

Oct. 13, 1942.

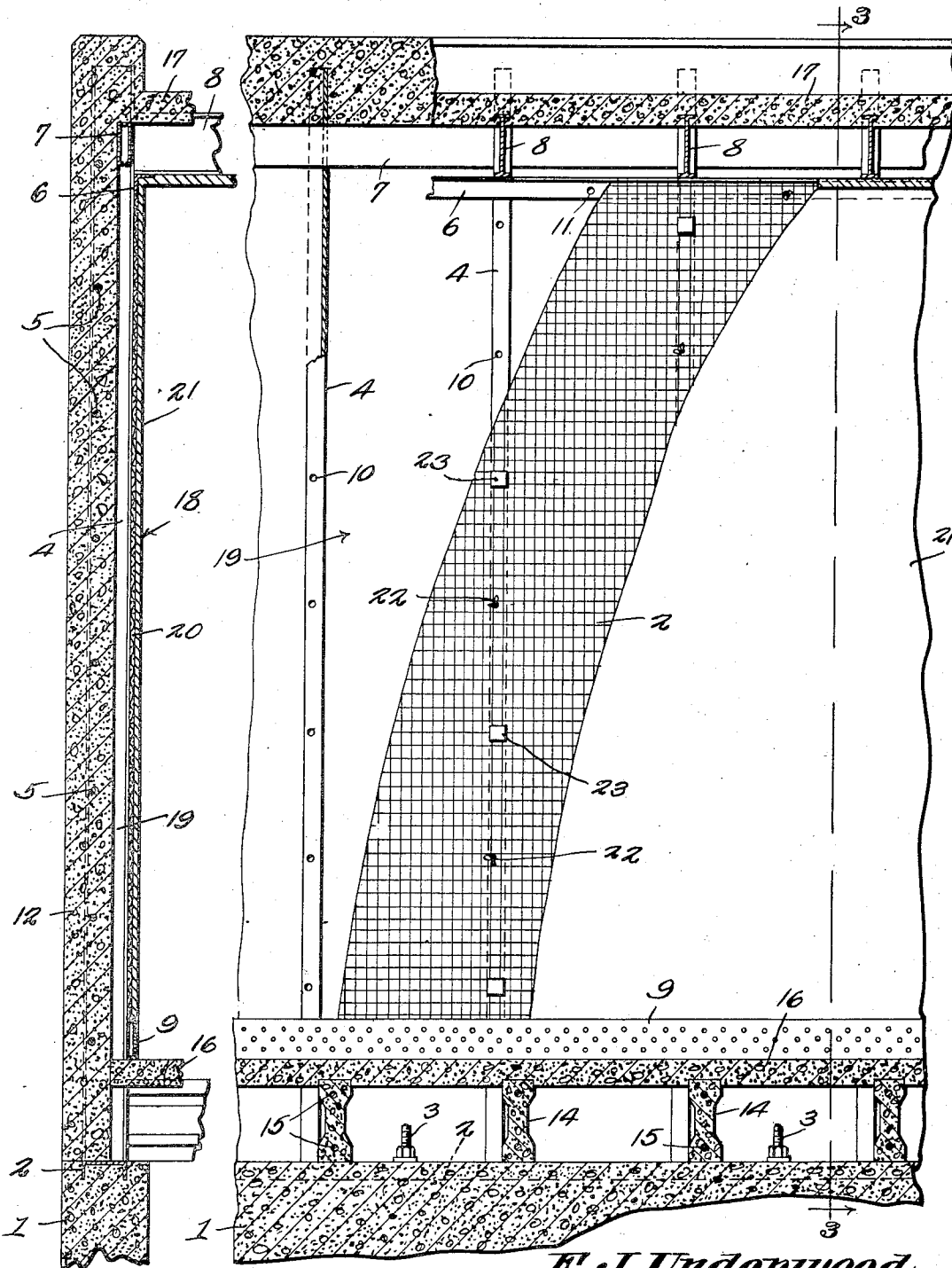
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2,298,989

BUILDING CONSTRUCTION

Filed May 20, 1940

3 Sheets-Sheet 2



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Fig. 3.

Fig. 2.

