

[54] **WIRING WINDOW FOR DESKS AND THE LIKE**

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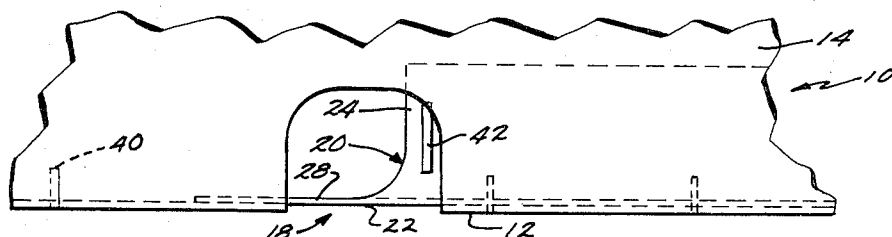
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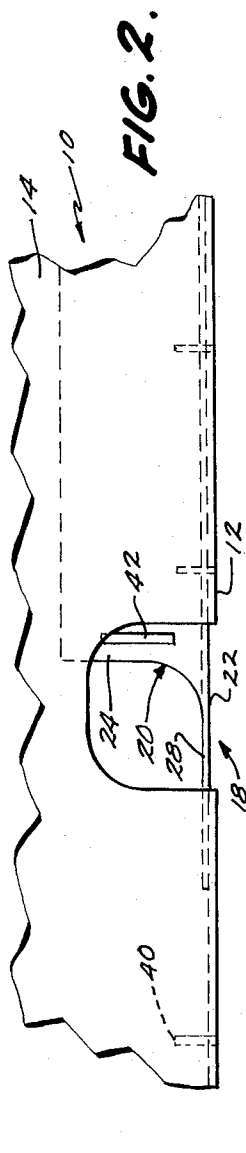
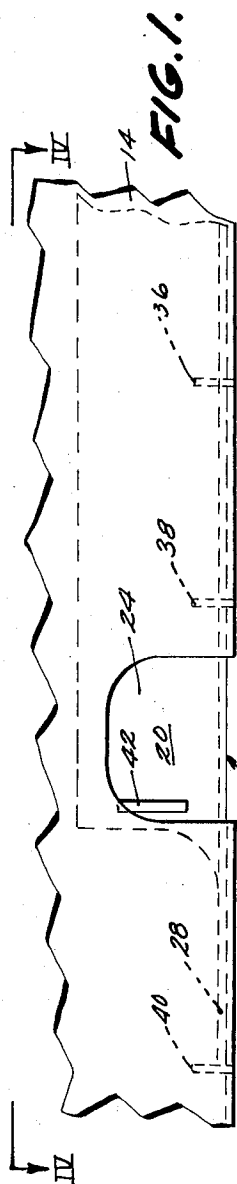
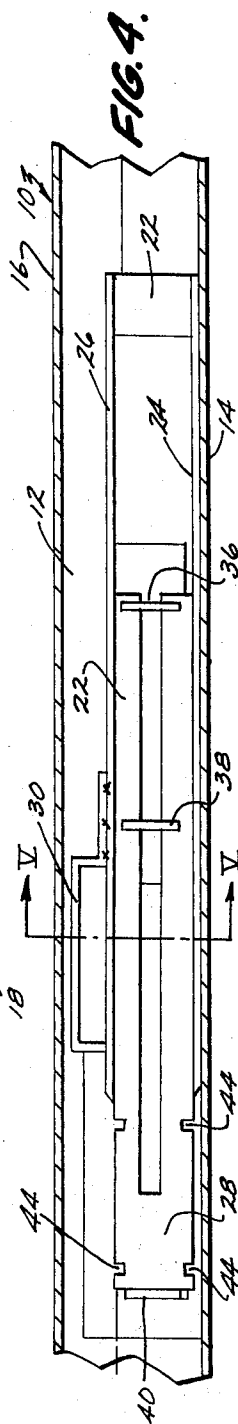
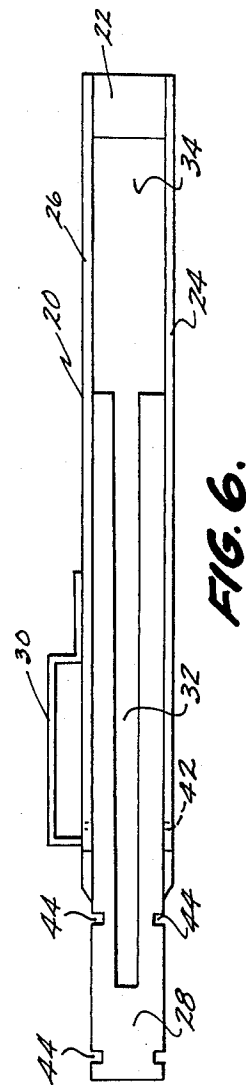
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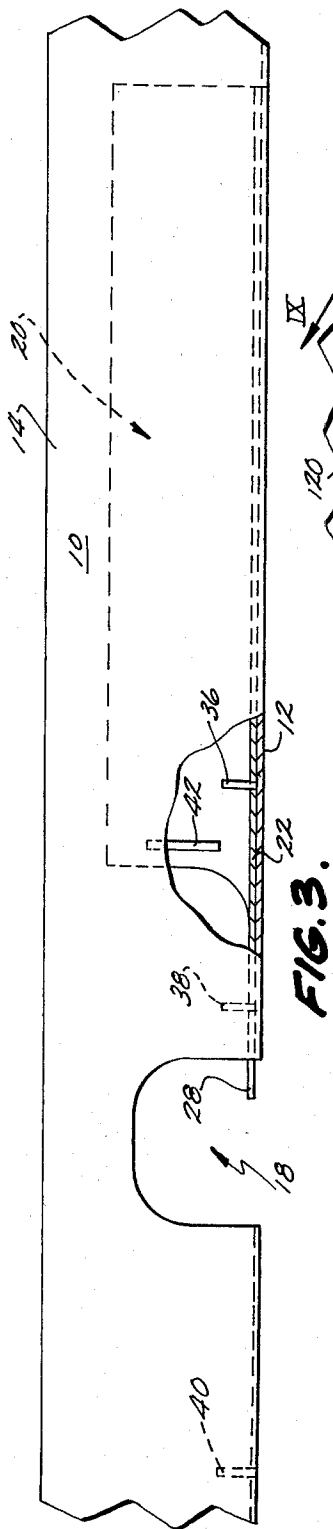
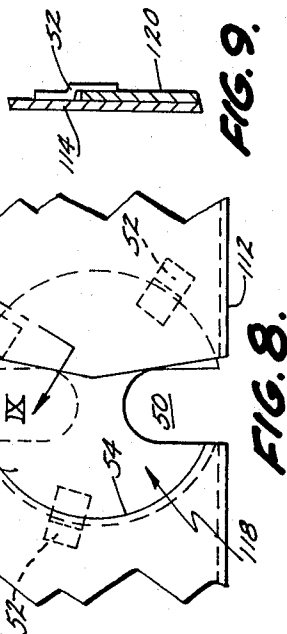
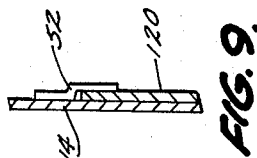
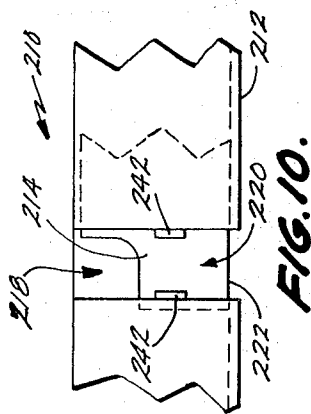
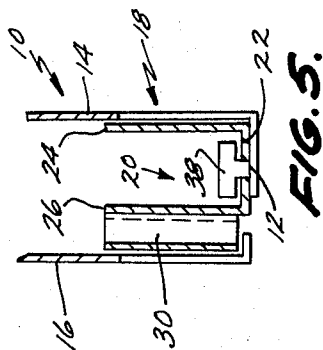
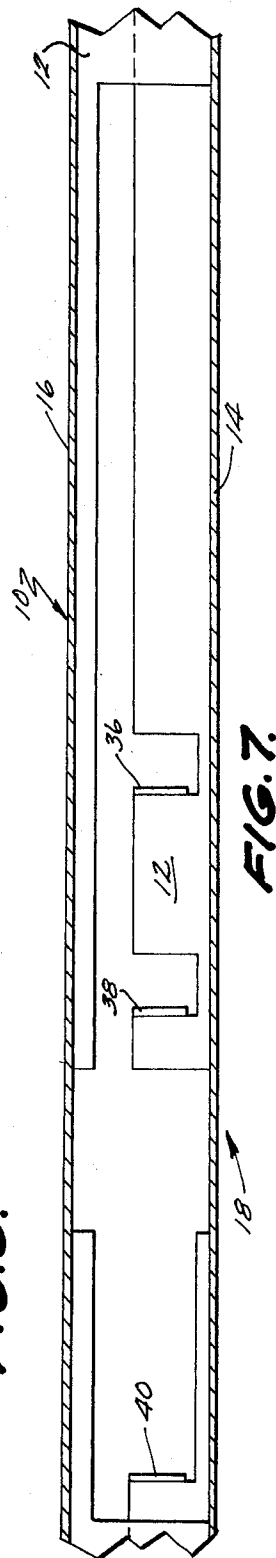
[57] ABSTRACT

