Aug. 22, 1933. L. A. BERGER 1,923,906

BUILDING CONSTRUCTION

Filed Sept. 8, 1930 2 Sheets-Sheet 1

Fig. 1

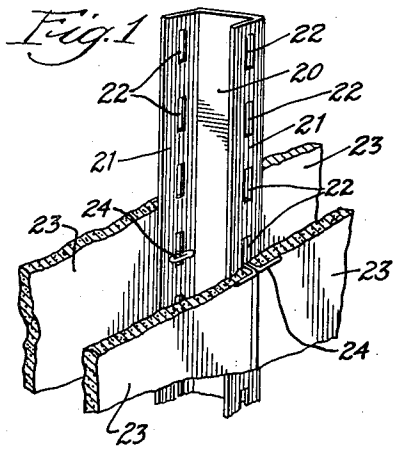


Fig. 2

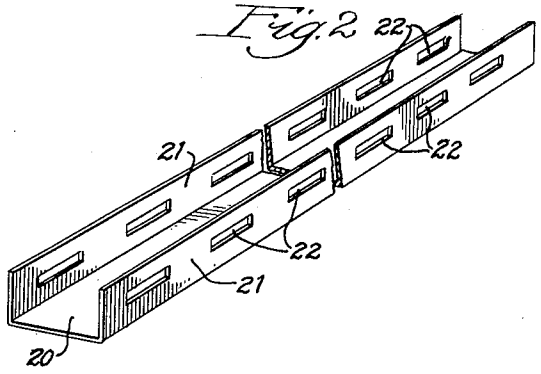


Fig. 3

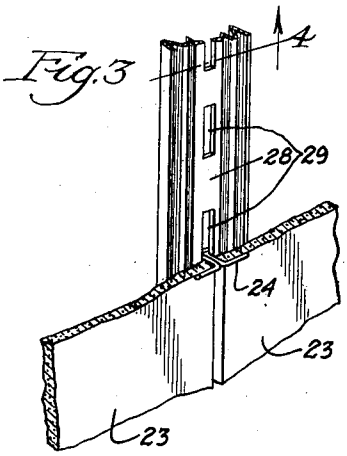


Fig. 4

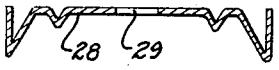


Fig. 5

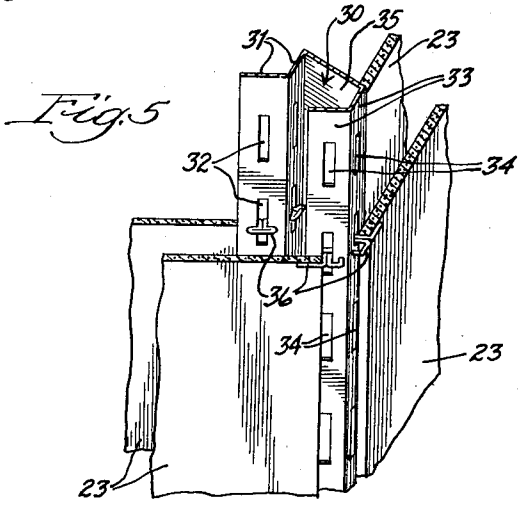
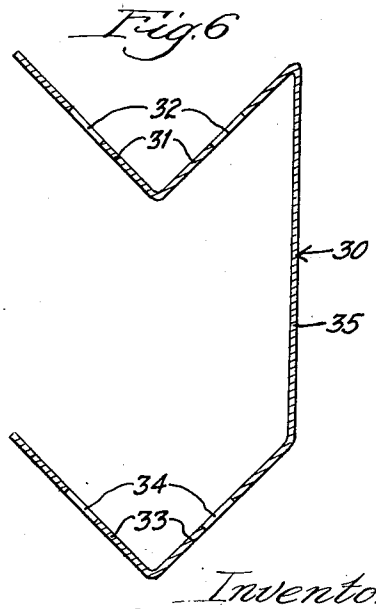


Fig. 6



Inventor:
Louis A. Berger,
By Bunning & Bunning
Attys.

