor chains 60 and 80 are then secured to the bottom of the side braces 14 and 16, respectively. The said chains are then passed through the eyelet 74 of the anchor stake 72 and the anchor chain 80 is secured to the bottom of the side brace 16 and is passed through the eyelet of the anchor stake 78. The anchor chains 60 and 80 are then tightened by means of the threaded nut 68 about the threaded stud 62 which is secured to the bottom of the metal tube of the side braces 14 and 16. The safety anchor system 10 is now locked into position and all of the loading is being directed to the roof plating 20 of the mobile trailer 12.

Referring now to FIG. 4, reference character 82 generally depicts a safety anchor system for mobile homes similar to the anchor system 10 but having the side braces 14 and 16 disposed edgewise against the mobile home 12 instead of flatly disposed against the mobile home 12 as with the anchor system 10. In this application, there is a slight variation in the arrangement of the anchor means 22 and 24 for the side braces 14 and 16. In addition, this application requires the use of a pair of roof strap brackets 84 and 86 to replace the brackets 40 and 76 of the anchor system 10, as will be hereinafter more fully described.

The roof strap bracket 84 of the anchor system 82 comprises a rectangular portion 86 which is positioned on the roof 20 of the mobile home 12 at the edge thereof adjacent to the upper trailer frame member 52. The bottom portion of the roof strap bracket 84 is provided with an elongated shoulder 88 similar to the downwardly extending shoulder of the bracket 40 for positioning against the upper trailer frame member 52. The rectangular portion 86 is provided with an elongated slot 90 for receiving the roof strap 18 therein. The roof strap bracket 84 is also provided with an outwardly extending handle-like member 92 which extends downward from the plane of the rectangular portion 86 thereof and is disposed between the two rectangular support plates 32 and 34 of the side brace 14. At the portion where the handle member 92 attaches to the rectangular portion 86 of the bracket 84, there is a centrally disposed bore (not shown) for receiving the vertically disposed upwardly extending threaded stud 36. The bracket 84 is then secured to the side brace 14 by inserting the handlelike member 92 into the opening between the rectangular brackets 32 and 34 and by tightening the threaded nut 42 about the vertically extending stud member 36, the handle member 92 thereby holding the side brace 14 in an edgewise position against the body of the mobile trailer 12. The nut 35 is then tightened about the bolt 33 which squeezes the plates 32 and 34 against the member 92 of the bracket 84.

The bottom end of the side brace 14 is provided with a support bracket 94 which is secured to the metal tube 26 for mounting against the base frame member 96 of the mobile trailer 12. The outer disposed metal tube 28 is provided with the adjustable anchor bracket 64 attached thereto by means of the vertically disposed threaded stud 62 and its associated threaded nut 68. In this application, one end of the anchor chain 60 is attached to the adjustable bracket 64, and the opposite end thereof is attached to the eyelet 74 of the anchor stake 72.

In operation, the safety anchor system 82 is attached to the mobile home 12 in a manner similar to that of the anchor system 10. The side braces 14 and 16 are placed edgewise against the sides of the mobile home 12 and on opposite sides thereof. The roof strap brackets 84 and 86 are then secured to the top of the side braces

14 and 16, respectively, and the elongated non-corrosive metal strap 18 is secured therebetween in any well known manner. The anchor stakes 72 and 78 are then driven into the ground directly beneath the side braces 14 and 16 and the anchor chains 60 and 80 are attached to the outer metal tubes at one end thereof, the opposite end of said anchor chains being attached to the eyelets of the anchor stakes 72 and 78, respectively. The metal brackets 94 are then secured to the bottom frame member 96 of the mobile home 12 in any well known manner such as by bolts extending through the said base frame 96 of the mobile home 12, and the safety anchor system 82 is then tightened by means of the threaded nut 68 at the base of the side braces 14 and 16.

From the foregoing, it will be apparent that the present invention provides a safety anchor system for mobile homes which is particularly designed and constructed to enhance the exterior decor of the said mobile homes while providing a safe anchor system which meets with insurance company requirements for insurability of the said mobile home. The novel safety anchor system is particularly designed to transmit the loading present during side winds to the strongest points of the mobile home, namely, the upper roof plating thereof.

Whereas the present invention has been described in particular relation to the drawings attached thereto, it should be understood that other and further modifications, apart from those shown or suggested herein, may be made within the spirit and scope of this invention.

What is claimed is:

1. A safety anchor system for mobile homes comprising a pair of vertically disposed elongated ornamental side braces, one of each of said side braces positioned on each side of the mobile home, a roof strap bracket rigidly secured to the top of each of the said side braces, an elongated roof strap positioned across the roof strap brackets, and adjustable anchor means secured to the bottom of each side brace for anchoring the system to the ground thereby placing substantially all of the loading of the roof plating strong points of the mobile home, and wherein each side brace comprises a pair of spaced elongated metal tubes disposed parallel to each other and having a plurality of ornamental wrought iron members disposed between the said metal tubes and rigidly secured thereto, a pair of substantially identical flat rectangular plates oppositely disposed at the upper end of the side brace and rigidly secured to the metal tubes for strengthening the side brace and maintaining the spaced relationship between the upper ends of the metal tubes, means cooperating between the flat rectangular plates for squeezing the said plates about the roof strap brackets to hold the said brackets in a fixed relationship with the upper end of the side brace, and a pair of substantially identical flat rectangular plates disposed adjacent to the bottom end of the side brace and rigidly secured to the bottom ends of the metal tubes for strengthening the said side brace and maintaining the spaced relationship between the bottom ends of the metal tubes.

2. A safety anchor system for mobile homes as set forth in claim 1 wherein the metal tubes of each of the side braces are disposed flatly against the sides of the mobile home, the upper end of each of the metal tubes having a vertically disposed threaded stud rigidly secured to the upper end thereof, and each of the roof strap brackets comprises a substantially flat metal plate one edge thereof having a pair of spaced bores for receiving the upwardly extending vertical threaded stud members therethrough, an elongated arm member secured to the rectangular plate between the said spaced bores and disposed between the two oppositely disposed rectangular plates, a pair of threaded nuts for rigidly securing the bracket to the upper end of the side brace, the opposite edge of the bracket having an elongated slot adjacent thereto for receiving the end of the roof strap therein, the bottom face of the bracket being provided with an elongated downwardly extending shoulder which is disposed against the edge of the roof of the said mobile home.

3. A safety anchor system for mobile homes as set forth in claim 2 wherein each anchor means comprises a downwardly extending eye member rigidly secured to the bottom end of one of the metal tubes of the side brace, a vertically disposed downwardly extending threaded stud member rigidly secured to the bottom end of the other metal tube of the side brace, a substantially S-shaped anchor bracket having a bore in one end thereof for receiving the downwardly extending threaded stud member therethrough, a threaded nut to adjustably secure the anchor bracket to the threaded stud member, the opposite end of said anchor bracket being provided with an aperture therein, vertically disposed elongated anchor stake having an annular eyelet secured to the upper end thereof and an elongated anchor chain having one end thereof secured to the downwardly extending eye member, the said anchor chain being passed through the eyelet means of the anchor stake and the opposite end of said chain being attached to the aperture provided in the anchor bracket, whereby upon installation the anchor means may be tightened thereby firmly anchoring the entire system by tightening the threaded nut on the downwardly extending vertical stud member thereby moving the anchor bracket in an upward direction which in turn will tighten the said anchor chain.

4. A safety anchor system for mobile homes as set forth in claim 1 wherein each of the said side braces are disposed edgewise against the side of the mobile home having one metal tube of the said side brace against the side of the trailer while the other metal tube is disposed outward from the side of the trailer, a vertically extending threaded stud member attached to the upper end of the inside metal tube, and wherein the roof strap bracket comprises a substantially flat rectangular portion having an outwardly extending handle-like member, the said handle-like member being offset from the plane of the rectangular portion and disposed downward between the two oppositely disposed rectangular plates at the upper end of the side brace, a centrally disposed bore located at a point adjacent to where the handle means connects to the rectangular portion for receiving the vertically disposed stud member therethrough, a threaded nut for securing the said roof strap bracket to the upper end of the side brace, an elongated slot provided adjacent to the edge of the rectangular portion on the opposite side of the handle-like member for receiving one end of the roof strap therein, the bottom surface of the said rectangular portion being provided with an elongated downwardly extending shoulder means which is disposed against the edge of the roof of the said mobile home.

5. A safety anchor system for mobile homes as set forth in claim 4 wherein each anchor means comprises a base bracket which is rigidly secured adjacent to the bottom end of the inside metal tube of the side brace for attaching the said side brace to the base frame of the mobile home, a downwardly extending threaded stud member rigidly secured to the bottom end of the outside metal tube of the side brace, a substantially S-shaped anchor bracket having a bore in one end thereof for receiving the downwardly extending metal stud member, the opposite end of said anchor bracket being provided with an aperture therethrough, a threaded nut adjustably securing the anchor bracket to the downwardly extending threaded stud member, a vertically disposed elongated anchor stake having an eyelet member attached to the upper end thereof and an elongated anchor chain having one end thereof secured to the eyelet member of the anchor stake and the opposite end thereof secured to the aperture provided in the anchor bracket, whereby upon installation of the system the threaded nut is tightened about the downwardly extending threaded stud member thereby raising the anchor bracket which in turn serves to tighten the said anchor chain thereby securely anchoring the system to the ground.

* * * * *