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G. D. KELLOGG

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WALL ASSEMBLY

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Fig. 1.

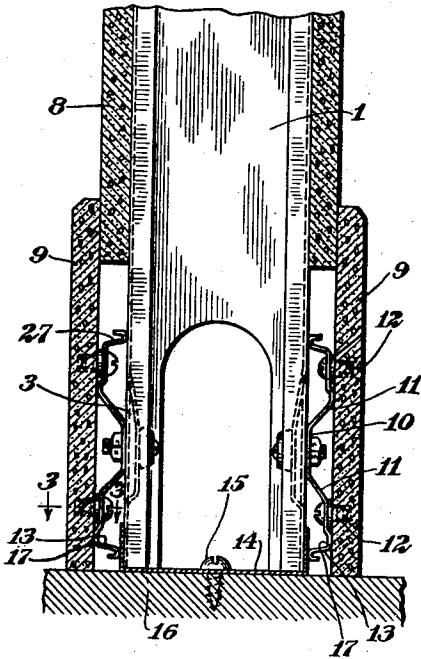


Fig. 2.

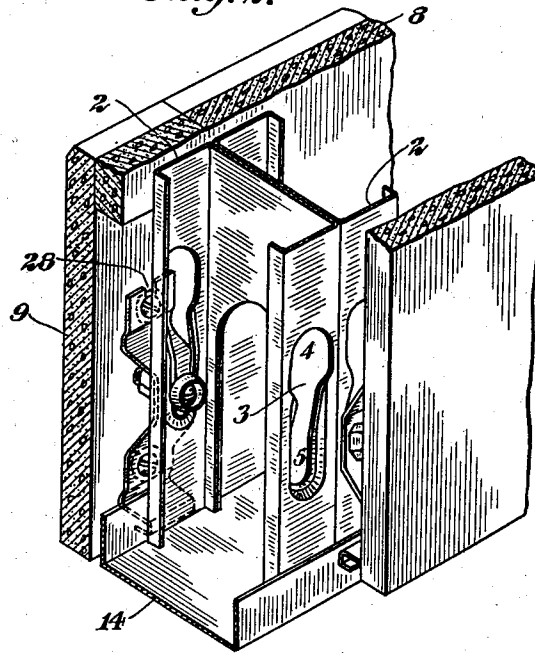


Fig. 3.

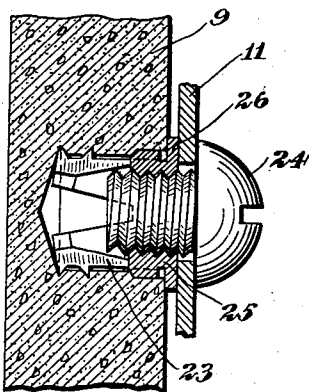
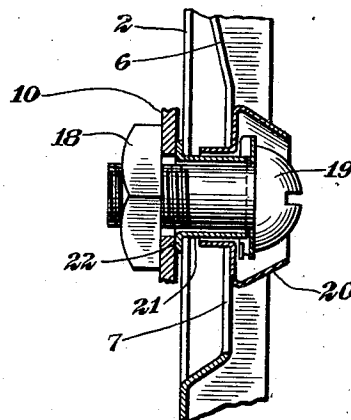


Fig. 4.



INVENTOR
George D. Kellogg
BY *D. H. Halstead*
ATTORNEY

UNITED STATES PATENT OFFICE

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WALL ASSEMBLY

George D. Kellogg, Pelham Manor, N. Y., assignor
to Johns-Manville Corporation, New York,
N. Y., a corporation of New York

Application October 19, 1933, Serial No. 694,249

9 Claims. (Cl. 72-0.5)

This invention relates to a wall assembly and particularly to a wall assembly including pre-formed panels of finishing material maintained in spaced relationship to the supporting sub-structure.

There is wide interest today in walls, including ceilings, which are assembled from factory fabricated units. Such assemblies frequently include supports in the form of light I-studs or the like, with panels of finishing material, such as compressed and hardened compositions of asbestos and Portland cement, disposed over and secured to the faces of the studs.

