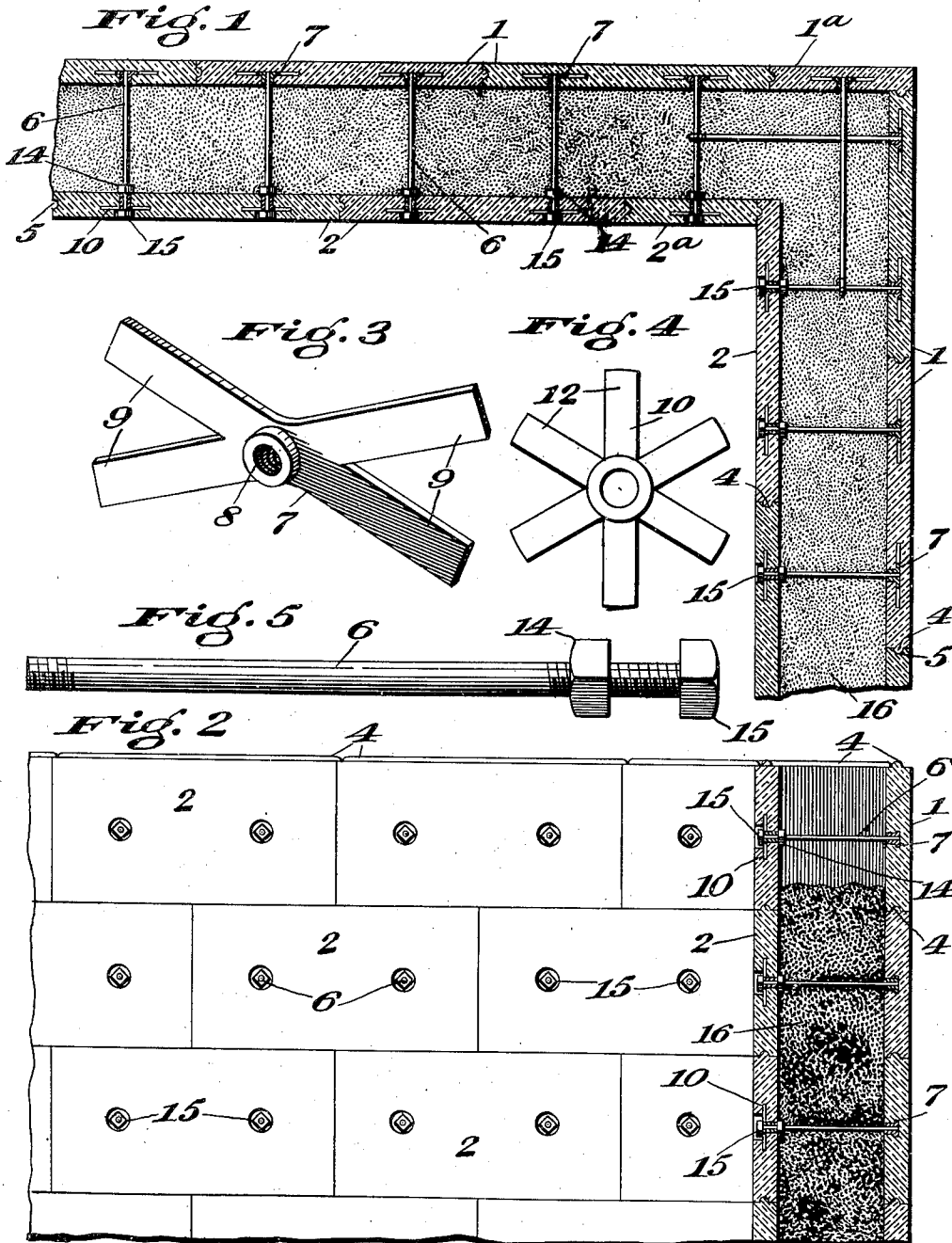


W. SCHWEIKERT.  
BUILDING STRUCTURE.  
APPLICATION FILED JUNE 8, 1908.

1,053,231.

Patented Feb. 18, 1913.