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BUILDING CONSTRUCTION

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Fig. 7

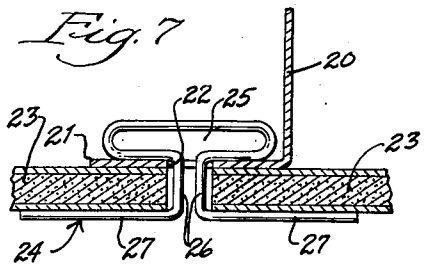


Fig. 8

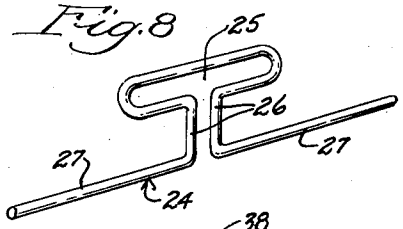


Fig. 9

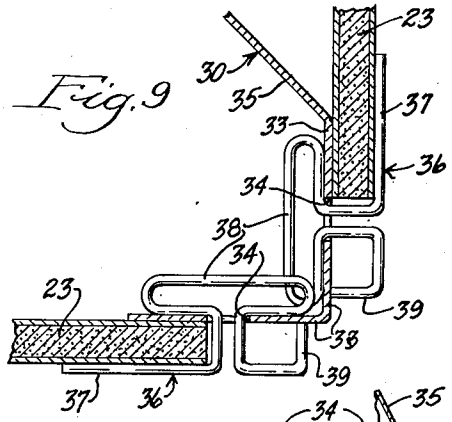


Fig. 10

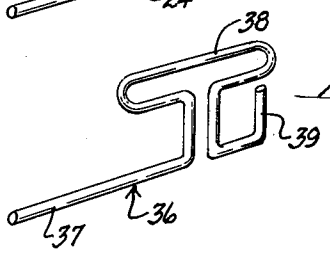


Fig. 12

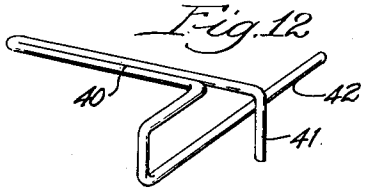


Fig. 11

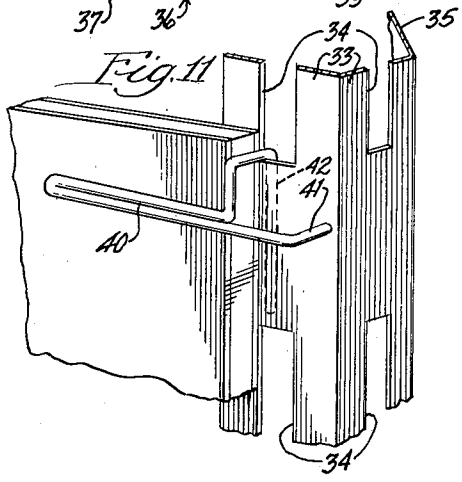


Fig. 13

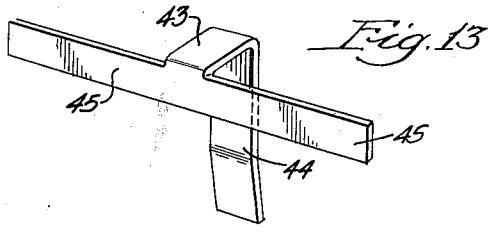


Fig. 14

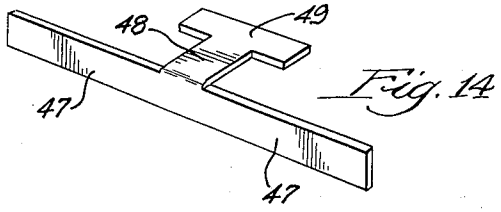
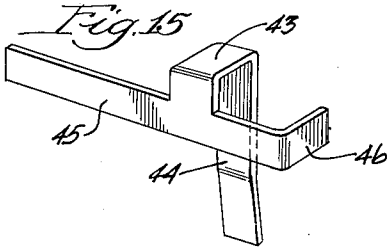


Fig. 15



Inventor:
Louis A. Berger,
By Cumming & Cumming
Attys.

Patented Aug. 22, 1933 1,923,906

UNITED STATES PATENT OFFICE

1,923,906

BUILDING CONSTRUCTION

Louis A. Berger, Chicago, Ill., assignor to Simplex Steel Products Company, Chicago, Ill., a Corporation of Illinois

Application September 8, 1930. Serial No. 480,302

4 Claims. (Cl. 72—46)

This invention relates to building construction, and particularly to the mounting and support of flat construction units, such as plaster-board, sheet lath, etc., in the building of partitions, furring, ceilings, etc.

One of the objects of the invention is to provide simple means for mounting such units which are easily applied without the aid of special tools. A further object of the invention is to provide simple means whereby adjacent flat building units may be supported from each other and at the same time held in spaced relation thereto.

Other objects of the invention will appear from the following description, taken in conjunction with the accompanying drawings, in which—

Figure 1 is a perspective detail, partly broken away, showing a metal stud and the manner in which plaster-boards are attached thereto to form a partition;

Fig. 2 is a perspective view of the metal stud shown in Fig. 1;

Fig. 3 is a perspective detail, partly broken away, showing a furring stud or ceiling support and plaster-board mounted thereon;

Fig. 4 is a sectional view on the line 4 of Fig. 3;

Fig. 5 is a perspective detail, partly broken away, showing a partition corner;

Fig. 6 is a section through a corner stud;

Fig. 7 is a horizontal sectional detail on a larger scale of the construction shown in Fig. 1;

Fig. 8 is a perspective view of the key used therein;

Fig. 9 is a view similar to Fig. 7 showing the assembly at a corner;

Fig. 10 is a perspective view of a special form of key used therein;

Fig. 11 is a perspective detail of a corner using a further modified form of key;

Fig. 12 is a perspective view of the key;

Fig. 13 is a perspective view of another form of key formed from sheet metal;

Fig. 14 is a perspective view of still another form of key formed from sheet metal; and

Fig. 15 is a perspective view of a sheet metal key adapted for use at a corner.