When panels are secured to both faces of the studs, to form a hollow wall, the space between the backs of the panels on the two faces of the wall, being approximately equal to the thickness of the studs, the overall thickness may be varied only by the use of studs or panels of different thicknesses. Also, an impulse or vibration imparted to a stone-like panel on one face of the wall is, of necessity, transmitted in part through the stud to the opposite face of the wall.

It is an object of this invention to provide a wall assembly in which the panels of finishing material may be spaced from the stud and also may be maintained in spring engagement thereon. Another object is to provide an assembly particularly adapted for use at the baseboard portion of a wall, comprising convenient means for spacing a baseboard, say, of plane front and rear surfaces, from the stud, so that, when an edge of the baseboard overlaps an edge of the main portion of the wall, the baseboard is held in approximately vertical alignment.

An embodiment of the invention that is preferred at this time is illustrated in the drawing in which:

Fig. 1 shows a vertical sectional view of a portion of a wall assembly constructed in accordance with the present invention;

Fig. 2 shows a perspective view of a portion of the same wall assembly;

Fig. 3 shows a sectional view taken on line 3-3 of Fig. 1, in the direction of the arrows; and

Fig. 4 shows a longitudinal sectional view of a portion of the assemblies illustrated in Figs. 1 and 2, illustrating in detail the means for holding the improved clip of the present invention to the face of the stud.

In the various figures like reference characters denote like parts.

There are shown upright supports, suitably steel I-studs 1 constituting a part of the supporting substructure of a wall, and having faces

2 provided with a plurality of slots 3. These slots have suitably an enlarged upper portion 4, adapted to receive the head of a fastening element and a lower, more narrow portion 5. The narrow portion has a rear edge 6, in inclined relationship to the face 2 of the stud see particularly Fig. 4), and a straight portion 7 of the rear edge that extends in a direction approximately parallel to the face of the stud. The rear edge is adapted to facilitate tight engagement of a fastening element when the head of the fastening element is forced downward over the inclined portion. When the head is forced over the inclined portion and into engagement with the straight portion of the rear edge of the slot, the tightness of engagement is maintained, even though the position of the said head is varied upward or downward over an appreciable distance.

The preformed panels 8 of finishing material may be disposed over and secured to the main portion of the stud and may leave uncovered the lower portion of the stud, as illustrated particularly in Figs. 1 and 2. Other preformed panels in the form of the baseboards 9 of plane rear surfaces are maintained on the studs, at the lower portion thereof and in spaced relationship thereto, in overlapped relationship with the lower edge of the panels 8 and in approximately vertical alignment.

The panels 8 may be secured to the stud in any convenient manner and are preferably secured thereto as described in my copending application for U. S. patent entitled "Structural assembly", filed October 20, 1932, Ser. No. 638,738. Thus the panels 8 may be secured in position by means of fastening elements one end of each of which is engaged in the rear portion of a panel and the other end of which is engaged in a slot in the face of the stud.

The panels 9 are supported on the stud in spaced relationship thereto, by the elongated clip comprising a central portion 10 and legs 11 extending from either side of the central portion to the panels. The leg portions are secured to the baseboard, suitably as illustrated by means (Fig. 1) or in Fig. 3. At the central portion the clip is secured to the stud, suitably by means of the member shown in detail in Fig. 4. The clip, at one of its ends, is provided with a spacing portion or element 13 which extends backwardly from the rear of the baseboard to the supporting substructure, suitably at approximately a right angle thereto, as, for example, to the face 2 of a stud or to a channel iron 14 which is secured at its back by fastening element 15 to the floor

16 and which assists in maintaining the stud in position. This element 13 provides a fulcrum point 17. It will be seen that the clip assembly provides leverage action for maintaining the baseboard in engagement on the face of the stud, the clip being secured at one portion to the face of a support and being secured to the finishing material at a position intermediate the said portion and fulcrum point.