An article of furniture as a desk is provided with a wiring window in its base which is completely open at the bottom. This opening in the bottom allows the desk to be positioned directly over existing wiring with the wire passing through the opening. A special closure mechanism or door is mounted in the base and can be closed around the wiring to hold the wiring in place. In the absence of wiring, the door can completely close the opening to preserve the aesthetic appearance of the article of furniture.

18 Claims, 10 Drawing Figures







WIRING WINDOW FOR DESKS AND THE LIKE

BACKGROUND OF THE INVENTION

In office furniture such as desks and the like, wire access openings are generally provided in one or more of the exterior vertical panels to provide a means to pass wires and other cabling to the top surface for telephones, dictating equipment, and like electrical appliances. Such openings are generally punched through one of the panels and lined with a rubber "O" ring to prevent cutting or abrasion of the wire. The opening must be of a size large enough to accommodate the largest diameter of wire which might be utilized. Such openings are unsightly and severely detract from the aesthetic appearance of the furniture. Some constructions utilize rectangular slots provided with a slidable access door to close the opening when wiring is not utilized. However, like the above-described opening, the aperture must be sufficiently large to accommodate the largest anticipated wire. When smaller wires are placed through the opening and the door is partially closed, a fairly large opening is still visible and the wire is free to slide up and down making cutting or abrading of the wire possible. In some installations such as telephones, one end of the wiring must be disconnected from the terminal end or the appliance end such that it may be passed through the wire access opening thereby requiring additional valuable time to make the necessary disconnections and connections of the wiring so that it may be passed through the opening. Where desks are being installed into a system having preexisting wiring arrangements, it is sometimes difficult to locate the desks or other articles of furniture without first entirely removing the existing wiring. Further, the wiring must typically pass from the floor to an opening in the desk which is spaced above the floor. Thus, there is always some wire hangout at the base of the desk.

SUMMARY OF THE INVENTION

In the present invention, a desk is provided having a wiring window in its base which is completely open at the bottom. Thus, the desk is brought into a room with existing wiring and can simply be set over the wire with the wiring lying in the window opening. If desired, the window can then be closed to hold the wiring in place. A special closure member is provided for the wiring so that once the desk is set in place over the wiring the closure can be partially closed thereby leaving a portion of the window exposed and allowing for the passage of wiring therethrough while at the same time holding the wiring in place. Alternately, when there is no wiring to be passed through the base of the desk, the door may be closed thereby completely closing the opening so that the opening does not detract from the appearance of the furniture.

Accordingly, it is a primary object of the invention to provide a wiring window at the base of a desk or like article of furniture which can be completely open at the bottom such that the desk can be set down on top of existing wiring. More specifically, the present invention provides such a wiring window having a closure member therein such that the wiring window may be completely closed, completely open, or partially open to accommodate various sizes of wiring or no wiring at all. Other important objects and advantages of the present invention will be more fully appreciated upon reading the following description with reference to the accom-

panying drawings illustrating several embodiments of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 is a partial front elevational view of the base portion of a desk illustrating the wiring window and closure therefor in a closed position;

FIG. 2 is a front elevational view similar to FIG. 1 illustrating the closure member in a partially open position;

FIG. 3 is a front elevational view similar to FIGS. 1 and 2 illustrating the closure member in a nearly completely open position;

FIG. 4 is a cross-sectional view of the invention as viewed along the line IV—IV of FIG. 1;

FIG. 5 is a cross-sectional view of the invention as taken generally along the plane V—V of FIG. 4;

FIG. 6 is a top, plan view of the closure member shown in FIGS. 1-5;

FIG. 7 is a view similar to FIG. 4 with the closure member of FIG. 6 removed therefrom;

FIG. 8 is a front elevational view illustrating a second embodiment of a wiring window and closure means therefor;

FIG. 9 is a cross-sectional view taken along the plane IX—IX of FIG. 8; and

FIG. 10 is a front elevational view of a third embodiment of the wiring window and closure means of the present invention.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring now to FIGS. 1-5, the base or trim portion of the supporting structure for an article of furniture as a desk or the like is generally indicated by the numeral 10. The base is an elongated channel-like structure having a bottom wall 12 and a pair of upstanding side walls 14 and 16 which at their uppermost ends are fixed to or otherwise formed as a part of the panel supporting structure of the furniture (FIG. 4). As illustrated, upstanding wall 14 is the outside or exterior wall of the structure while the interior wall is designated by the numeral 16.

A wiring window 18 in the form of a slot completely open at the bottom is formed through the side and bottom walls of base 10 (FIGS. 3 and 7). As shown in FIGS. 1-3, the window extends transversely to the elongated base and is in the shape of an inverted U with its opening positioned at the bottom of the base. The slot has a width and extends upwardly into the base a distance sufficient to accommodate the largest size wire bundle typically encountered in an office environment.

A closure member 20 is positioned within the elongated channel of the base for sliding movement to close or partially close the window. Closure member 20 is also in the form of an elongated U-shaped channel having a bottom wall 22 and a pair of upstanding side walls 24 and 26 (FIGS. 4, 5 and 6). At one end of the channel, sidewalls 24 and 26 are cut back a portion of the extended length such that bottom wall 22 extends a slightly greater distance to form a tongue-like extension 28. As will be more fully explained hereinafter, the tongue serves as the closure is moved toward a closed position to close the opening in the bottom of the slot to thereby secure wiring in the window.

The closure is not as wide between walls 24 and 26 as the width of base 10 between walls 14 and 16. Accordingly, an outwardly extending arm member 30 is secured to closure wall 26 to prevent lateral shifting of the closure within the base (FIG. 5). The arm is slightly larger than the window opening in the base 10 and is located on closure wall 26 in a position wherein it blocks the window in interior wall 16 of base 10 when closed. An elongated slot 32 (FIG. 6) is formed in bottom wall 22 for cooperation with tabs 36 and 38 of base 10 and extends along the greatest portion of the length of the closure member. At the end of the closure opposite tongue 28, the elongated slot is wider than the frontal portion and extends completely between sidewalls 24 and 26, as indicated by the numeral 34 (FIG. 6) to facilitate mounting over tabs 36 and 38.

Referring to FIG. 7, bottom wall 12 of base 10 includes a plurality of upwardly extending tab members 36, 38 and 40. Tab 40 forms a stop mechanism for abutment with tongue 28 to prevent removal of closure 20 after it is installed. It is bent up only after closure 20 has been installed. Tabs 36 and 38 are bent up from bottom 12 of base 10 and as shown also in FIG. 5 are generally in the shape of a T with the upper portion of the T being positioned above the upper surface of the bottom wall 12. The stem portion of the T has a width slightly less than the width of slot 32 in the closure member while the upper part or crosspiece of the T is slightly less than the width of slot opening 34 at the rearmost end of the closure member. The spacing between tabs 36 and 38 is slightly less than the length of slot opening 34 in the closure such that the closure can be positioned within the base by setting it over tabs 36 and 38 allowing them to be positioned within the slot opening 34. As the closure is moved toward an open position (to the right as viewed in FIGS. 1-4), the stems of tabs 36 and 38 will fall into position within slot 32. When so positioned, the top of T-shaped tabs 36 and 38 prevents vertical movement of the closure while still allowing lateral movement thereof. Tab 40 is bent upwardly into the position shown in FIGS. 1-4 after the closure is positioned on tabs 36 and 38. As the closure is moved to the left as viewed in the figures, tongue 28 abuts tab 40 when the window is completely closed and prevents further movement of the closure. When closed, tabs 36 and 38 remain within the confines of slot 32, movement of the wider slot 34 under tabs 36 and 38 is prevented by the abutment of stop tab 40 with tongue 28. Removal of closure 20 can, if necessary, be effected by either bending tab 40 downwardly or alternatively, by bending the tongue 28 upwardly to pass over tab 40. It is noted, however, that once assembled, the closure mechanism of the present invention is so efficient in its construction that it is rarely, if ever, necessary to remove the closure from the base.

A vertically elongated slot 42 is provided in the sidewall 24 of the closure adjacent the end thereof which closes the window opening. A plurality of notches 44 are provided adjacent the outermost end of tongue 28 and also in a position midway between the front end of tongue 28 and slot 42 in the wall of the closure. These notches and slots are provided to receive a tool as a screwdriver or a fingernail such that the closure member may be shifted between open and closed positions by inserting the screwdriver through window opening 18 into slot 42 and/or notches 44 to shift the closure member in the desired direction.

In use, as the desk or article of furniture is moved into a room having existing wiring therein, the desk with the window opening completely open is positioned directly over the wiring such that it lays into the window slot. The closure member is then moved to the left as viewed in the figures by inserting a screwdriver or other convenient tool into notch 44 shifting the closure to the left and capturing the wire within the confines formed by tongue 28 and the sidewalls of the slot. The closure may be moved tightly against the wiring as the leading edge of the sidewalls abuts the wiring pushing it to the left and confining it between the tongue, the sidewalls of the closure, and the sidewall of the slot. The wiring will therefore be secured in place and the window opening in the desk will be of a size just sufficient to accommodate the wiring. No unsightly openings will be visible other than that absolutely required to accommodate the wiring. Removal of the wiring is, of course, simply accomplished by urging the closure member to the right as viewed in the figures. When no wiring is existent, the closure may be slid completely to the left until tongue 28 abuts stop tab 40, thereby entirely blocking off the opening with wall 24.

ALTERNATE EMBODIMENTS

Referring to FIGS. 8 and 9, an alternate embodiment of the wiring window of the invention is shown. Since many of the component parts are similar in function, like parts will be identified with like reference numerals prefaced with the numeral 100. The base 110 is, as in the previous embodiment, an elongated channel-like member having a bottom wall 112 and upwardly extending spaced sidewalls (in this view only sidewall 114 is shown). The sidewalls, both inner and outer, are provided with a semi-circular window opening 118 open at the bottom such that the base can be positioned over existing wiring as previously described. Only a small segment of the semicircular opening is open to the base. In this embodiment, the closure member 120 is in the form of a circular disc having a slot or secondary window 50 formed therein which is smaller in area than opening 118. The secondary window is in the shape of an inverted U with the opening positioned at the outer periphery of the circular disc. A plurality of tabs 52 are secured in sidewall 114 and support the disc to allow its free rotation such that window 50 can be rotated through an arc through opening 118 and rotated into a hidden position behind wall 114 to completely close the opening in the base. In use, window 50 is positioned as shown in the figure such that when the furniture is positioned over wiring, the wiring will lay in opening 50. To secure the wire, the disc is rotated to the position shown in phantom in FIG. 8, causing the wire to abut against a sidewall 54 of the window opening in wall 114. If no wiring is existent, the disc may be rotated such that window opening 50 is positioned behind the wall 114 to completely close the opening to preserve the appearance of the structure.

The embodiment shown in FIG. 10 is essentially identical in construction to that shown in FIGS. 1-7 and like parts are identified with like reference numerals prefaced by the numeral 200. Base 210 has a vertically extending elongated slot 218 provided therein which is open at the bottom wall 212 of the base. The sidewalls of the closure member 220 extend the entire length of the closure and are cut back back or stepped at an uppermost portion thereof such that when wiring is posi-

tioned therein, the wiring will be held a slight distance above the bottom wall 212. The closure member may be shifted as in the first embodiment between open, closed or partially closed positions. Slots 242 are provided in the sidewalls of the closure member to receive a screwdriver or other suitable tool such that the closure may be shifted between the various positions. The operation of this embodiment is essentially identical to that previously described in that when in use, the closure is shifted to completely open the slot 218 which may then be positioned directly over existing wiring and then closed to hold the wiring in place.