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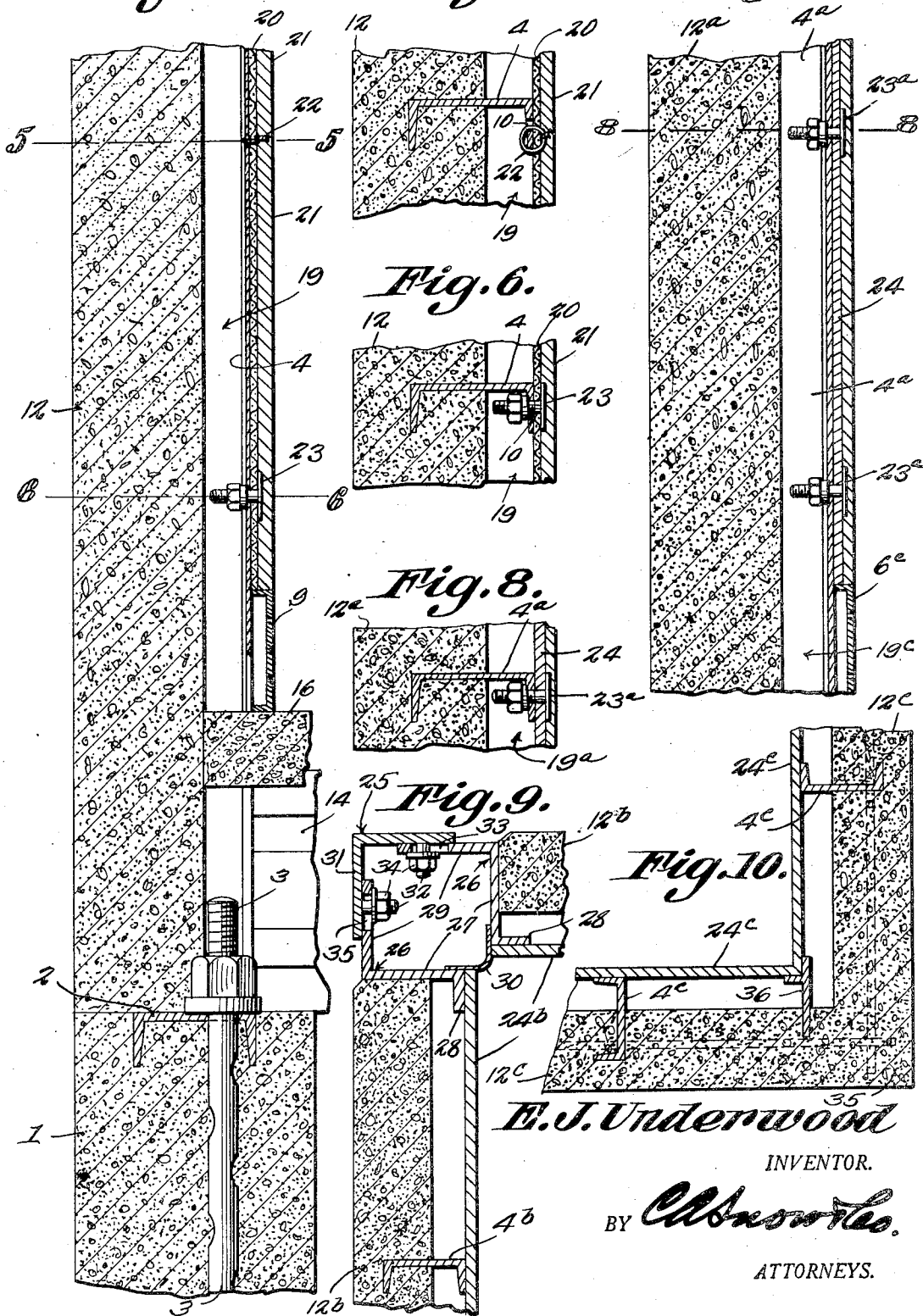
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Fig. 4.

Fig. 5.

Fig. 7.



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UNITED STATES PATENT OFFICE

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BUILDING CONSTRUCTION

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1 Claim. (Cl. 72-16)

The device forming the subject matter of this application is a building construction. The invention aims to supply a metal framework of novel construction, to improve the make-up of the walls, to provide a means whereby exhaust air from the rooms of a building may be conducted between the inner and outer walls, and to provide novel means for holding the inner and outer walls in assembled relation.

It is within the province of the disclosure to improve generally and to enhance the utility of devices of that type to which the present invention appertains.

With the above and other objects in view, which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

In the accompanying drawings:

Fig. 1 is a perspective disclosing a building construction embodying the invention, parts being broken away;

Fig. 2 is a vertical section taken in a plane spaced from the walls, parts being broken away;

Fig. 3 is a section on the line 3-3 of Fig. 2;

Fig. 4 is a vertical section taken in a plane at right angles to the cutting plane in Fig. 2;

Figs. 5 and 6 are horizontal sections taken, respectively, on the lines 5-5 and 6-6 of Fig. 4;

Fig. 7 is a vertical section showing a modification;

Fig. 8 is a section on the line 8-8 of Fig. 7;

Fig. 9 is a horizontal section showing an expandable corner construction;

Fig. 10 is a horizontal section showing a fixed corner construction.

Referring to Figs. 1 to 6, it will be understood that parts mentioned as being secured together or attached to each other, may be connected by welding or in any other suitable way. The following description relates to the physical make-up of the structure, and does not presume to outline the steps of building, in order, since such details are not a limitation on the present invention.

Grossly considered, the building structure embodies a foundation, a framework on the foundation, inner and outer walls assembled with the framework, and floors, together with suitable supports for the floors.

The foundation 1 may be constructed as desired. In the upper edge of the foundation 1 is seated a base member 2, which may be an inverted channel. Anchor bolts 3 are mounted in the foundation 1 and engage the base member 2.