10 The clip is suitably formed of a strip of elastic metal, shaped as illustrated, and of thickness to impart springiness and resiliency. With such a clip, the panel 9 is held, in spring engagement, on the face of the stud adjacent to the panel and in spaced relationship thereto.

15 As stated, the stud advantageously is provided with a slot having an inclined rear edge adapted to facilitate tight engagement of the clip. This engagement is made by means of a bolt which, at one end, extends through the clip and is secured therebehind by means of the nut 18. At the other end, the head 19 of the bolt is engaged behind the rear edge 7 of the slot in the face of the stud. The bolt is equipped with a specially shaped washer 20, adapted to prevent the head of the bolt from being pulled thru the slot. Around the stem of the bolt there is disposed the sleeve 21 provided, at its end remote from the head of the bolt, with an outwardly extending flange 22 constituting a shoulder. Between this shoulder and the nut 18, the central portion 10 of the spring clip is tightly engaged.

It will be observed that the fastening means are disposed entirely behind or in the rear portion of the baseboard and are not visible when the wall is viewed from a forward position. A device which is suitable for securing legs of the clips to the rear portion of the preformed panel, to make possible these desirable features, is illustrated in section in Fig. 3. This device includes an expansion nut 23, placed in a preformed hole extending partway through the panel and expanded therein by the insertion of the threaded stem of the element 24. This element has a head member and a knurled sleeve portion 25, carrying the outwardly extending flange 26, to provide a shoulder, as illustrated. The leg 11 of a clip, at a hole or groove therein, is engaged between this shoulder and the head of the element 24.

20 In making an assembly of the type described, there is first erected a suitable supporting substructure, including studs having the slotted faces of the type illustrated. There are then provided suitable preformed panels of finishing material, including the baseboards. I have used to advantage stone-like panels of asbestos and Portland cement, in hardened condition. These panels are made suitably of width to extend from the center of one stud to the center of an adjacent stud and of length to suit the particular conditions of use. Thus, there have been used panels approximately 2 feet wide and 8 feet long, extending downwardly from the frieze strip, at the top of the side walls of a room, to a point slightly below and inside the top of the baseboard. The panels are secured to the studs over a major portion thereof, leaving them uncovered at the lower, baseboard portion. There is next provided an assembly of the clips and the baseboards. The two legs of the clip may have portions lying in a common plane and a central portion lying in a different plane, to give added springiness to the clip. The distance between these two planes should be so selected that the clip spaces the baseboard from the stud in the finished assembly, at such a dis-

tance that the baseboard may overlap the edge of the panels of the main portion of the wall and yet be in approximately vertical alignment. Thus, if the panels in the main portion of the wall are $\frac{1}{4}$ inch thick, and these panels, at their backs, are held directly against the faces of the studs, then the baseboard should be spaced $\frac{1}{4}$ inch from the said studs.

When the clip of selected dimensions has been secured to the baseboard, then the fastening assembly shown in detail in Fig. 4 is secured to the central portion of the clip, and the head of the fastening member is inserted through the enlarged portion 4 of the slot in the face of the stud and is pushed downward to make the engagement tight.

In the assembly described, the panel which is spaced from the stud is maintained in predetermined spacing therefrom by the spacing element 13 at one end of the clip and by the edge of a panel 8. When the spacing effect of the panel 8 is omitted or when, for other reasons, the spacing and vertical alignment is to be effected entirely by means of the clip, then the leg of the clip opposite that having the element 13, may have a similar spacing element 27 extending backward to the face of the stud, as shown in the assembly on the right side of Fig. 1.

The clip is suitably made of a good grade of steel, which, when shaped into a clip, has satisfactory resilience and springiness.

To permit adequate yielding of the spring clip, one leg thereof is slidably secured to the panel by means of an opening, such as the groove 28 (Fig. 2), that is substantially longer than the diameter of the stem of the fastening bolt 24. This permits movement of the leg of the clip with respect to the bolt as the spring is bent. Likewise, movement of the element 19 along the rear edge 7 of the slot in the stud is permitted by the slideable engagement illustrated, thus giving a structure in which the various constituent elements coact to an unusual degree.