It will be recognized that the wiring window of the present invention provides a simple yet very effective means of accommodating wire sizes of various diameters and holds them securely in place without excessive gap. By utilizing the present invention, an article of furniture can be brought into a room with existing wiring and simply be set over the wire with the wiring lying in the window opening. The window can then be closed to hold the wiring in place.

While several embodiments of the invention have been illustrated and described in detail, it will readily be recognized by those skilled in the art that many other modifications incorporating the teachings hereof may readily be made in light of this disclosure. Accordingly, all modifications embodying the principles hereof are to be considered as included in the appended claims unless these claims by their language expressly state otherwise.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. Wiring means for articles of furniture or the like having a supportive base portion, said wiring means comprising: said base having an open slot therein forming a wiring window opening, said slot extending from the bottom of said base whereby said wiring window is open and accessible through the bottom of said base; closure means for said window, said closure means being shiftable between open and closed positions and a position intermediate said open and closed positions with respect to said window; means mounting said closure means for movement between said open and said closed positions whereby when open said base portion may be positioned directly over wiring, said wiring passing through said open slot in said base; said closure means including at least one wall surface adapted to block and close said window opening when said closure is in said closed position; said closure means including a securing portion adapted to block and only partially close said window opening when said closure means is in said intermediate position whereby when wiring is located in said window, said closure means can be moved to said intermediate position with its said securing means blocking said window opening to hold wiring therein but leaving room for said wiring to pass through said window opening.

2. Wiring means for articles of furniture or the like having a supportive base portion, said wiring means comprising: said base having an open slot therein forming a wiring window opening, said slot extending from the bottom of said base whereby said wiring window is open and accessible through the bottom of said base; closure means for said window, said closure means being shiftable between open and closed positions with respect to said window; means mounting said closure

means for movement between said open and said closed positions whereby when open said base portion may be positioned directly over wiring, said wiring passing through said open slot in said base; said closure means including at least one wall surface adapted to block said opening and wherein said closure is mounted for movement transverse to said window opening whereby said wall will cover said opening when in said closed position; said base being formed as an elongated channel, said window extending through said channel transverse to its elongated length, said closure means being mounted for sliding movement in said elongated channel along at least a portion of its length, and said mounting means including means for limiting the movement of said closure means.

3. The wiring means of claim 2 wherein said closure means comprises a generally U-shaped channel member having a bottom wall and a pair of sidewalls, said bottom wall being adapted to slide along the bottom wall of said base, said mounting means including cooperative captivating means on said bottom wall of said base and said bottom wall of said closure means for holding and guiding said closure means for movement between said positions.

4. The wiring means of claim 3 wherein said closure means includes means for securing the wiring in said window opening, said securing means being operative as said closure means is shifted from open position toward said closed position.

5. The wiring means of claim 4 wherein said securing means comprises said bottom wall of said closure means having a tongue member extending therefrom a greater distance than said sidewalls, said tongue member being adapted to close the bottom portion of said opening to thereby clampingly receive wiring therein.

6. The wiring means as defined in claim 3 wherein said captivating means includes said bottom wall of said closure means having an elongated slot therein along at least a portion of its length; a plurality of tab members extending upwardly from said bottom wall of said base member, said tab members extending through said elongated slot.

7. The wiring means as defined in claim 6 wherein said tab members are generally T-shaped, the upper portion of said T being wider than said elongated slot in said bottom wall of said closure means to restrict the vertical movement thereof.

8. The wiring means as defined in claim 7 wherein at least a portion of said slot is wider than said upper portion of said T-shaped tab to facilitate the assembly thereof.

9. In an article of furniture having an elongated base portion for supporting said article on a surface an improved wiring window comprising: said base having an open slot formed therein extending through said base transverse to its length whereby said base may be positioned directly over wiring lying on said surface; means in said base for closing said window and means mounting said closing means for movement between open and closed positions with respect to said window; said window being formed in a wall portion of said base and said closure means includes a disc-like member rotatably mounted on said wall adjacent said window opening, said disc member having a slot formed therein adapted in a first position to allow passage of wiring through said window and rotatable to a second position to close said window.