The lower ends of horizontally spaced, vertical posts 4, are secured to the base member 2. Horizontal reinforcing elements 5, such as studs, are mounted in the body portions of the posts 4, and may be secured therein. A horizontal finishing strip 6, which may be an angle member, is secured to the posts 4, near the upper ends thereof. A hollow beam 7 extends through the posts 4, slightly above the finishing strip 6.

The posts 4 may be channels, and to their inner flanges are secured the ends of upper beams 8, the beams 8 being disposed immediately above the finishing strip 6.

A perforated, horizontal base piece 9 is secured to the posts 4, at the inner flanges of the posts and may be a channel, disposed adjacent to the foundation 1. The inner flanges of the posts 4 are supplied with openings 10, and there are openings 11 in the depending flange of the strip 6.

Having thus described the framework, it will be noted that an outer wall 12 preferably made of concrete, and not necessarily of great thickness is erected on the foundation 1 and overlaps the base member 2, as shown in Fig. 4. The posts 4 are partially embedded in the outer wall 12, as Figs. 5 and 6 will disclose.

Lower floor beams 14, which preferably although not necessarily are of concrete construction, carrying longitudinal reinforcements 15, are mounted on the foundation 1 and on the base member 2, preferably in contact with the body portions of the posts 4, as disclosed in Fig. 2. A lower floor 16, which may be of concrete, is formed on the floor beams 14 and extends upwardly to the lower flange of the perforated base piece 9.

An upper floor 17 is joined integrally to the outer wall 12, the upper beams 8 being partially embedded in the floor 17, and supporting it.

The inner wall is designated as a whole by the numeral 18, and extends upwardly from the upper flange of the base piece 9 to the horizontal flange of the finishing strip 6. It will be observed that the inner wall 18 is separated from the outer wall 12, to form draft spaces 19 between the inner and outer walls. Air from the lower apartment in the building can find an exit through the perforated base piece 9 and move upwardly through the draft spaces 19. The hol-

low beam 7, partially open at the bottom, serves as an outlet for the air space 19. Proper connections between the conduit beam 7 and heating or air conditioning units (not shown) form no part of the present invention. The conduit beam 7 is an incorporated part of the structure shown, and not solely a part of any heating or air-conditioning system that may be employed.

The inner wall 18 may be variously constructed. It may include a metal lath 20, carrying plaster 21, or any other suitable inner layer. The means for holding the metal lath 20 in place preferably comprises twisted wirings 22, alternating with headed securing elements or bolts 23, engaged in the openings 10 of the posts 4 and in the openings 11 of the finishing strip 6.

In Figs. 7 and 8, parts hereinbefore described have been designated by numerals already used, with the suffix "a." Here, the metal lath 20 of Fig. 4 is replaced by a rigid insulation sheet 24. In Fig. 7, the bolts 23a, alone, are shown. This indicates that the wire rings 22 of Fig. 5 need not be employed: and, without specific delineation, it will be apparent that, if desired, the rings 22 can be employed to the exclusion of the headed bolts.

Figure 9 shows a corner post construction. In Fig. 9, parts hereinbefore described have been designated by numerals already used, with the suffix "b."

The corner post is designated as a whole by the numeral 25. It comprises Z-bars 26, each including a body, each body carrying an inner flange 28 and an outer flange 29. The bodies 27 are arranged at right angles to each other, to form two adjacent walls of the post 25. The flanges 28 are located externally of the post, at right angles to each other. A space exists at the post-angle formed by the flanges 28, but that space is closed by an internal angle strip 30, cooperating with the bodies 27 of the Z-bars 26.

The two remaining walls of the post 25 are formed partly by the outer flanges 29 of the

Z-bars 26, those flanges being at right angles to each other. The free edges of the flanges 29 are spaced apart at the outer angle of the post 25, but that space is closed, and said two remaining walls of the posts are completed, by an external angle member 31, overlapping the flanges 29 of the Z-bars 26.

The flanges of the angle member 31 are provided with studs 32, passing through elongated slots 33 in the flanges of the angle member 31. Nuts 34 are threaded on the studs 32 and engage the flanges 29 of the Z-bars 26. It will be obvious, without further discussion, that an expandable corner post is provided. The relation of the parts 24b and 12b to the post 25 can be seen readily from Fig. 9 of the drawings.

In Fig. 10, parts hereinbefore described have been designated by numerals already used, with the suffix "c." The outer walls 12c are joined integrally at the corner of the building, as shown at 35. Near the angle of the building, one of the outer walls 12c carries a crutch plate 36, including angularly disposed parts receiving the angle formed by the inner walls, represented, for the sake of illustration, by the wall forming members 24c.

The framework is simple in construction but possesses a high degree of strength. Air circulation between the walls is possible, temperature variations are reduced, and expansion and contraction will be kept down to a minimum.

Having thus described the invention, what is claimed is:

In a building construction, upright posts, a floor associated with the posts, an outer wall wherein the posts are partially embedded, an inner wall, means for securing the inner wall to certain of the posts, there being an air space between the walls, and a base piece connected to the posts adjacent to the floor, the base piece being a channel, comprising a body and outwardly extended flanges, the body being perforated, to admit air to the air space.

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