Oct. 30, 1934. H. F. KEIL 1,978,636

SHELF BRACKET CONSTRUCTION

Filed March 19, 1932

Fig. 1.

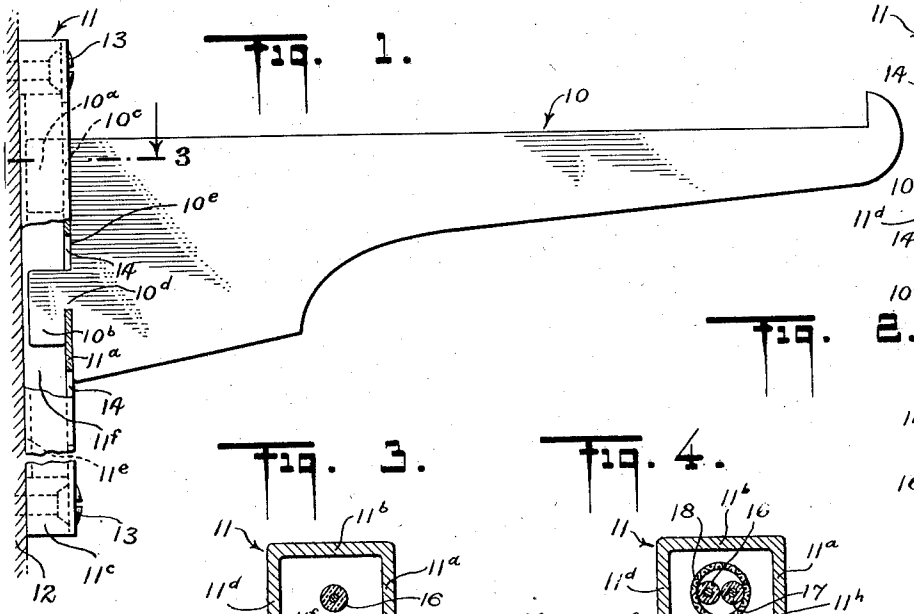


Fig. 2.

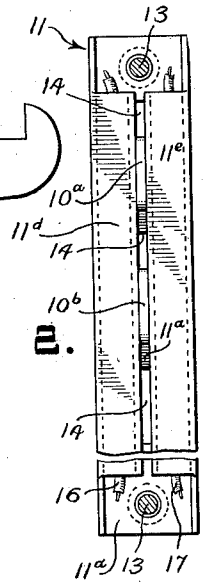


Fig. 3.

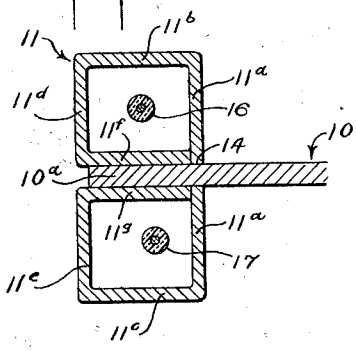


Fig. 4.

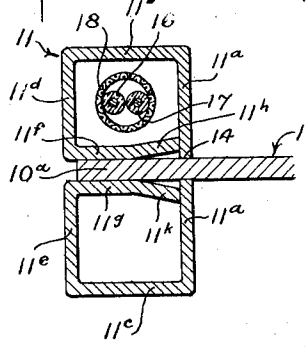


Fig. 5.