10. The wiring means as defined in claim 9 in which said window is generally semi-circular in configuration with only a portion of the semi-circle opening to the bottom of said base and has greater area than said slot whereby wiring can be inserted into said slot and said closure means can be rotated until said slot opening is closed by a side of said semi-circle to thereby trap the wiring in place.

11. In an article of furniture having an elongated base portion for supporting said article on a surface an improved wiring window comprising: said base having an open slot formed therein extending through said base transverse to its length whereby said base may be positioned directly over wiring lying on said surface; means in said base for closing said window and means mounting said closing means for movement between open and closed positions with respect to said window; said base being formed as an elongated channel, said window extending through said channel transverse to its elongated length, said closure means being mounted for sliding movement in said elongated channel and along at least a portion of its length, and said mounting means including means for limiting the movement of said closure means.

12. The wiring window as defined in claim 11 wherein said closure means comprises a generally U-shaped channel member having a bottom wall and a pair of sidewalls, said bottom wall being adapted to slide along the bottom wall of said base, said mounting means including cooperative captivating means on said bottom wall of said base and said bottom wall of said closure means for holding and guiding said closure means for movement between said positions.

13. The wiring window as defined in claim 12 wherein said closure means includes means for securing the wiring in said window opening, said securing means being operative as said closure means is shifted from open position toward said closed position.

14. The wiring window of claim 13 wherein said securing means comprises a stepped portion formed on said sidewalls of said closure members, said stepped portion cooperatively forming, with said slot in said base, a secondary window through said first-mentioned slot as said closure member is moved from open toward closed position.

15. In an article of furniture having an elongated base portion for supporting said article on a surface an improved wiring window comprising: said base having an open slot formed therein extending through said base transverse to its length whereby said base may be positioned directly over wiring lying on said surface; means in said base for closing said window and means mounting said closing means for movement between open and closed positions with respect to said window; said closing means comprising a door having at least one step to give said door a stepped configuration whereby said

door can be positioned to completely close said window, to completely open said window, or to only partially close said opening by placing said step in alignment with said window opening.

16. In an article of furniture having an elongated base portion for supporting said article on a surface an improved wiring window comprising: said base having an open slot formed therein extending through said base transverse to its length whereby said base may be positioned directly over wiring lying on said surface; means in said base for closing said window and means mounting said closing means for movement between open and closed positions with respect to said window; a mounting wall upon which said closure is slidably mounted; a slot in said closure; a mounting tab having an enlarged head and a stem being bent out of said mounting wall; said slot including an enlarged portion wider than said head and a narrower portion narrower than said head but wider than said stem whereby said closure can be slipped over said mounting tab and moved until said mounting tab is captured in the narrower portion of said slot; said mounting wall including a stop tab bent upwardly therefrom, said stop tab being in the path of movement of said closure and being located such that it limits movement of said closure on a path where said mounting tab travels only in said narrower portion of said tab; said mounting wall being made of a material which can readily be bent whereby said stop tab can be bent upwardly after said closure has been mounted on said mounting tab.

17. Wiring means for an article of furniture comprising: a wiring opening in said article of furniture; a closure for said wiring opening in said article of furniture; a mounting wall upon which said closure is slidably mounted; a slot in said closure; a mounting tab having an enlarged head and a stem being bent out of said mounting wall; said slot including an enlarged portion wider than said head and a narrower portion narrower than said head but wider than said stem whereby said closure can be slipped over said mounting tab and moved until said mounting tab is captured in the narrower portion of said slot; said mounting wall including a stop tab bent upwardly therefrom, said stop tab being in the path of movement of said closure and being located such that it limits movement of said closure on a path where said mounting tab travels only in said narrower portion of said tab; said mounting wall being made of a material which can readily be bent whereby said stop tab can be bent upwardly after said closure has been mounted on said mounting tab.

18. The wiring means of claim 17 in which said mounting wall includes two such mounting tabs spaced such that said enlarged portion of said slot will fit over both said mounting tabs simultaneously.

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