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H. S. VAN BUREN, JR

3,208,561

CROSS MEMBER CLIP

Filed July 11, 1962

Fig. 1.

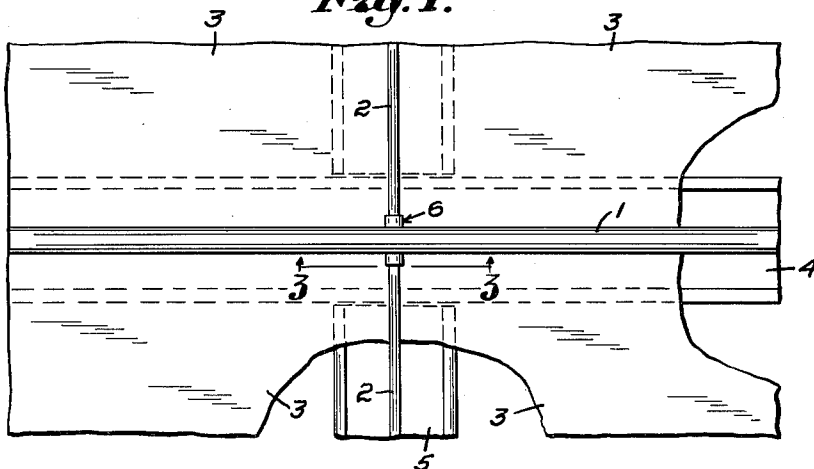


Fig. 2.

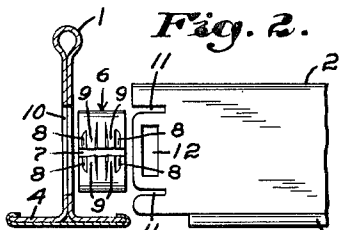


Fig. 3.

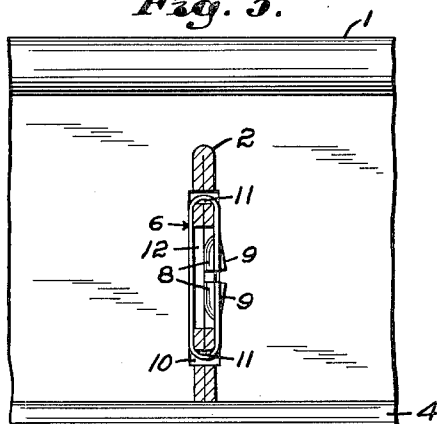


Fig. 5.

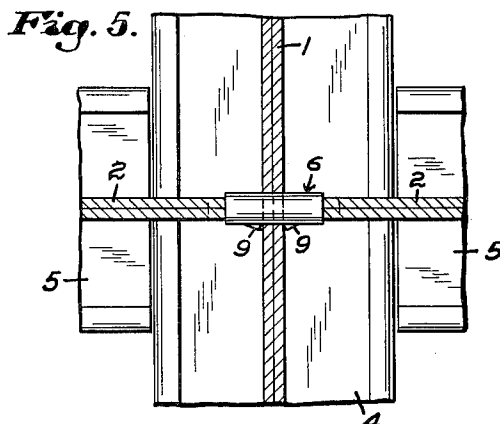


Fig. 7.

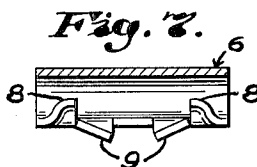
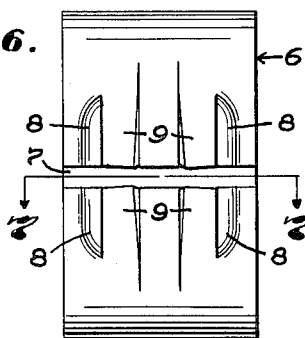


Fig. 6.



Inventor:
Harold S. van Buren Jr.
by Walter S. Jones
Att'y.

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CROSS MEMBER CLIP

Harold S. Van Buren, Jr., Cambridge, Mass., assignor to
United-Carr Incorporated, a corporation of Delaware
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This invention relates to novel snap clip devices particularly useful in connection with the securing together of runner members and cross T members of a ceiling grid system for supporting ceiling panels of desired shapes and sizes.

An object of the invention is to provide a new and useful simple, single snap clip device for holding together runner members and cross T members of a ceiling grid system wherein the snap clip device may be used "either end around" to simplify assembly of the parts.

Another object of the invention is to provide a hollow clip of springy material having a uniform arrangement of fingers, some of which will hold the clip to a runner member of a ceiling grid system and others of which will hold either one or two cross T members in proper relation to the runner member.

In the drawings which illustrate a preferred embodiment of the invention:

FIG. 1 is a plan view of a ceiling grid system involving the invention with portions broken away to show at least some portions of all of the parts in elevation;

FIG. 2 is a section of a runner member, snap clip member, and one end of a cross T member prior to assembly of the parts;

FIG. 3 is an enlarged section taken on the line 3—3 of FIG. 1;

FIG. 4 is a section similar to FIG. 2 showing the complete assembly of the parts without the ceiling panels being in place;

FIG. 5 is a section taken on the line 5—5 of FIG. 4;

FIG. 6 is an enlarged side elevation of the novel snap clip device; and

FIG. 7 is a section taken on the line 7—7 of FIG. 6.

The illustration in the drawings is an attempt to show the invention in connection with a so-called ceiling grid system whereby ceiling panels or tiles are arranged at the top of a room. The particular installation illustrated includes so-called runner members 1 which are hung from a previous ceiling or rafters in any suitable manner. These runners are usually extended lengthwise of the ceiling and have cross T members 2 extending between the runners and supporting panel portions 3 which may be of any desirable dimension and of any suitable material. Both the runner members 1 and cross T members 2 are preferably T-shaped so that when they are assembled they form ledge portions 4 on the runner members 1 and ledge portions 5 on the cross T's 2, as best shown in FIG. 1.