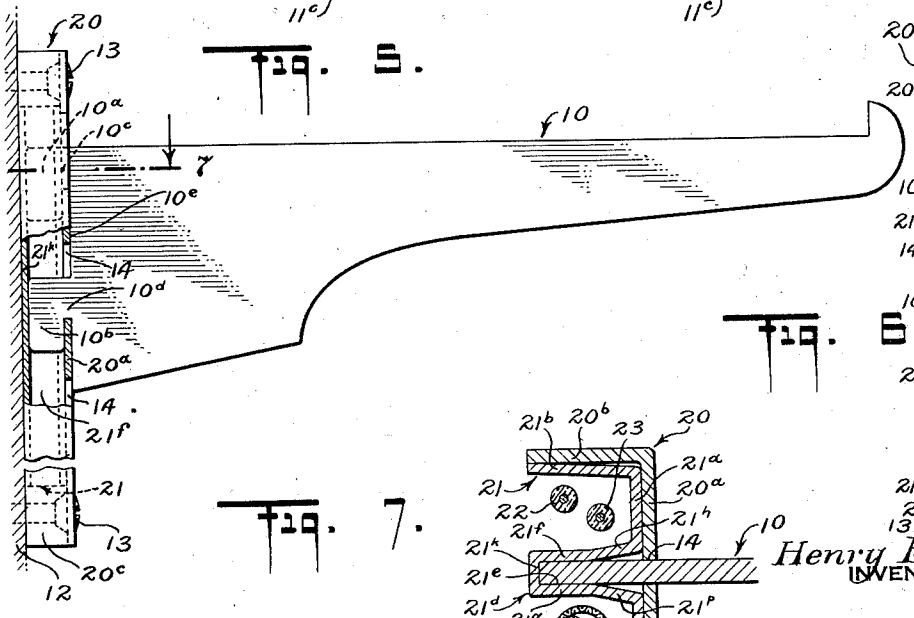


Fig. 6.

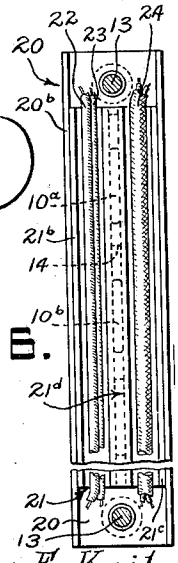


Fig. 7.

Henry F. Keil
INVENTOR

BY Janney, Blair & Curtis
ATTORNEYS

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UNITED STATES PATENT OFFICE

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SHELF BRACKET CONSTRUCTION

Henry F. Keil, Scarsdale, N. Y., assignor to Francis Keil & Son, Inc., a corporation of New York

Application March 19, 1932, Serial No. 599,947

19 Claims. (Cl. 248—19)

This invention relates to bracket construction.

One of the objects of this invention is to provide a simple, practical, durable, and inexpensive bracket construction particularly of the adjustable type such as is used for supporting shelving. Another object is to provide a light but strong, neat, and compact bracket construction of the above-mentioned character. Another object is to provide a construction of the above-mentioned character which may be easily installed, easily and quickly readjusted to suit the particular needs and requirements met with, and which will require a minimum, if any, skill or manipulation of parts in installation or in readjustment. Another object is to provide a construction of the above-mentioned character in which the assembly of the parts may be maintained in a simple, inexpensive, and thoroughly reliable and practical way. Another object is to provide a bracket construction of the above-mentioned character in which sheet metal stock may be reliably employed while at the same time side sway or similar insecurity of the bracket arm is dependably prevented and, moreover, in a thoroughly reliable and practical and yet simple way. Another object is to provide a construction of the above-mentioned character in which troublesome manipulation and manual tightening or manual securing of parts to bring about assembly or disassembly respectively are avoided. Another object is to provide a bracket construction of the above-mentioned character capable of inexpensive and rapid quantity production at lost cost and in which maintenance difficulties or supervision is reliably eliminated. Other objects will be in part obvious or in part pointed out hereinafter.

The invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which are shown several embodiments of certain features of my invention,

Figure 1 is a side elevation, partly in section, of a bracket construction including a bracket and its support;

Figure 2 is an end elevation as seen from the left in Figure 1;

Figure 3 is a horizontal cross-sectional view on an enlarged scale as seen along the line 3—3 of Figure 1;

Figure 4 is a view like that of Figure 3 but shows another possible form which certain features of my invention may take;

Figure 5 is a side elevation, partly in section, of a bracket construction embodying another embodiment of certain features of my invention and shows the bracket with its support;

Figure 6 is an end view as seen from the left in Figure 5; and

Figure 7 is a horizontal sectional view as seen along the line 7—7 of Figure 5.

Similar reference characters refer to similar parts throughout the several views in the drawing.

As conducive to a clearer understanding of certain features of my invention, it might at this point be noted that bracket constructions have heretofore been employed in which the vertically extending support for the bracket is provided with a series of vertically alined slots, sometimes taking the form of so-called "keyhole" slots or openings into which suitably shaped pairs of projections on the bracket itself are received and that in such constructions various devices have been attempted to be employed to insure a clamping action between the bracket and its vertical support or between certain related parts of these members; the manipulation of these clamping or securing or latching devices not only entails increased cost and expense but also entails difficulties and troubles in manipulating them, tightening them up to maintain assembly of the parts, loosening them up to permit readjustment of the bracket or brackets, and many other practical disadvantages. By way of further example, such clamping or securing devices oftentimes become loose and they result in an unstable mechanical relation of the parts giving rise to side sway and other undesirable and sometimes dangerous conditions. One of the dominant aims of this invention is to provide a simple, inexpensive, and thoroughly practical construction in which such disadvantages and difficulties as those just typified are eliminated in a thoroughly dependable way.

Turning now to the drawing and more particularly to Figure 1, there is shown a bracket generally indicated at 10 and its vertical support generally indicated at 11, both preferably made of sheet metal and the former preferably made of sheet metal of heavier stock than the latter. The vertically extending support 11 is adapted to be secured to a vertical wall, partition, or the like, typified at 12, as by means of screws 13—13 whose heads are preferably seated in suitable countersunk openings in the front or right-hand wall of the member 11.

The vertical support 11 is made of sheet metal of suitable thickness, preferably somewhat springy material, such as sheet steel, and it is rolled or otherwise formed in a manner more clearly described hereinafter to include certain parts or portions of which it is sufficient at this point to note that it has, referring now to Figure 3, a front wall 11^a and vertical side walls 11^b and 11^c bent at right angles to the front wall 11^a.

In the front wall 11^a and vertically alined along preferably the center thereof is a series of rectangular slots better shown in Figure 2 at 14 suitably spaced from one another. The member 11 may be of any desired length.

The slots 14 are of a width or horizontal dimension as viewed in Figure 2 substantially equal to the thickness of the sheet metal bracket 10 or, more accurately speaking, of a horizontal dimension or width substantially equal to the thickness of the hook-shaped extensions 10^a and 10^b (Figures 1, 2 and 3) which, where the bracket 10 is made of sheet metal, are preferably formed integrally with the main body portion of the bracket 10 and are preferably of the same thickness as the latter.

The hook-shaped parts 10^a and 10^b are preferably rectangular in shape, generally speaking, and are joined to the bracket 10 by neck-like portions 10^c and 10^d (Figure 1), leaving what might be termed slots between the parts 10^a, 10^b and the left-hand or rear straight edge 10^e of the bracket 10, these slots being of a width substantially equal to the thickness of the sheet metal of the front wall 11^a of the support 11.

The parts 10^a and 10^d are of a vertical dimension substantially equal to the vertical dimension or length of the slots 14 in the member 11 so that they may be passed freely through any pair of vertically spaced slots 14, the portions of the front wall 11^a being snugly and relatively tightly received within the slotted portions of the hook-shaped parts 10^a and 10^b.

The vertical supporting member 11 is rolled or otherwise suitably formed so that the side members 11^b and 11^c (see Figure 3) have flange-like parts 11^d and 11^e bent toward each other and at right angles to the parts 11^b and 11^c respectively, lying in a single plane to form virtually a back wall that is parallel to the front wall 11^a (see Figure 3).

The vertically extending flange-like back wall portions 11^d and 11^e, however, are bent throughout their lengths to provide flange or wing-like members 11^f and 11^g (Figure 3) which preferably extend up to and into contact with the rear face of the front wall 11^a of the support 11, as is better shown in Figure 3.

The parts 11^f and 11^g are parallel to each other and are spaced apart by a distance substantially equivalent to the width of the slots 14 and hence substantially equivalent to the thickness of the hook-shaped parts 10^a and 10^b of the bracket 10. Preferably, in rolling or otherwise thus forming the member 11, the parts 11^f and 11^g are spaced apart slightly less than the thickness of the hook-shaped members 10^a and 10^b of the bracket 10 for a purpose more clearly described hereinafter.

If now the bracket 10 has its tangs or hook-shaped parts 10^a and 10^b passed through two vertically spaced slots 14, they pass not only through these slots but also come into gripping engagement with the large-faced members 11^f—11^g (Figure 3) between which they are forced and securely and frictionally held; a subsequent downward thrust exerted upon the bracket 10 (see Figure 1) now causes the portions in between the vertical slots 14 to be received snugly and securely in the snug fitting slots of the hook-shaped members 10^a—10^b.

