Dec. 23, 1958 W. A. JACK 2,865,195

WALL CONSTRUCTION

Filed Oct. 15, 1953

Fig. 1.

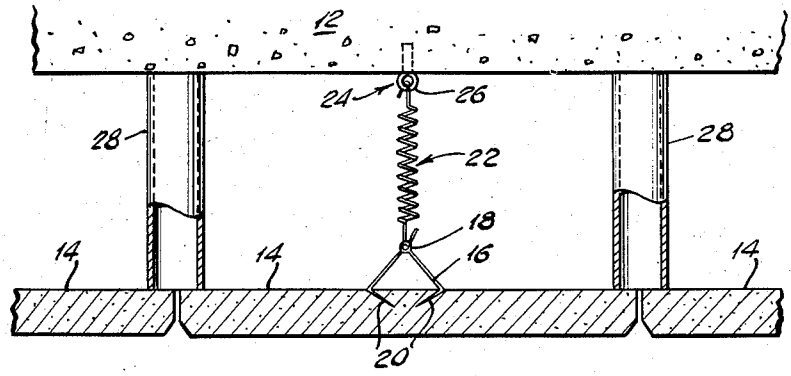


Fig. 2.

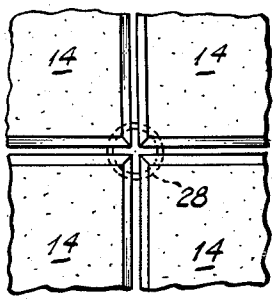


Fig. 3.

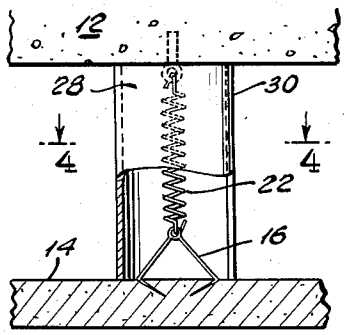
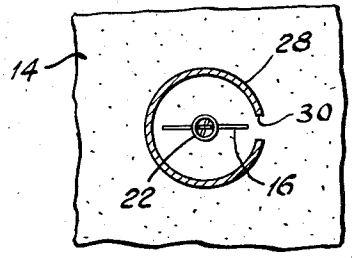


Fig. 4.



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United States Patent Office 2,865,195 Patented Dec. 23, 1958

2,865,195

WALL CONSTRUCTION

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Application October 15, 1953, Serial No. 386,326

1 Claim. (Cl. 72—118)

This invention relates to a wall construction and more particularly to a wall construction of the type wherein a plurality of panels are arranged to form a facing over a building slab. While the construction of the instant invention is particularly adapted for use in ceilings, it will be appreciated that it is also adapted for use in side walls as well.

It has long been the practice in installing paneled facings over concrete or plaster building slabs to erect wooden furring strips to which the panels are attained by means of nails or other fasteners; also metal beams of varying configurations have been employed in conjunction with special clips for securing fiberboard panels in spaced relations with the slab. In all of these prior arrangements considerable care must be exercised to install the supporting elements in relatively exact locations, and it also is a common characteristic of these arrangements that undesirably greater strength is inherently supplied than is necessary to support the facing.

One object of the present invention is to provide a simple, readily installed panel-supporting construction in which only a minimum of care need be exercised in poistioning the supporting elements.

A further object of the present invention is to provide a wall facing construction in which the panels are firmly supported by relatively lightweight, readily available elements.

The invention will be more fully understood and further objects and advantages thereof will become more apparent when reference is made to the following detailed description and to the accompanying drawing in which:

Fig. 1 is a partial sectional view of the construction of the invention;

Fig. 2 is a bottom plan view of a portion of the construction of Fig. 1;

Fig. 3 is a partial sectional view of a modified form of the invention; and

Fig. 4 is a sectional view taken on line 4—4 of Fig. 3.

Referring to the drawings and particularly to Fig. 1, there is illustrated a ceiling construction consisting of a facing **10** suspended beneath a building slab **12**. The facing **10** is composed of a plurality of polygonal panels **14** which are shown as slightly spaced apart for clarity of illustration. These panels, which in actual practice are arranged with their edges abutting, form a facing having a tiled appearance and may be formed of either perforated or imperforate fiberboard or other suitable material. As used herein the term "building slab" refers to a structural wall adapted to be covered by a facing whether the wall is composed of concrete, plaster or other materials, and whether the wall is a ceiling or side wall.