2 SHEETS—SHEET 1.



Attest:

*Alan P. Leonard*  
*Charles F. Ker*

Inventor:

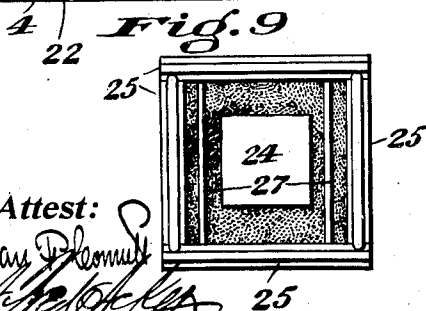
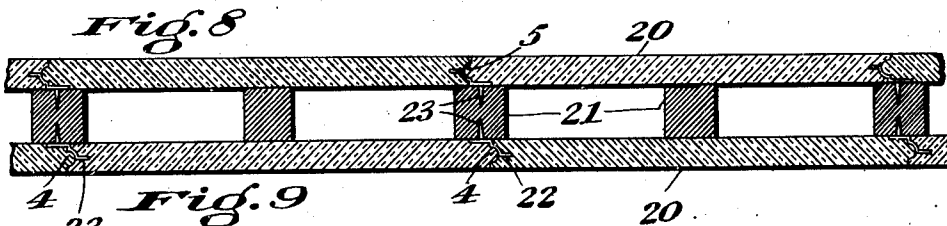
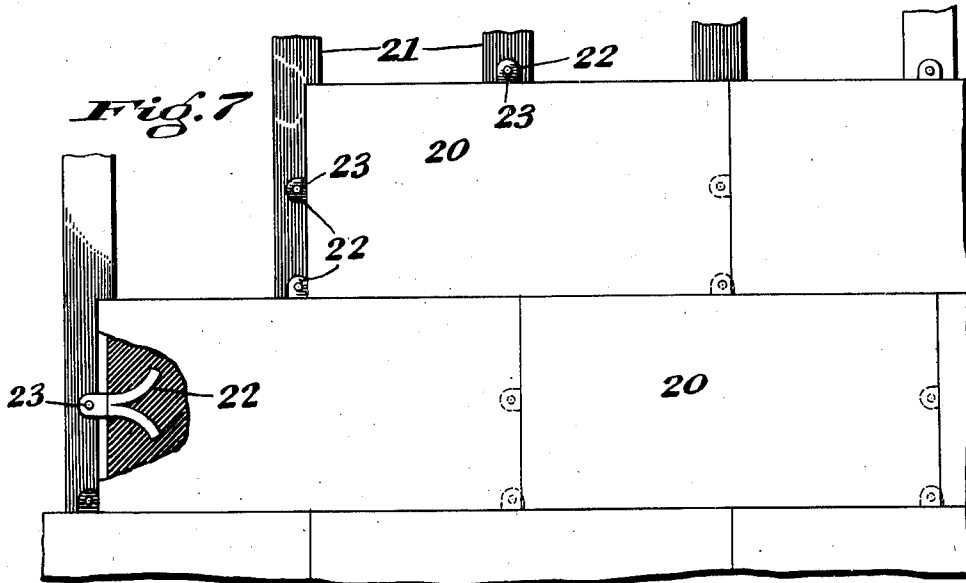
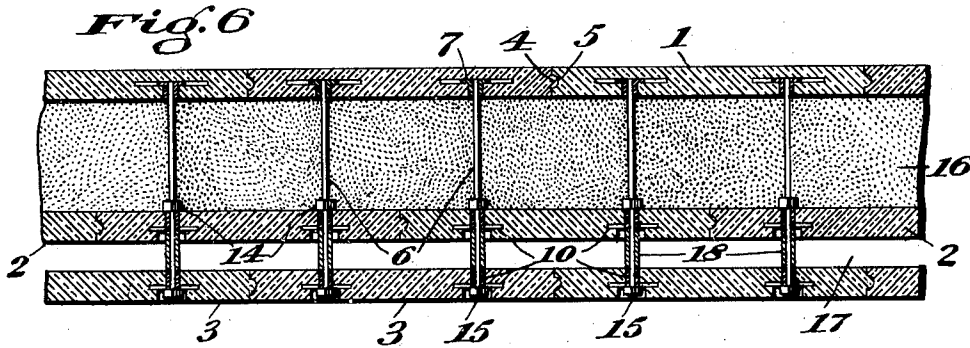
by *William Schweikert*  
*J. R. Caplinger* Atty

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2 SHEETS—SHEET 2.



Attest:  
*Alas J. Komu*  
*Feb 10 1913*

Inventor:  
by *William Schweikert*  
*J. E. Loring* Atty

# UNITED STATES PATENT OFFICE.

WILLIAM SCHWEIKERT, OF BROOKLYN, NEW YORK.