The resultant construction is secure and fast; the members 11^f—11^g (Figure 3) are tightly pressed toward each other and hence against the hook-shaped parts of the bracket 10, an action that is insured by the inherent yieldability of the sheet metal, the conformation, moreover, being such as to insure the dependable maintenance, through long-continued use, of this tight and secure frictional gripping. Not only are the members 11^f and 11^g somewhat yieldable with respect to the back parts 11^d and 11^e respectively, but also the yieldability of the side walls 11^b and 11^c, which respectively carry the parts 11^d—11^f and 11^e—11^g, contributes toward insuring the desired tight gripping of the hook-shaped parts of the bracket 10.

The yieldability is sufficient to permit the assembly of the bracket 10 to the vertical support 11 as above described without requiring the application of undue manual force but is, moreover, sufficient to dependably hold the parts assembled against the usual exigencies and abuse occurring in hard practical use. Moreover, looseness of fit is avoided, as is also undesired rattling or vibration of the bracket 10. The latter is virtually made to form a cantilever whose anchored end is dependably and securely anchored against particularly side sway and is securely held in proper right-angled relation to the plane of the front wall of the support 11 and hence also to the plane of the wall 12 to which the bracket construction is secured, this right-angled relation being shown in both Figures 1 and 3 through the cantilever construction above-mentioned is intended to and actually does insure the maintenance of this right-angled relation and absence of side sway as the parts are viewed in Figure 3.

Moreover, the member 11, if shaped to embody such features as those above described, is given great strength and rigidity, particularly great resistance to bending in any direction. As appears from Figure 3, it will be noted that there are brought about at least three right-angled bends on each side of the center longitudinal axis of the member 11 and hence a total of six right-angled bends in the entire cross-section of the member 11. Thus, very great rigidity and strength is given the member 11 even though a relatively light sheet metal is employed in making it up. This feature is important particularly where the member 11 is of substantial length and supports a plurality of brackets 10 spaced along its length with corresponding shelves or the like carried by the brackets. Moreover, it acts as a dependable reinforcement to the wall 12 or whatever other member to which it is attached; oftentimes this construction is employed in show cases where the parts are of necessity light and in such cases the reinforcement lent by the member 11 is of great advantage.

Also, the rear or left-hand face of the member 11, as viewed in Figures 1 and 3 and as shown in elevation in Figure 2, is substantially plane and where the structure is mounted, as is sometimes necessary, so that portions of the rear face of the member 11 are exposed and hence visible, the above-described features of construction achieve a highly desirable neatness of appear-

ance in that unsightly projections and the like are avoided.

In some instances I may find it desirable to roll or otherwise form the member 11, as shown in cross-section in Figure 4 which may be considered to be a section as seen along the line 3—3 of Figure 1, In Figure 4 the parallel portions 11^f and 11^g which form the slot into which the hook-shaped parts of the bracket 10 are received and gripped by their free ends are bent apart as at 11^h and 11^k, thus to form the hook-receiving slot with a forwardly flared or tapered end to facilitate the reception of the hook-shaped parts 10^a and 10^b into gripping relation with the parallel portions 11^f and 11^g. This construction is particularly advantageous where the spring action of the metal is of substantial character and causes the gripping members 11^f and 11^g to exert a strong gripping force.

In many instances where shelves and bracket supports therefor are utilized, particularly in show cases or the like, it is frequently desirable to provide for the electric illumination of the goods or material displayed on the shelves supported by the brackets, and one of the difficulties met with in meeting this desire is the manner of location and concealment of the conductors leading to the electric lamp or other electric appliance that may be employed. Such difficulties, however, I effectively eliminate by way of my invention inasmuch as the upper and lower halves, as viewed in Figure 3, of the member 11, aside from functioning as above-described, I utilize to house or run the circuit conductors therethrough. Thus, in Figure 3 I have shown an insulated conductor 16 extending through the tube-like half formed by the parts 11^a—11^b—11^d—11^f and a mating insulated conductor 17 housed within and run through the lower or other tube-like half formed by the parts 11^a—11^c—11^e—11^g. Or, as is illustratively shown in Figure 4, I may run a suitable tube-like conductor-carrying member 18 made of insulating material or even of flexible metal tubing, carrying the conductors 16—17 therein, through the tube-like conduit formed by the support 11.