Attached to the rear face of each panel **14** is a clip **16** which may be constructed of bent strip metal or wire and is so arranged as to include a loop **18** and teeth **20**. Preferably the clips **16** are of a type in which teeth **20** are urged inwardly and downwardly into panel **14** when an upward force is applied at the loop **18**, but it will be apparent that any suitable loop or hook-providing means

may be used so long as it firmly grips or is otherwise attached to the panel. The panel end of a coil spring **22** is inserted through the loop **18** while the slab end of the spring is inserted through the eye **26** of the bolt **24** embedded in slab **12**. Obviously, the bolt **24** may take the form of a hook. Where slab **12** is formed of concrete, bolt **24** may be embedded therein by use of a conventional bolt-driving gun, and where the slab is plaster, bolt **24** may take the form of the familiar toggle bolt.

Inserted between each of the panels **14** and the slab **12** is a plane-defining spacer means illustrated as consisting of one or more tube-like members **28**. In the construction shown in Figs. 1 and 2, the members **28** are positioned so as to overlap the adjacent corners of abutting panels **14**, whereas in Figs. 3 and 4, tube-like member **28** is provided with a slot **30** and placed in a position surrounding spring means **22**. In either of the constructions it will be noted that the spacer means must include a sufficient number of panel contact points to define a plane, and where tube-like members are employed, they should be arranged with their axes generally perpendicular to the facing and the slab. If desired the tube-like members **28** may be inserted in positions other than those shown so long as they meet the requirement of defining a plane of contact with each panel. For example, in Fig. 1 the tube-like members **28** need not overlap the edges of the outer panels but may obviously be positioned more nearly adjacent clip **16** and entirely behind the central panel.

Members **28** may be advantageously formed from paper tubes, generally known as mailing tubes, it being preferable to supply such tubes in a variety of diameters so that they may be nested for economical shipment. Also the spacer means may be supplied in the form of flat or folded sheets which are bent or arranged in the desired shape at the building site. It will be apparent, however, that the spacer means may be made of any lightweight material and may be formed into any shape which provides the necessary plane-defining characteristic and has sufficient rigidity to withstand the collapsing force of the spring means **22**.

In installing the construction of the present invention, the bolts **24** are first fixed in the slab **12** at positions spaced approximately in accordance with the dimensions of panels **14**. In actual practice it will be found that no measurements need be taken to locate bolts **24** since the exact position of these bolts is not critical. The clips **16** are embedded in the rear faces of the panels, and the ends of spring means **22** are inserted through the eyes **18** and **26**. Tube-like members **28** are selected to be of a length greater than the distance between the building slab and the rear faces of panels **12** when the panels are supported from the ceiling by the spring means. The panels **14** therefore must be pulled downwardly in order to insert tube-like members **28**, and consequently, when the construction has been installed, spring means **22** are under tension and resiliently urge each panel toward the building slab **12** and against tube-like members **28**.

It will be apparent that the suspension means of the construction of this invention comprises readily available economical elements which are arranged in a manner not requiring the services of skilled artisans for their installation. The construction therefore provides a much more economical arrangement than those in the prior art.

Having thus described my invention in rather full detail, it will be understood that these details need not be strictly adhered to but that various changes and modifications may suggest themselves to one skilled in the art, all falling within the scope of the invention as defined by the subjoined claim.

What I claim is:

In a wall construction such as a ceiling, a building

slab, a plurality of polygonal panels having their edges substantially abutting to form a substantially continuous planar facing over said slab, clip means partially embedded in the lower surface of said slab, coil spring means removably attached to said clip means and said bolt means and resiliently urging said panels toward said slab, elongated tubular spacers interposed between said panels and said slab, one end of said spacers contacting the lower surface of said slab and the other end of said spacers contacting the upper surface of said panels, each spacer being in simultaneous contact with a plurality of said panels at their adjoining edges, said spacers having their longitudinal axes generally perpendicular to the plane of the panels,

and said spacers retaining said panels in co-planar relationship in response to the resilient urging of said springs.

References Cited in the file of this patent

UNITED STATES PATENTS

1,623,338	Goldsmith	Apr. 5, 1927
1,910,160	Gorman	May 23, 1933
2,230,349	Eaton et al.	Feb. 4, 1941
2,294,139	Strong	Aug. 25, 1942
2,610,695	Grue	Sept. 16, 1952

FOREIGN PATENTS

377,327	Great Britain	July 28, 1932

UNITED STATES PATENT OFFICE

CERTIFICATE OF CORRECTION

Patent No. 2,865,195

December 23, 1958

William A. Jack

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 1, line 24, for "attained" read -- attached --; column 3, line 4, after "in the" insert -- upper surface of said panels, bolt means embedded in the --.

Signed and sealed this 23rd day of June 1959.

(SEAL)
Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents