

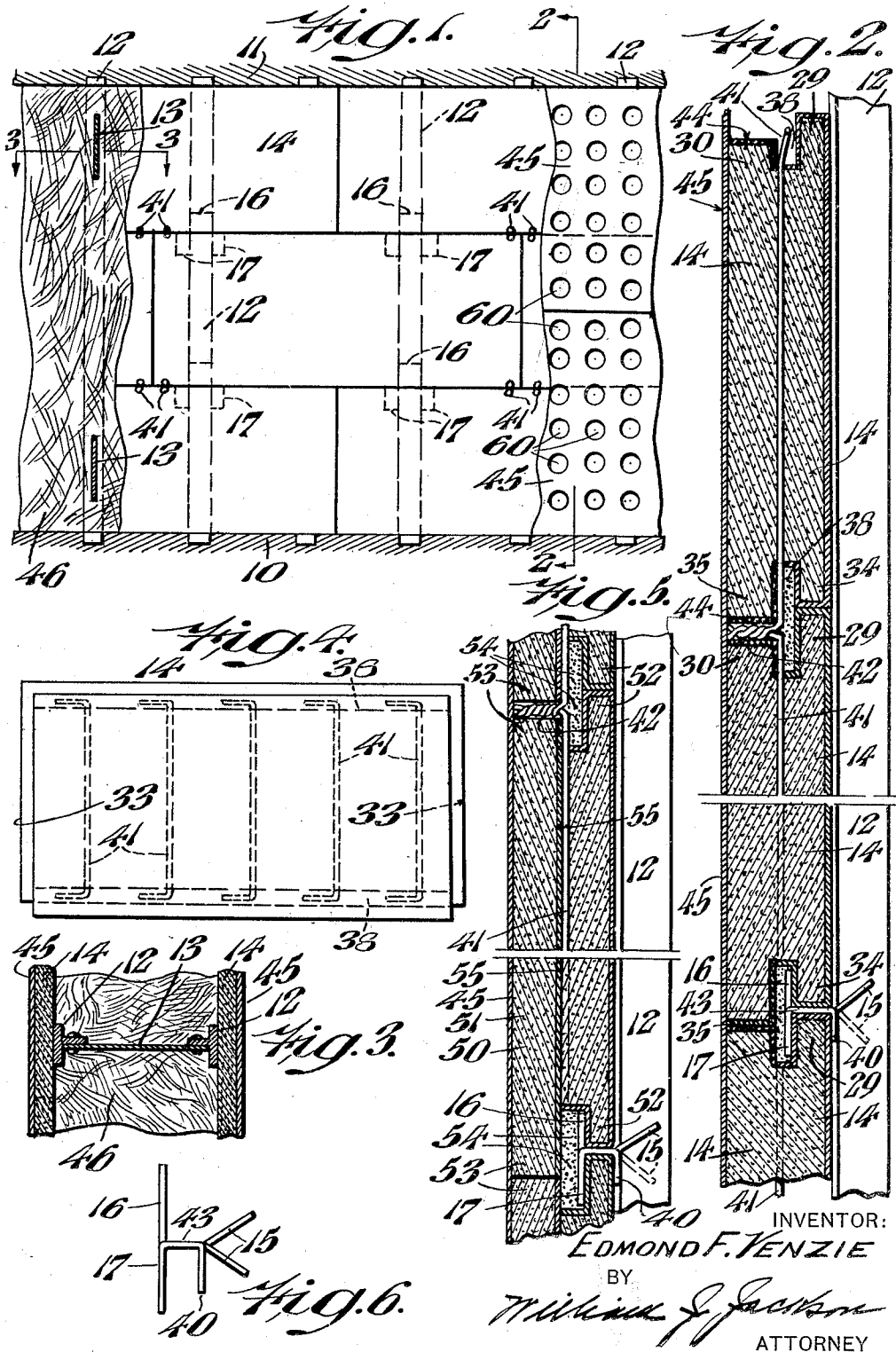
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BUILDING CONSTRUCTION

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BUILDING CONSTRUCTION

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This invention, generally stated, relates to a building construction and has more especial relation to the erection of walls, partitions, and the like, part of which is disclosed in my co-pending application Serial No. 596,210 filed March 2, 1932.

The leading object of the present invention may be said to reside in the provision of a structure of the character stated in which plastering is eliminated, thereby to minimize cost of erection, to speed up erection, and further to eliminate the customary messy condition attendant with plasterer's work.

A further object is to provide a structure of the character stated formed of a special arrangement of panels spaced apart laterally to accommodate sound-resisting material.

A still further object is to provide a structure of the character stated in which the inner panel parts are connected by clips to studding and in which the outer panel parts are coupled together by means of tie-wires.

A still further object of the present invention is to provide a novel panel construction comprising units of fire-resisting or sound-resisting properties which are relatively thick and which may be manufactured at a central plant for shipment to point of erection where the same may be readily and expeditiously secured to laterally spaced metal studs by unskilled workmen.

Other and further objects of the present invention reside in the provision of general details of construction and in the arrangement, combination, and connection of parts for attaining the results sought by the foregoing objects.

The invention consists of the novel construction hereinafter described and finally claimed.

The nature, characteristic features and scope of the invention will be more fully understood from the following description taken in connection with the accompanying drawing forming part hereof, and in which:

Fig. 1 is a view in elevation of a wall or partition embodying the invention, certain parts being broken away for illustrative purposes;

Fig. 2 is a fragmentary view in vertical section taken upon the line 2—2 of Fig. 1;

Fig. 3 is a fragmentary view in horizontal section taken upon the line 3—3 of Fig. 1;

Fig. 4 is a face view of the panel shown in Fig. 2;

Fig. 5 is a fragmentary view in vertical section illustrating a two-piece panel instead of the two-piece panel shown in Fig. 2; and

Fig. 6 is an end view of one of the clips shown in Figs. 1, 2, and 3.

For the purpose of illustrating my invention I have shown in the accompanying drawing two forms thereof which are at present preferred by me, since the same have been found in practice to give satisfactory and reliable results, although it is to be understood that the various instrumentalities of which my invention consists can be variously arranged and organized and that my invention is not limited to the precise arrangement and organization of the instrumentalities as herein shown and described.

With reference to the drawing in detail, the reference numeral 10 designates a floor and 11 the ceiling of a building. The reference numeral 12 designates laterally spaced metal studs which may be anchored with respect to the floor and ceiling in any desired manner. The studs may comprise angle-irons braced by plates 13 best seen in Fig. 3. The wall or partition is erected by taking relatively thick rectangular panels and stacking the same in much the fashion as a brick wall is laid, with their inner faces abutting the studs 12. The panels are secured to the studs 12 by means of metal clips best seen in Fig. 6. Each clip comprises a stamped metal device having opposed inclined prongs 15 for engaging the flanges of the studs and having opposed panel engaging fingers 16 and 17 and 40, which clips form no part of the present invention and are conventional in type.

Referring now more particularly to Fig. 2, a one-piece structure comprising a single unit 14 is disclosed. Each unit is extended at its top edge to provide flanges 29 and 30 and at its bottom is extended to form flanges 34 and 35. The side edges of each unit are

extended to form flanges 33. The upper flanges 29—30 and lower flanges 34—35 are so arranged with respect to one another that a groove 38 is present at the top and bottom of each unit. Embedded in each unit 14 are a plurality of tie wires 41, see Fig. 4, the terminals of which, for shipping purposes, lie within the grooves 38 but when the units are erected the terminals of the tie wires of adjacent units are bent outwardly and twisted together so as to couple adjacent units together. In this connection it is to be noted that the terminals of the tie wires are passed forwardly of each unit and in the space between an upper and lower panel, as clearly shown in Fig. 2. Also, it is to be noted that the grooves 38 accommodate the terminals of the tie wires at that point through which the terminals of the tie wires are projected outwardly between adjacent panels. The terminals as projected outwardly are twisted together as at 42, clearly shown in Fig. 2, to efficiently tie the ends of adjacent wires together. The twisted ends of the tie wires are cut off flush with the outer faces of the panels 14. The upper and lower grooves 38 of a panel also serve to accommodate the tongues 16 and 17 of the metal clips previously referred to and shown in Fig. 6. It will also be understood that the lower and upper flanges 34 and 29 of the panels are in abutting relation with the cross bar 43 of a clip. Both the upper and lower flanges of a panel are reinforced as at 44, the said reinforcement extending around the grooves 38. As previously described, the panels are arranged end to end so that cracks or crevices may be present therebetween. In order to provide a plane, even surface there is applied to the outer faces of the panels sheets 45 of suitable material as paper, muslin, or the like. These sheets 45 are arranged with their edges abutting and not overlapping, and are also arranged so that the said sheets 45 have staggered relation with respect to the panels 14. These sheets 45 are adhesively secured to the front faces of the panels 14 and may be painted in any color desired to complete the wall or partition.

In the case of using panels which are sound-absorbing in character the sheets 45 are profusely perforated as at 60. The perforated sheets permit the penetration of sound to the sound-absorbing material 46 as packed between the panels 14. The sound-proofing material may be felt or the like.

In practice the grooves 38 are filled with plaster of Paris or other suitable plastering material, which plastering material may seep out through the openings occupied by the twisted ends of the tie wires. At the time the twisted ends of the tie wires are cut off or otherwise made smooth, the opening occupied by the twisted end of the tie wire is smoothed off with the same plastering composition as

used in the grooves 38. The tie wires may comprise poultry wire having portions which may be projected between adjacent panels and ends of the wires twisted together with the same effect as is obtained by the wires 41 previously described.

Referring now to Fig. 5, there is disclosed a panel comprising a unit which may be manufactured at a plant for shipment to point of erection except that instead of being of integral structure as in the foregoing figures, it is made up of an inner panel 50 and an outer panel 51 adhesively secured together to form a unitary construction. The same arrangement of flanged and grooved portions is present as that previously described with respect to the one-piece unit. The upper and lower flanges of the inner panel are designated 52 and the upper and lower flanges of the outer panel are designated 53. The flanges are arranged to form the grooves 54 which accommodate both the tie-wires 41 and the tongues 16 and 17 of the metal clips as previously described with reference to Fig. 2. A reinforcement 55 is shown as being introduced between adjacent faces of the panels 50 and 51, and flanges 52 and grooves 54 may be reinforced.

Those tie-wires at the respective ends of a panel in transit have their terminals concealed but at time of unit erection are pulled out for twisting with the terminals of tie wires of adjacent panel ends.

What is claimed is:

1. In a building construction, laterally spaced metal studs, units or panels each comprising an integral structure the inner faces of said panels abutting said studs, metal clips for securing said units to said studs, flanged portions at a unit top and bottom arranged to form grooves for clip and tie-wire accommodation, tie-wires embedded in each unit and having their terminals arranged in said grooves prior to unit erection, the terminals of tie-wires of adjacent units being twisted together to form an interlock after unit erection, and thin sheets of perforated covering material adhesively secured to the outer faces of adjacent units.

2. In a building construction, laterally spaced metal studs, units or panels each comprising an integral structure the inner faces of said panels abutting said studs, metal clips for securing said units to said studs, flanged portions at a unit top and bottom arranged to form grooves for clip and tie-wire accommodation, tie-wires embedded in each unit and having their terminals arranged in said grooves prior to unit erection, the terminals of tie-wires of adjacent units being twisted together to form an interlock after unit erection, thin sheets of perforated covering material adhesively secured to the outer faces of adjacent units, and a filling of sound-

proofing material arranged in the space between adjacent units laterally considered.

3. In a building structure, laterally spaced metal studs, units or panels each comprising an integral structure the inner faces of said panels abutting said studs, metal clips for securing said units to said studs, flanged portions at a unit top and bottom arranged to form grooves for clip and tie-wire accommodation, tie-wires embedded in each unit and having their terminals arranged in said grooves prior to unit erection, the terminals of tie-wires of adjacent units being twisted together to form an interlock after unit erection, and thin sheets of perforated covering material adhesively secured to the outer faces of adjacent units, and reinforcing material for the unit flanges including said grooves.

4. In a building structure, metal studs, combined inner and outer panels abutting said studs, metal clips each having a stud engaging portion and an inner panel engaging portion for securing said combined inner and outer panels to place, an outer panel being adhesively secured to an inner panel before erection of the combined panels, said inner panels each being provided with opposed slotted tops and bottoms for clip accommodation, and perforated covering sheets adhesively secured to the outer faces of the outer panels after erection.

5. In a building construction, laterally spaced metal studs, units or panels the inner faces of said panels abutting said studs, metal clips for securing said units to said studs, flanged portions at a unit top and bottom arranged to form grooves for clip accommodation, tie-wires embedded in each unit and having their terminals exposed at a panel end prior to unit erection, the terminals of tie-wires of adjacent units being twisted together to form an interlock after unit erection, and thin sheets of covering material adhesively secured to the outer faces of adjacent units.

6. In a building structure, metal studs, combined inner and outer panels abutting said studs, metal clips each having a stud engaging portion and an inner panel engaging portion for securing said combined panels to place, an outer panel adhesively secured to said inner panel before erection of the combined panels, said inner panels each being provided with opposed slotted tops and bottoms for clip accommodation, tie-wires arranged between adjacent faces of said panels having their free ends accommodated in the slots of said inner panels prior to erection, whereby tie-wire ends of companion panels may be twisted together to form an interlock after panel erection, and covering sheets adhesively secured to the outer faces of said outer panels for covering the cracks between adjacent outer panels.

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