## BUILDING STRUCTURE.

1,053,231.

Specification of Letters Patent.

Patented Feb. 18, 1913.

Application filed June 8, 1908. Serial No. 437,233.

*To all whom it may concern:*

Be it known that I, WILLIAM SCHWEIKERT, a citizen of the United States, and a resident of Brooklyn, Kings county, New York, have invented certain Improvements in Building Structures, of which the following is a specification.

This invention relates to certain improvements in building structures, and more particularly in that class of such structures the walls of which are homogeneously formed from cement, concrete, or other similar plastic materials, and the object of the invention is to provide a structure of this general character of a simple and comparatively inexpensive nature which shall be strong and durable and which is capable of being erected without the employment of expensive scaffolding or framing such as is usually required for structures having such homogeneous molded walls, whereby an important economy both in time and cost of construction is attained.

The invention consists in certain novel features of the construction, and combinations and arrangements of the several parts of the improved building structure, whereby certain important advantages are attained and the structure is rendered simpler, less expensive, stronger and otherwise better adapted and more convenient for use, all as will be hereinafter fully set forth.

The novel features of the invention will be carefully defined in the claims.

In the accompanying drawings which serve to illustrate my invention, Figure 1 is a sectional view taken horizontally through a fragment of the wall of the improved building structure at a corner or angle of the same. Fig. 2 is a sectional elevation showing a fragment of the wall of a building constructed according to my invention; Fig. 3 is a perspective view showing detached, one of the reinforces embedded in the slabs or sections of the improved building structure; Fig. 4 is a view similar to Fig. 3, but showing a modified formation of the reinforce comprised in my present invention; Fig. 5 is a detail view illustrating one of the bonds for connecting the slabs or sections of the improved structure; Fig. 6 is a fragmentary sectional view showing the application of molded slabs or sections constructed according to my invention to produce the wall of a structure with

an air packing; Fig. 7 is a fragmentary sectional elevation showing the construction of a wall or partition from such molded slabs or sections; Fig. 8 is a sectional view taken horizontally through the wall, constructed as shown in Fig. 7, and Fig. 9 is a sectional detail view showing a column beam or flue incased according to my invention.

Referring first to Figs. 1 and 2, 1, 1 and 2, 2, represent, respectively, two series of thin slabs or sections, which are molded from cement, concrete, or other suitable plastic materials, in sizes and contours such as are desirable to adapt the slabs or sections of the respective series for use as facings for the exterior and interior surfaces of the walls of the improved structure. For this purpose, the external surfaces of said slabs or sections may be ornamental or molded in any appropriate design. The slabs or sections 1, 1 and 2, 2, of the respective series are adapted to be rested in courses in well known way, one upon another and edge to edge to form such facings for the walls of the structure, and to facilitate their setting, each such slab or section will, by preference, have flanges 4, 4, extended along one vertical and one horizontal edge, which flanges are adapted to be accurately received in grooves 5, 5, correspondingly formed in the contacting edges of the adjacent slabs or sections.

In setting the slabs 1, 1, and 2, 2, to form the facings for the outer and inner surfaces of the wall of the improved structure, the said slabs or sections are arranged in horizontal courses in a well known way, and the joints between the slabs or sections of each course are midway between those of the superposed course so as to be overlapped thereby. At the corners of the structure, and in such other situations as may be desirable, are arranged half sections or slabs 1<sup>a</sup>, and 2<sup>a</sup>, of lesser size than the slabs or sections 1, 1, and 2, 2, and designed to permit the setting of the facings as above described.

As herein shown each slab or section 1, 1, and 2, 2, is provided with a plurality of apertures, and in setting up the slabs or sections to form the wall facings, rods or strips 6, of metal or the like are inserted in correspondingly positioned apertures, in adjacent, oppositely arranged slabs or sections 1 and 2 of the respective series and are so arranged as to hold said inner and outer

series in erect position and suitably spaced apart to form the said outer and inner wall facings.