The details that have been given are for the purpose of illustration, not restriction. It is intended that variations within the spirit of the invention should be included within the scope of the appended claims.

What I claim is:

1. A wall assembly including upright supports in the form of studs, preformed panels of finishing material disposed and secured over a portion of the said studs, to leave the lower portion of the studs uncovered thereby, a baseboard of plane rear surface disposed over said lower portion of the studs, and spring fastening means securing the baseboard to the studs in spaced relationship thereto.

2. A wall assembly including upright supports in the form of studs, preformed panels of finishing material disposed and secured over a portion of the said studs, to leave the lower portion of the studs uncovered thereby, a baseboard disposed over the said lower portion of the studs, and fastening means securing the baseboard to the studs, in spaced relationship thereto, the said fastening means including a clip of shaped strip metal having a central portion and legs on either side of the central portion, portions of each of the legs lying approximately in a plane generally parallel to the length of the clip and the central portion lying without the said plane, and means securing the clip to a stud.

3. A wall assembly including upright supports in the form of studs, preformed panels of finish-

ing material disposed and secured over a portion of the said studs, to leave the lower portion of the studs uncovered thereby, a baseboard disposed over the said lower portion of the studs, and spring fastening means securing the baseboard to the studs on the faces thereof adjacent to the panels, in spaced relationship thereto, the said fastening means including an elongated spring clip having a central portion and spring legs on either side of the central portion, portions of the legs lying approximately in a plane generally parallel to the length of the clip and the central portion lying without the said plane, to impart springiness, one of the legs contacting with the back of the baseboard and being secured thereto, and means securing the clip at the said central portion to a stud.

4. A wall assembly including upright supports in the form of studs, preformed panels of finishing material disposed and secured over a portion of the said studs, to leave the lower portion of the studs uncovered thereby, a baseboard disposed over the said lower portion of the studs, and fastening means securing the baseboard to the studs, in spaced relationship thereto, the said fastening means including an elongated clip having a central portion and legs on either side of the central portion, portions of the legs lying approximately in a plane generally parallel to the length of the clip and the central portion lying without the said plane, whereby the central portion is adapted to contact with a stud while each of the legs contacts with the back of the baseboard, one of the legs being provided near its end with a spacing portion extending towards the stud and contacting therewith, and means securing the clip at the said central portion to a stud.

5. A wall assembly comprising supports, preformed panels of finishing material, and fastening means securing the panels to the supports, the fastening means including a clip having a portion

serving as a fulcrum of a lever, another portion secured to one of the said supports, and an intermediate portion secured to the finishing material, whereby the finishing material is secured to the support by leverage action.

6. A wall assembly comprising a support having faces provided with slots therein with edges including rear portions in inclined relationship to the face of the support, a preformed panel of finishing material, a clip secured to the said panel and spacing it from the support, and means securing the clip to the support, including an element engaging the clip and an element engaged behind the inclined rear edge of the slot, whereby tightness of engagement is obtained.

7. A wall assembly including a supporting substructure, preformed panels of finishing material, and means securing the panels to the substructure, in spaced relationship thereto, the said means including a clip having a portion secured to the substructure, a portion secured to the panel, and a spacing element extending approximately from the back of the said portion secured to said panel to the support, for establishing the distance between the said portion and the substructure.

8. A wall assembly comprising a supporting substructure, a panel of finishing material and a clip having a portion secured to the substructure and another, springy portion extending obliquely from the substructure to the panel and holding the panel to the substructure.

9. A wall assembly comprising supports, preformed panels of finishing material disposed over the face of the supports and spaced therefrom, springy clips disposed between the panels and supports, means securing one portion of each of the said clips slidably to one of the panels, and means securing another portion of each of the said clips slidably to one of the supports.

GEORGE D. KELLOGG.