It is known that the above described types of system is old in the art and the runner members and cross T members have been secured together by fastening means but in most cases the fastening means has been complicated and expensive. It is the purpose of the present invention to provide simple, inexpensive fastener members so constructed that one fastener will secure either one cross T member 2 to a runner member 1 or when desired the same fastener will secure together two cross T members to a runner member. The particular fastener member selected for illustration by the drawings is in the nature of a snap clip device 6 formed from sheet metal and having a plurality of suitably shaped portions along its length which cooperate with the members 1 and 2 to hold them together. In the particular construction of the snap clip 6 illustrated the device is formed

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in the nature of a hollow element divided longitudinally on one side by a slot 7 (FIG. 6) to provide flexibility to the device. At opposite ends, and adjacent the slot 7, are provided co-operating parts of elements, one element 8 in each pair providing fastening projections extending inwardly (FIG. 7) and other element 9 of each pair providing a fastener projection extending outwardly from the surface of the clip as shown in FIG. 7.

While the clips 6 may be provided with one set of pairs of projections or fingers 8 and 9 at one side of the slot 7 it is preferred to duplicate these projections or fingers in the clip at the other side of the slot as shown in FIG. 6. By duplicating the fastening projections a stronger inter-engagement between the clip and the runner 1 and cross T 2 is provided.

Assembly of the construction is a relatively simple matter and may be accomplished in either of two ways. One way would be to snap a clip 6 through a slot 10 in the runner member 1 and then press an end of a cross T 2 into engagement with an exposed end of the clip on one side of the runner member and then, if desirable, snap a second cross T member 2 into engagement with the other end of the clip 6.

In FIG. 2 there is shown a relationship of the parts whereby a cross T member 2 is about to be snapped into engagement with a clip 6 and for this purpose there is provided a pair of notches 11—11 which receive edges of the clip and a slot 12 which receives the fastening projections or fingers 8—8 as clearly shown in FIG. 3. Thereafter the cross T member 2 is moved toward the runner member 1 and then the projecting portion of the clip 6 is passed through the slot 10 in the runner member 1 until the runner member is engaged between the fastener projections 9—9. Thereafter a second cross T member notched and slotted the same as the first described cross T member may be snapped into engagement with the other end of the clip 6.

It will be seen that the simple snap clip device of the invention is so constructed and arranged that it is compact, fits closely into the installation with very little projection, therefore, will not interfere with the laying of the panel or tile members 3 into place on the grid system when the runner members 1 and the cross T members 2 are completely assembled and ready to receive the panels 3.

The snap fastening projections 8 and 9 may be formed in any suitable shape and arrangement but a simple construction and arrangement of these devices is illustrated in FIGS. 6 and 7. The fastening portions 8 are formed by depressing the material inwardly and the fastening projections 9 are formed by pressing the material outwardly and both are so shaped that they will guide easily into their respective slots in the runner members 1 and cross T members 2. It should also be understood that the fastening projections 8 and 9 may be yieldable in and of themselves or yieldable because of the slotted arrangement of the clip or a combination of both as will be understood by anyone skilled in the art.

While a particular form of the invention, in connection with a so-called ceiling grid system, has been illustrated and described it should be understood that the invention is best defined by the following claims.

I claim:

1. A snap clip device for securing a plurality of cross members, said device being in the form of a hollow band of resilient material of oblong cross-section having one side thereof bisected by a transverse slot and having a plurality of spring fingers, each having a free end adjacent said slot and each extending longitudinally toward said slot, said fingers extending alternately inwardly and outwardly of said clip to engage portions of cross members disposed internally and externally of said clip.

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2. A snap clip device for coupling a plurality of cross members, said device being in the form of a hollow, resilient metal band of oblong cross section, said band including a base portion underlying and spaced from a plurality of opposed cross member engaging spring fingers, said fingers being separated by and extending longitudinally toward a slot running transversely of said base portion, certain of said fingers extending towards said base to engage portions of cross members seated within said band and other of said spring fingers extending away from said base to engage a cross member disposed outwardly of said band.

3. A snap clip device according to claim 2 wherein said fingers extending away from said base are located nearer the center of said clip than said fingers extending towards said base.

4. A ceiling grid assembly comprising in combination an elongated runner having an aperture therein, a pair of opposed cross members extending outwardly from said runner and a one piece sheet metal, snap clip securing said cross members to said runner, said clip being in the form of a hollow band of resilient material of oblong cross section having one side thereof bisected by a transverse slot and having a plurality of spring fingers disposed at one side thereof and extending longitudinally toward said slot, said clip being seated in said aperture in said runner and portions of said cross members being seated internally of said clip and retained therein by the snap engagement of said spring fingers with said portions.

5. A ceiling grid assembly comprising in combination an elongated T-shaped runner having a vertically elongated aperture therein, a pair of opposed T-shaped cross

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members extending outwardly at right angles from said T-shaped runner and a one piece sheet metal, snap clip securing said cross members to said runner, said clip being in the form of a hollow band of oblong cross section having one side thereof bisected by a transverse slot and having a plurality of spring fingers each having a free end adjacent said slot and each extending longitudinally toward said slot, said fingers extending alternately inwardly and outwardly of said clip, said clip being seated within said elongated aperture in said runner and retained therein by the snap engagement of said outwardly extending fingers with portions of said runner adjacent said aperture, and portions of said cross members being seated internally of said clip and retained therein by the snap engagement of said inwardly extending fingers with said portions.

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30 RICHARD W. COOKE, JR., *Primary Examiner*.
HENRY C. SUTHERLAND, *Examiner*.