Referring to Figs. 1, 2, 7 and 8, the numeral 20 designates a metal stud which may suitably be a channel, the side webs 21 of which are provided with a vertical series of relatively high narrow openings 22. The flat construction units 23, which may suitably be sheets of plaster-board of a width slightly less than the distance between stud centers, are applied to the studs with their adjacent vertical edges slightly spaced to permit access to the openings 22, as shown in Fig. 7, for keying purposes, as will hereinafter appear.

The key 24, which is used to secure the vertical edges of the flat units 23 to the studs, may suitably be formed from a length of wire which is bent to provide a head or flat loop 25 which is adapted to enter between adjacent vertical edges of the units 23 into one of the openings 22 and be secured therein by rotating the key to bring the head 25 into horizontal position.

The head 25 gives into a neck 26 formed by parallel lengths of the wire, which in turn give into end lengths 27 which are parallel to the head 25 and directed in opposite directions. As will be readily understood from Fig. 7, when the key 24 is rotated to secure the head within the opening 22, the lengths 27 are brought into engagement with the outer faces of the flat construction units 23 to secure same to the studs. As shown in Fig. 20, any desired number of keys 24 may be employed. As shown in Fig. 1, the construction units 23 may be applied to both sides of the studs to produce a partition which may be rapidly and expeditiously constructed.

The modification shown in Figs. 3 and 4 is suitable for furring or ceiling construction. The supporting member or stud may be channeled and suitably ribbed longitudinally to impart rigidity thereto. The member 28 is provided with a longitudinal series of openings 29. The flat construction units are secured in the same manner as in the modification above described.

In constructing partitions having corners, a stud 30, of the cross-section shown in Fig. 6, may suitably be employed. This stud provides two connected inside corner faces 31 provided with openings 32 and two connected outside corner faces 33 provided with openings 34. The two sets of faces are connected by a vertical web 35 which serves to maintain the standard spacing between the flat construction units. As will readily be understood from Figs. 5 and 9, only one construction unit abuts adjacent the openings 32 and 34 so that the key 36 employed therewith requires only one end length 37 adapted to engage the surface of a flat construction unit. The other end length of the key 36 may suitably be turned inwardly toward the head 38, as shown at 39, so as to abut upon one of the faces 31 or 33 as the case may be. This form of key is best shown in Figs. 9 and 10.

Figs. 11 and 12 illustrate another form of key which may be employed at the corner of a partition. This key may be formed from wire bent upon itself to provide a double length 40 adapted

to engage the face of a flat construction unit. One end of the wire is bent inwardly, as shown at 41, to abut upon one of the corner faces 31 or 33. The other end of the wire is bent upwardly, inwardly, and downwardly to provide an end length 42 which is adapted to be passed through one of the openings of the stud, as shown in Fig. 11, and serve to secure the flat construction unit to the stud.

The keys may be made from flat stock, if desired. The key shown in Fig. 13 is formed from a blank of T-shape, the central length of which is bent to provide a neck 43 and an end length 44 which is adapted to be slipped into a stud opening to bring the side arms 45 of the key into engagement with the adjacent edges of adjacent flat construction units. The lower end of the length 44 may be bent obliquely to the rear slightly for ease of application.

The modification shown in Fig. 15 is similar to that shown in Fig. 13, one of the side arms 45 being bent inwardly, as shown at 46, to adapt same for use with a corner stud.

The key shown in Fig. 14 is also made from flat stock and comprises side arms 47 connected centrally by a neck 48 to a head 49. The neck and head lie in the same plane, which is perpendicular to the plane of the side arms 47. This key is applied in the same manner as the key 24, described above.

Although the invention has been disclosed in connection with the specific details of preferred embodiments thereof, it is to be understood that such details are not intended to be limitative of the invention, except insofar as set forth in the accompanying claims.

I claim:

1. In combination, sheet metal studs having vertical series of relatively high narrow openings, flat construction units applied to the studs with their adjacent vertical edges spaced to permit access to the openings, and keys having heads adapted to be inserted into the openings and secured to the studs by rotation, and opposed lengths adapted to bear upon the surfaces of adjacent construction units to secured same to the studs.

2. In combination, sheet metal studs having vertical series of openings, flat construction units applied to the studs with their adjacent vertical edges spaced to permit access to the openings, and keys having downwardly directed lengths adapted to be slipped through the openings to engage the inner side of the studs and having horizontal lengths adapted to bear upon the outer surfaces of adjacent construction units to secure same to the studs.

3. In combination, sheet metal studs having vertical series of relatively high narrow openings, flat construction units applied to the studs with their adjacent vertical edges spaced to permit access to the openings, keys having heads adapted to be inserted into the openings and secured to the studs by rotation, and opposed lengths adapted to bear upon the surfaces of adjacent construction units to secure same to the studs, and plaster applied to the construction units and extending through the openings to form plaster keys therebeyond.

4. In combination, channel shaped studs having a plurality of openings along each side web, construction units applied thereto exteriorly of the channels thereof, and keys abutting the outerside of the units and having a projection insertable between the adjacent edges of the units and the openings and engageable with the inner surfaces of the side webs to secure the units to the studs.

LOUIS A. BERGER.