As herein shown the slabs or sections 1, 1, and 2, 2, of the respective outer and inner series are provided with metallic reinforcers or bushings 7, 7, and 10, 10, embedded in them at the apertures whereat the ends of the rods or strips 6 are inserted, the reinforcers or bushings 7 of the slabs 1 being of an angular or X-shape provided with divergent arms 9, 9 and having central screw-threaded apertures 8, aligned with the apertures of the slabs, and in which the outer ends of rods or strips 6, which are correspondingly screw threaded, are adapted to be adjustably engaged. The apertures of said outer slabs or sections 1, 1, are produced only at the rear or inner surfaces of the slabs or sections and are not open at the front or outer surfaces of the slabs or sections and consequently the said outer surfaces of the slabs are not broken as would be the case were the apertures extended entirely through the slabs.

The reinforcers or bushings 10, 10, of the inner slabs or sections 2 have tubular parts through which the inner ends of the rods or strips 6 are passed, and said tubular parts have their outer ends flush with the outer surface of said slabs or sections 2, for contact with nuts 14 adjustably held on rods or strips 6 while the inner extremities of the reinforcers 10 have divergent wings or projections 12 embedded in the material from which the slabs are produced at sufficient distances beyond the inner surfaces of the slabs to insure that said projections shall be hidden from view, and to prevent the molded material from cracking and scaling off at the inner surfaces of the slabs around the apertures through which the rods or strips 6 are passed. The inner ends of the tubular parts of the reinforcers are preferably set at such distances from the inner surfaces of the slabs 2 as to permit the nuts 15 at the inner ends of the rods 6 to be countersunk in the apertures at the inner surfaces of the slabs, after which the inner ends of said apertures may be filled in or pointed up with plaster or cement so as to cover the nuts 15 flush with the inner surfaces of the slabs. When desired, the said nuts 14 and 15 at the inner ends of the rods or strips 6 may be omitted and said ends of the rods or strips may have screw engagement in the tubular parts of the bushings or reinforcers 10 of the inner slabs 2.

In the practical use of my improvement, the slabs or sections may be manufactured by machine, and transported to the location at which the structure is to be erected, the thin slabs or sections being comparatively light and inexpensive and being capable of

being packed closely together so as to occupy much less space than is necessary for building blocks such as are ordinarily formed from concrete or cement. This is not, however, essential to my invention since where desired, the slabs or sections may be molded by machines located on the premises where the construction is under way.

In erecting the structure, as shown in Fig. 2, the slabs or sections are set upon each other in the two series shown, being held in relation spaced apart at suitable distances by means of the engaging flanges 4 and grooves 5 and of the rods or strips 6, the threaded connections of which with the embedded bushings or reinforcers, permit such adjustment of the slabs toward and from each other as is needful for plumbing or truing the outer and inner surfaces of the walls. In this way the facings for the outer and inner surfaces of the wall of the structure are produced, after which the intervening space or chamber separating the outer and inner series of slabs is filled in with a suitable cement, concrete or other plastic composition as indicated at 16 upon the drawings, said filling serving when hardened to bind the outer and inner facings together and produce a substantially homogeneous wall.

The building structure embodying my improvements is of an extremely strong and durable nature, owing to the homogeneous character of its walls, and may also be given a much more ornate appearance than is possible in other similar structures, since the slabs or sections may have their outer surfaces treated or ornamented in any desired design in course of manufacture. Furthermore the nature of the structure permits of dispensing altogether with the use of the expensive scaffolding and framing heretofore necessary for the erection of cement or concrete structures with homogeneous walls, and thereby permits an important economy both in time and expenses required for construction.

Where it is desired to finish the inner surfaces of the walls, the construction shown in Fig. 6 may be employed. In this construction the strips or rods 6, 6, are made longer so that their inner ends are caused to protrude from the inner surfaces of the inner slabs or sections 2, 2, and sleeves or like spacing devices are applied as shown at 18 upon said protruding ends of the rods or strips, after which auxiliary inner slabs or sections 3, similar to the slabs or sections 2 are applied upon the extremities of said rods or strips and held in place by the nuts 15 at the inner ends of the rods or strips. In this way the said auxiliary inner slabs or sections 3 are held spaced away from slabs or sections 2 by means of the sleeves 18, so as to produce an air chamber or packing 18 in

the wall, whereby the heat is adapted to be retained in the building. The inner auxiliary slabs or sections serve to receive the plaster in a well known way, when it is desired to plaster the inner surfaces of the walls. I have discovered that it is possible to dispense with such plastering by molding the plastic substance from which slabs 3 are formed upon a plate of glass or other polished material, which upon the hardening of the slab serves to produce an extremely smooth and uniform surface upon the slab and renders the employment of a plaster coat unnecessary. This same method of manufacture may be employed for the slabs 2 where the air packing is to be dispensed with.