Thus, the conductors of the electric circuit are safely and dependably housed and are also concealed, thus avoiding unsightly apearance.

In Figures 5, 6 and 7 I have illustrated a possible modified embodiment of certain features of my invention in which I provide a bracket 10 constructed similarly as that above-described in connection with Figures 1–4 inclusive. The vertical support, however, is of composite construction and comprises a vertically extending member generally indicated at 20, preferably made of sheet metal which may be easily rolled to give it a front wall 20^a and side flanges or side walls 20^b, and 20^c; the front wall 20^a (see Figure 6) is provided with slots 14 similarly shaped and related as are the slots 14 of the member 11 of Figures 1 and 2.

The upper and lower ends of the member 20 are provided with countersunk openings to receive screws 13 to secure it to a wall 12.

But seated into the rear of the channel member 20 is a sheet metal member 21 (Figures 6 and 7) which is also shaped so that it may be economically fabricated as by rolling. It is preferably made of sheet metal having good inherent spring qualities.

The member 21 is provided with side wings 21^b and 21^c which are bent up out of the front wall part 21^a, a central portion of which is rolled or shaped or otherwise formed as at 21^d to provide a longitudinally extending recess 21^e generally of rectangular cross-section whose horizontal dimension is at least as great as the horizontal dimension of the parts 10^a and 10^b (Figure 5) of the bracket 10 so that these parts may be received therein and whose transverse dimension (vertical dimension as viewed in Figure 7) approximates the thickness of the hook-shaped parts 10^a or 10^b, being preferably less than the thickness but yieldingly so as is pointed out below. The right-hand or open end of the slot 21^e in the member 21 registers with the vertically alined slots 14 in the member 20.

The member 21 is fitted into the channel-shaped support 20 but it is so shaped that the side walls 21^f and 21^g of the central portion 21^d are yieldingly pressed toward each other. This action may be achieved, for example, by the spring action between these two side walls and the connecting portion 21^k or it may be achieved by the spring reaction of the side wings or side walls 21^b and 21^c (Figure 7) against the side walls 20^b and 20^c, respectively, of the channel member 20, or preferably by both of these actions acting together.

The flanges 20^b and 20^c are preferably bent at right angles to the front wall 20^a (Figure 7) of the channel member 20, but the angle between parts 21^b and 21^a and between the parts 21^c and 21^a of the member 21 is preferably an obtuse angle, as appears clearly in Figure 7, so that the spring reaction of the parts 21^b and 21^c may better force the portions 21^f and 21^g into secure but yieldingly gripping relation to the hook-shaped parts 10^a and 10^b of the bracket 10, thus supplementing the inherent spring gripping of the parts 21^f—21^k—21^g.

The member 21 is preferably simply snapped or inserted into the rear of the channel member 20 and is locked in place when the latter is secured to the wall 12 as by the screws 13 (see Figures 5 and 6). As a bracket 10 has its hook-shaped parts 10^a and 10^b inserted through two selected spaced slots 14 in the member 20, the hook-shaped parts are forced into this yielding but secure grip of the parts 21^f and 21^g, the bracket 10 being thus dependably held in place, particularly also after the bracket 10 has been moved downwardly sufficiently to cause the hook-shaped parts 10^c and 10^b (Figure 5 to ride down in back of the unslotted portions of the front wall 20^a of the channel member 20. Here again, accidental dislodgment of the parts is prevented, the necessity of manipulating screws, bolts, latches, or other devices is avoided, looseness of fit and consequent rattling or vibration eliminated, while side sway of the bracket 10 is likewise prevented. In this latter connection, the member 21 dependably anchors the anchored end of the bracket 10 which in this respect virtually assumes the form of a cantilever, and intended right-angled alinement is dependably achieved and maintained.

