ABSTRACT OF THE DISCLOSURE
A wiring protector mountable within a transverse slot in a frame support comprising a U-shaped member having a rear flange, a shorter front flange spaced from said rear flange, and an integral web interconnecting the lower margins of said flanges. At least a portion of the upper edge of the rear flange of the protector is inclined. The distance between the web and the uppermost edge part of the rear flange of the protector is greater than the spacing between opposed sides of the frame support slot so that the protector may be wedged lengthwise into said frame support slot with its rear flange positioned adjacent the back of the slot.

BACKGROUND OF THE INVENTION
This invention relates to an electrical wiring protector which is mountable within a transverse slot in a building or home frame support, such as a wood stud, and which serves not only to protect electric wiring traversing said supports but also to contain the wiring during application of siding to the frame support.

In the assembly of home structures, such as mobile homes, in which speed and efficiency in the construction of the structures affect productivity and unit cost, means have been devised to form a protective shield about the electrical wiring or other type conduits which traverse the studs or similar frame supports in the structure. This type of protection is desirable to prevent penetration and shorting of the wiring when nails or screws are anchored in the frame supports to attach siding or cabinets thereto.

It is common practice to utilize U-shaped protectors which are positioned in shallow transverse slots or notches in the studs to support and protect the wiring. Heretofore, one method of securing these U-shaped protectors to the studs consists of forming aligned holes in the upper margins of the laterally spaced flanges of each protector and inserting a nail or other securing means through the aligned holes and anchoring it in the stud. In using this type of securing means, the wiring must be inserted lengthwise through the secured protector in a time-consuming manner. Another means heretofore used to secure the U-shaped protector to the studs consists of having an apertured laterally directed tab formed along a bottom edge of each protector. A nail or other securing means is inserted through the tab and anchored in the side of the stud. This latter type of protector secures means permits sidewise insertion of the wiring into the protector, but when multiple strands of wiring are carried therein, there is a tendency for the protector to pivot within the stud slot. This pivotal movement of the protector relative to the stud makes insertion of the wiring difficult and, in mobile homes, can cause deforming of the overlying siding of the mobile home due to vibratory contact between the protector and siding during road travel.

Another means heretofore used to secure electrical wiring to the frame support of a building or home structure involves the use of a recessed plate which spans a notch formed in a stud and which is secured thereto by nails or other means. This means of wiring securement does not protect the wiring from penetration by nails or screws driven or turned into the stud from a side opposite the recessed plat nor does the use of the recessed plate facilitate laying of the wiring since either the plate is first attached to the stud and then the wiring is time-consumingly inserted through the notch or the wiring is first laid in the notch and then the plate is inserted therewith over obvious difficulty.

SUMMARY OF THE INVENTION
This invention relates to an improved U-shaped wiring protector which is adapted for fixed mounting in a transverse slot in a building or home frame support and which includes a rear flange, a shorter front flange laterally spaced from said rear flange, and an integral web interconnecting the lower margins of said flanges. At least a portion of the upper edge of the rear flange is inclined.

The distance between the web and uppermost edge part of the rear flange of said protector is greater than the spacing between opposed sides of the frame support slot so that the protector may be inserted lengthwise into said frame support slot and wedged therein with its rear flange positioned adjacent the back of said slot. The protector also preferably includes a wedge part which projects below its web.

The wire protector of this invention is forcibly inserted lengthwise into the frame support slot by means of a hammer or similar device which causes the wedging and self-locking of the protector in the slot without the need of nails or other separate securing means. The shorter front flange of the installed protector has its upper edge spaced from the upper side of the frame support slot so as to permit sidewise insertion of the wiring into the protector. The front flange may be inwardly bent to enclose the inserted wiring.

Accordingly, it is a purpose of this invention to provide a wiring protector which can be secured to a building or home frame support and which is of single piece economical construction.

It is another object of this invention to provide a wiring protector which may be secured to a building or home frame support in a rapid manner.

It is still another object of this invention to provide a wiring protector which, when mounted to a stud in a building or home structure, permits the rapid insertion of wiring therein.

Other objects of the invention will become apparent upon a reading of the invention's description.

BRIEF DESCRIPTION OF THE DRAWING
FIG. 1 is a fragmentary perspective view of a structural side wall with parts in section showing one construction of the wiring protector of this invention mounted to a stud and closed about a traversing electrical wire.

FIG. 2 is a perspective view of the wiring protector of FIG. 1 shown in uninstalled form and with a part in section.

FIG. 3 is a side elevation of the wiring protector shown in FIG. 2.

FIG. 4 is an end view of the wiring protector shown in FIG. 2 as viewed from the right.

FIG. 5 is a fragmentary side view of the stud and wiring protector of FIG. 1 showing the wiring protector prior to insertion of the electrical wire therein.

FIG. 6 is a perspective view of another construction of the wiring protector of this invention with a part shown in section.

FIG. 7 is a side elevation of the wiring protector shown in FIG. 6.

FIG. 8 is an end view of the wiring protector shown in FIG. 6 as viewed from the right.
DESCRIPTION OF THE PREFERRED EMBODIMENTS

The preferred embodiments illustrated are not intended to be exhaustive or to limit the invention to the precise forms disclosed. They are chosen and described in order to best explain the principles of the invention and their application and practical use to thereby enable others skilled in the art to best utilize the invention.

FIGS. 1-5 illustrate one construction of this invention. The fragmentary home or building side wall shown perspective in FIG. 1 includes a wooden stud or frame support 10 having a shallow transverse slot or notch 12 which is formed in a side 14 thereof and which is defined by top and bottom side walls 16 and end wall 18. A wiring protector 20 is mounted within slot 12 and cradles an electrical wire or cable 22 which traverses the protector 20 and the frame support 10. Sheet metal or similar paneling 24 is secured by screws 25 or similar means to side 14 of frame support 10 and covers slot 12. Wall board 26 may be attached to the opposite side of support member 10 by screws, nails or similar means anchored in the support member.

Protector 20 is a bracket member, preferably formed from sheet metal, having a U-shaped cross sectional configuration and including a rear leg or flange 28, a front leg or flange 30 laterally spaced from said rear flange, and an integral web 32 interconnecting the lower margins of the flanges 28 and 30. Upper edge 34 of rear flange 28 is inclined longitudinally of protector 20 beginning at side edge 21 of the protector and slanting upwardly at an angle preferably less than 45° to opposite side edge 23 of the protector. Upper edge 34 of front flange 30 preferably terminates below the lowermost edge part 41 of rear flange 28. The distance between the lowermost edge part 41 of rear flange 28 and edge 34 of front flange 30 is preferably greater than the thickness of wire 22.

A V-shaped tab or wedge part 38 preferably projects below web 32. Wedge part 38 is preferably struck from web 32 at the bend between the web and rear flange 28 adjacent protector side edge 23 and lies in substantially the same plane as rear flange 28. One defining edge 40 of wedge part 38 forms an extension with protector side edge 23 and the other defining edge 42 of wedge part 38 slants from edge 40 to web 32 as best shown in FIG. 3. The distance between web 32 and lowermost edge part 41 of rear flange 28 is preferably only slightly less than the spacing between opposed side walls 16 of slot 12 in frame support 10, and the distance between web 32 and the uppermost edge part 51 of flange 28 is greater than the spacing between side walls 16 of slot 12. The width of web 32 is preferably not greater than the distance between end wall 18 of slot 12 and side 14 of frame support 10.

To mount protector 20 within slot 12 of the frame support 10, side edge 21 of the protector is first inserted into slot 12 from side 15 of the support. The protector is then driven lengthwise into the slot with rear flange 28 positioned adjacent back wall 18 of the slot by means of a hammer or similar device causing upper edge 34 of the rear flange 28 and web part 38 of protector 20 to penetrate the softer frame support 10 and firmly wedge the protector within the slot. After the wiring is mounted in the protector, front flange 30 may be bent inwardly, as shown in FIG. 1, to enclose the wiring.

FIGS. 6-8 illustrate another construction of this invention in which protector 20 is modified so that rear flange part 28 has an upper edge 50 comprising a lower edge portion 52 and a parallel upper edge portion 54 joined by an inclined coplanar edge portion 56. The distance between lower edge portion 52 of rear flange 28 and web 32 of the modified protector is preferably only slightly less than the spacing between opposed side walls 16 of the slot 12 in frame support 10, and the distance between upper edge portion 54 of rear flange 28 and web 32 is greater than the spacing between side walls 16 of slot 12. Wedge part 38 is struck from web 32 intermediate the length thereof with defining edge 42 of the wedge part preferably slanting from web 32 divergently opposite and at the same angle as edge portion 56 of rear flange 28. The modified protector is mounted within slot 16 of frame support 10 in the same manner as that described for protector 20.

It will be understood that the invention heretofore described is not to be limited to the details herein given but may be modified within the scope of the appended claims.

What I claim is:

1. An electrical wiring protector for mounting within a transverse slot in a building or home frame support comprising a U-shaped member having a rear flange, a front flange laterally spaced from said rear flange, and an integral web interconnecting the lower margins of said front and rear flanges, said rear flange having an upper edge of which at least a portion thereof is inclined, the distance between the uppermost inclined part of said rear flange upper edge and said web being greater than the spacing between opposed side walls of said frame support so that said wiring protector can be inserted lengthwise into said frame support slot and firmly wedged therein.

2. The wiring protector of claim 1, wherein the upper edge of said front flange terminates below the lowermost inclined part of said rear flange upper edge.

3. The wiring protector of claim 2, and an integral wedge part projecting below said web.

4. The wiring protector of claim 3, wherein said wedge part is substantially coplanar with said rear flange.

5. The wiring protector of claim 1, wherein the upper edge of said rear flange includes lower and upper edge portions joined by an inclined edge portion.

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