The reinforces or bushings 7 and 10 serve not merely to strengthen the slabs or sections, but also operate to prevent crumbling or cracking thereof at the points of attachment of the rods or strips, 6, 6, and where the apertures are extended entirely through the slabs or sections, as in the case of the slabs or sections 2 and 3, such slabs or sections may be applied in a variety of ways in building construction.

In Figs. 7 and 8 I have shown a modified construction wherein the slabs or sections are not apertured, but are provided with metallic attaching devices which are in the nature of reinforcements embedded in them with portions projecting at the surfaces of such slabs or sections and affording clips for the attachment thereof to the framing or studding of a structure to afford molded facings for the walls and partitions thereof. In these views the slabs or sections are represented at 20, 20, and the framing or studding whereon they are secured is represented at 21, 21. 22 represents the metal reinforcements or clips which serve for the attachment of the slabs or sections to the framing or studding of the structure, and said reinforcements or clips have divergent wings embedded in the molded material from which the slabs or sections are formed and are provided with apertured end portions projecting from the edges of the slabs or sections and so bent as to extend in the planes of the rear or inner surfaces of the slabs or sections so as to be adapted to be lapped flush upon the framing or studding 21, and to be secured thereto by means of nails or the like as shown at 23. As shown in these views the slabs or sections are also provided with tongue and groove joints at their meeting edges, and the arrangement is such that the projecting portions of the clips or reinforcements 22 of one slab or section are covered over and concealed by the overlapping edge portions of the adjacent slabs or sections, so that the exposed surface of the wall is in no way marred by such attaching means. Where desired, columns, beams or

flues may also be incased according to my invention, as shown in the detail view, Fig. 9, wherein 24 represents a beam or column, and 25, 25 represent slabs or sections molded from plastic material and applied outside said column or beam, being spaced away from the same so that a filling of concrete or cement is adapted to be packed between the beam or column and the facing afforded by said slabs or sections. Rods or strips 27, 27 are passed through the slabs or sections and across the intervening space to hold the slabs or sections in relation.

From the above description of my improvements, it will be seen that the building structure embodying my invention is of an extremely simple and comparatively inexpensive nature, and is particularly well adapted for use by reason of its strength and durability and of the economy in time and expense of erection afforded by it, and it will also be obvious from the above description that the structure is capable of some modification without material departure from the principles and spirit of the invention, and for this reason I do not desire to be understood as limiting myself to the precise form and arrangement of the several parts herein set forth in carrying out my invention in practice.

Having thus described my invention, what I claim and desire to secure by Letters Patent is—

1. In concrete building construction oppositely disposed separated facing slabs adapted to form a receptacle for plastic cementitious concrete and having permanently embedded anchor retainers therein and rigid anchors bridging the space between and rigidly connecting the slabs said anchors being adjustable longitudinally whereby the space between the slabs may be varied and the slabs held against relative movement in any directions.

2. A building structure comprising spaced facings adapted to form a receptacle for plastic material, rigid parts extended across the space between the facings, anchoring means carried by the facings with which the rigid parts are engaged, said rigid parts being capable of endwise adjustable movement.

3. A building structure comprising spaced facings, tubular anchoring members embedded within the facings, and rigid parts extended across the space between the facings and in endwise adjustable engagement with the tubular anchoring members whereby the space between the facings may be varied.

4. A building structure comprising spaced facings adapted to form a receptacle for plastic material, tubular anchoring members embedded within the facings, divergent arms carried by the tubular anchoring mem-

bers to hold the same against displacement and rigid parts extended across the space between the facings and in endwise adjustable engagement with the tubular anchoring members whereby the space between the facings may be varied.

5 5. A building structure comprising spaced facings adapted to form a receptacle for plastic material, tubular anchoring members  
10 permanently embedded within the facings, rigid parts extended across the space between the facings and in threaded engage-

ment with the tubular members whereby the space between the facings may be varied and held against movement in any direction. 15

In witness whereof I have hereunto signed my name this 11th day of May, 1908, in the presence of two subscribing witnesses.

WILLIAM SCHWEIKERT.

Witnesses:

J. D. CAPLINGER,  
F. W. WIMAN.