The right-hand or forward portions of the otherwise parallel gripping walls 21^f and 21^g I may, referring again to Figure 7, bend as at 21^h and 21^p to form a flared or tapered front end to the vertical slot 21^e, thus to facilitate the insertion of the hook-shaped parts of the bracket 10 and thus also better to concentrate, much in the same manner as with the construction shown in Figure 4, the gripping action toward the rear portions of the hook-shaped parts 10^a and 10^b and thus increase the cantilever action in preventing side sway of the bracket 10.

The member 21 (Figures 6 and 7) being snugly housed within the member 20 and encased thereby when the latter is mounted in position, also lends to the vertical composite support for the bracket or brackets 10 a great rigidity and strength, achieving great resistance to warping or bending and thus also reinforcing the part or parts to which the composite support is attached. Also, if the parts 20—21 are mounted so as to be exposed from the left as viewed in Figure 5, unsightly appearance is avoided and a neatly appearing structure achieved which is easily decorated and is easily kept clean.

If it is desirable to associate with the construction of Figures 5, 6 and 7 any conductors of any electric circuit, such conductors (see Figure 7) may be carried individually or in any suitable number through one or both of the hollow spaces formed on either side of the portion 21^d and in Figure 7 I have illustrated conductors 22—23 housed within and run through the conduit formed by the wall 12 and portions 21^b, 21^a and 21^f, the conductors being of any suitably insulated character such as is used in interior wiring work; or, if desired, the conductors 22—23 may be run through a tube-like insulating or metal conduit 24 housed within the same space or channel and in Figure 7 I have illustratively shown this arrangement housed within the conduit formed by the wall 12 and the parts 21^g, 21^a and 21^c.

In any case (illustratively as in Figures 3, 4 or 7) the brackets may be inserted into the vertical support and readjusted or changed in their positions or relations to each other as desired, all without interfering or contacting with the electric circuit conductors, the latter being safely and dependably protected and encased and held free from being interfered with by any inwardly projecting hook-shaped parts of the bracket or brackets.

It will thus be seen that there has been provided in this invention a bracket construction in which the various objects above noted, together with many thoroughly practical advantages are successfully achieved. It will be seen that the structure is simple, inexpensive, and lends itself to inexpensive and rapid manufacture, being particularly well adapted to be made up by such speedy and inexpensive operations as stamping and rolling. Moreover, it will be seen that the constructions are of a thoroughly practical character, make for ease of readjustment as well as of installation, are neat and compact, and well adapted to meet the varying conditions of hard practical use.

As many possible embodiments may be made in the above invention and as many changes might be made in the embodiment above set forth, it is to be understood that all matter hereinbefore set forth or shown in the accompanying drawings is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. In bracket construction, in combination, a vertical supporting member having a plurality of slots therein and having a pair of spaced gripping members alined with said slots, said gripping members being inherently yieldable and normally assuming positions such that they are spaced apart by a distance less than the width of the slots, a bracket having a pair of hooked-shaped members adapted to be passed respectively through two of said slots and then upon movement lengthwise of said supporting member to take in back of said supporting member, said hook-shaped members having a thickness greater than the spacing between said gripping members, whereby said gripping members are forced apart by said hook-shaped members and the latter are yieldingly gripped thereby and held against movement lengthwise of said supporting member.

2. In bracket construction, in combination, a vertical supporting member made of sheet metal of channel cross-section and having its flanges bent inwardly to terminate in spaced relation, said supporting member having a plurality of vertically alined slots in the front wall thereof, and a bracket having a hook-shaped member adapted to be passed through a slot and to take in back of the front wall of said supporting member, said hook-shaped member extending rearwardly of the front wall to an extent sufficient to be received in the space between said bent flanges.

3. In bracket construction, in combination, a vertical supporting member made of sheet metal of channel cross-section and having its flanges bent inwardly to terminate in spaced relation, said supporting member having a plurality of vertically alined slots in the front wall thereof, and a bracket having a hook-shaped member adapted to be passed through a slot and to take in back of the front wall of said supporting member, said hook-shaped member extending rearwardly of the front wall to an extent sufficient to be received in the space between said bent flanges, said flanges being yieldable relative to said front wall and the bent portions of said flanges being yieldable relative to the flanges themselves, whereby said hook-shaped member is yieldably gripped under the combined yielding action of the flanges relative to the front wall and of the bent portions of the flanges relative to the flanges.

4. In bracket construction, in combination, a vertical supporting member made of sheet metal of channel cross-section and having its flanges bent inwardly to terminate in spaced relation, said supporting member having a plurality of vertically alined slots in the front wall thereof, said flanges being yieldable toward or away from each other, and a bracket having a member adapted to be received through a slot in said supporting member and of sufficient length to extend between and to be gripped by said bent portions of said flanges.

5. In bracket construction, in combination, a vertical supporting member made of sheet metal and having a channel cross-section, the front wall of which has a plurality of vertically alined slots and the side flanges of which are bent inwardly into substantial parallelism with said front wall and are then bent to provide portions substantially parallel to each other and parallel to the side flanges of said supporting member, and a bracket having a hook-shaped member adapted to be received through a slot and to be engaged in between said last-mentioned parallel portions.

6. In bracket construction, in combination, a vertical supporting member made of sheet metal and having a channel cross-section, the front wall of which has a plurality of vertically alined slots and the side flanges of which are bent inwardly into substantial parallelism with said front wall and are then bent to provide portions substantially parallel to each other and parallel to the side flanges of said supporting member, the sheet metal of said supporting member being sufficiently yieldable and said parallel portions are yieldably urged toward each other, and a bracket having a hook-shaped part adapted to pass through a slot in said front wall and to be yieldingly gripped by said parallel portions.

7. In bracket construction, in combination, a vertical supporting member of channel cross-section and having a plurality of slots in its front wall, a bracket having a hook-shaped part adapted to be received through a slot and upon movement downwardly relative to said supporting member to take in back of said front wall, said hook-shaped part projecting rearwardly of said front wall, said supporting member being provided with a pair of opposed means, each comprising two portions of sheet metal extending at an angle to each other and one part yieldable relative to the other, said opposed means having the yieldable portions thereof normally spaced apart by a distance less than the thickness of said hook-shaped part and adapted upon yielding to receive therebetween and yieldably grip and hold a rear portion of said hook-shaped part and thereby to resist movement of said hook-shaped part upwardly and to hold it against unhooking movement relative to said front wall.

8. In bracket construction, in combination, a vertical supporting member of channel cross-section and having a plurality of slots in its front wall, a bracket having a hook-shaped part adapted to be received through a slot and then upon movement lengthwise of a slot to take in back of said front wall, said hook-shaped part projecting rearwardly of said front wall, and means projecting inwardly from each of the side flanges of said supporting member and adapted each to engage one side of the rear portion of said hook-shaped part to hold it and hence said bracket against side sway, said two projecting means being normally spaced apart by a distance less than the thickness of said rear portion, and said side flanges and hence said projecting means being resiliently separable to receive between the latter said rear portion and to yieldingly hold it against movement lengthwise of said slot, thereby to prevent unhooking of said part from said supporting member.

9. In bracket construction, in combination, a vertical supporting member of channel cross-section and having a plurality of slots in its front wall, a bracket having a hook-shaped part adapted to be received through a slot and to take in back of said front wall, said hook-shaped part projecting rearwardly of said front wall, and means integrally formed with said vertical supporting member and projecting inwardly from the side flanges thereof but terminating in spaced relation for receiving therebetween the rear portion of said hook-shaped part.

10. In bracket construction, in combination, a vertical supporting member of channel cross-section and having a plurality of slots in its front wall, a bracket having a hook-shaped part adapted to be received through a slot and to take in back of said front wall, said hook-shaped part projecting rearwardly of said front wall, and means accommodated within the channeled supporting member for receiving said hook-shaped part and having extensions whose support is against the side flanges of said supporting member to transmit any forces tending to sway said bracket sideways directly to the side flanges of said supporting member.

11. In bracket construction, in combination, a vertical supporting member of channel cross-section and having a plurality of slots in its front wall, a bracket having a hook-shaped part adapted to be received through a slot and to take in back of said front wall, said hook-shaped part projecting rearwardly of said front wall, and a sheet metal member bent to have a seat for receiving a rear portion of said hook-shaped part and having extensions directed toward and engaging with the side flanges of said supporting member.

12. In bracket construction, in combination, a hollow vertically extending support having a plurality of apertures in its front wall, a bracket having a part adapted to be received through an aperture and to extend rearwardly of the front wall of said support, and means positioned to the rear of said front wall and comprising two juxtaposed clamping parts spaced laterally by a distance slightly less than the thickness of said bracket part and extending substantially coextensively with said rearwardly extending bracket part for receiving therebetween and frictionally gripping said rearwardly extending part of said bracket to hold it against movement relative to said support.

13. In bracket construction, in combination, a hollow vertically extending support having a plurality of apertures in its front wall, a bracket having a part adapted to be received through an aperture and to extend rearwardly of the front wall of said support, and continuous means extending lengthwise of and within said hollow support and providing two parts between which said rearwardly extending part of said bracket is received and held, said two parts extending along all of said apertures and hence being positioned to engage said bracket part irrespective of through which aperture said part is received.

14. In bracket construction, in combination, a combined vertical supporting and conductor-carrying member made of sheet metal and having a front wall with a series of vertically alined apertures, a bracket having means adapted to be received through an aperture and to project rearwardly of said front wall, said member having side flanges bent toward each other and then inwardly toward the front wall to provide a space therebetween for said bracket means and to provide hollow channels, one on each side of the plane of said bracket means, for housing an electric conductor.

15. In bracket construction, in combination, a vertical supporting member made of sheet metal and provided with a plurality of slots in its front wall, and a bracket having a hook-shaped part adapted to be received through a slot and to take in back of said front wall, said sheet metal member being bent in cross-section to provide two rearwardly directed side walls and a rear wall made up of inwardly bent flanges from said side walls, said flanges terminating at points to receive therebetween the hook-shaped part of said bracket.

16. In bracket construction, in combination, a vertical supporting member made of sheet metal and having a channel cross-section, the front wall of which has a plurality of vertically alined slots and the side flanges of which extend substantially at right angles to the wall to which said supporting member may be secured, thus forming a conduit for receiving an insulated conductor, a bracket having a part adapted to be received through a slot in said supporting member and to project into said conduit, and spaced sheet metal means extending lengthwise of and within said supporting member, one on each side of said vertically alined slots, to receive therebetween said part irrespective of through which slot said part is received and to shield said conductor

from engagement with said part as the latter is inserted through a slot.

17. In bracket construction, in combination, a vertical supoprting member made of sheet metal and having a channel cross-section, the front wall of which has a plurality of vertically alined slots and the side flanges of which extend substantially at right angles to the wall to which said supporting member may be secured, thus forming a conduit for receiving an insulated conductor, a bracket having a part adapted to be received through a slot in said supporting member and to project into said conduit, and means sub-dividing said conduit throughout its length into three channels, one of which is alined with and open to said vertically alined slots for the reception of said part irrespective of through which slot said part is inserted and the remaining two of which are respectively on either side of said part-receiving channel, either of which is adapted to receive said insulated conductor whereby said conductor is prevented from interfering with said part.

18. In bracket construction, in combination, a vertical supporting member made of sheet metal and having a channel cross-section, the front wall of which has a plurality of vertically alined slots and the side flanges of which extend at a substantial angle to said front wall, a bracket having a hook-shaped part adapted to be passed through one of said slots and upon relative lengthwise movement between said bracket and said supporting member to take in back of said front wall, and a pair of spaced sheet metal members extending lengthwise of said supporting member and to the rear of said front wall, the space between said spaced members being alined with said vertically alined slots whereby said hook-shaped member is received between said spaced members, said spaced members being divergent along their edges adjacent said front wall to provide flared guiding side walls for guiding said hook-shaped part into said space.

19. In bracket construction, in combination, a vertical supporting member made of sheet metal and provided with a plurality of slots in its front wall, and a bracket having a hook-shaped part adapted to be received through a slot and to take in back of said front wall, said sheet metal member being bent in cross-section to provide two rearwardly directed side walls and a rear wall made up of inwardly bent flanges from said side walls, said inwardly bent flanges giving support to means that extend toward said front wall, said means being spaced to receive therebetween the hook-shaped part of said bracket.

HENRY F. KEIL.