Feb. 12, 1935. C. FÜCHS ET AL 1,991,145

PANEL ELEMENT

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Fig. 1.

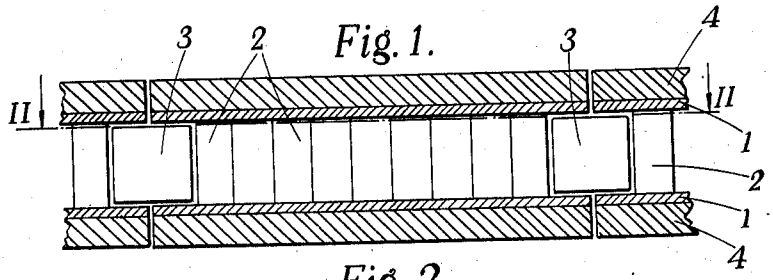


Fig. 2.

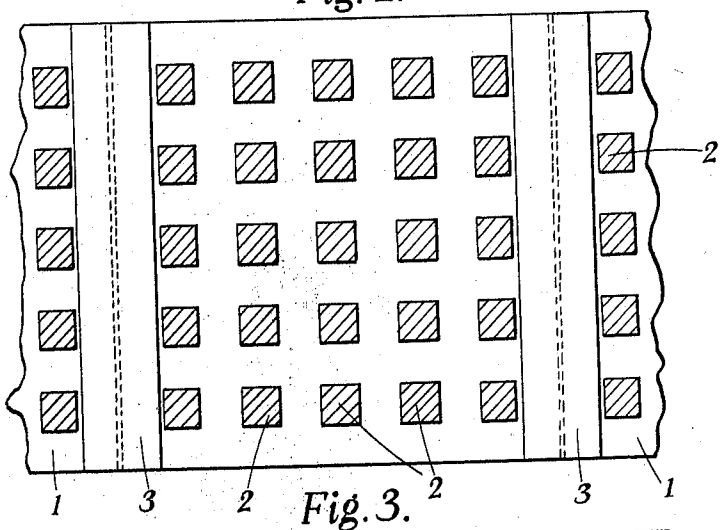
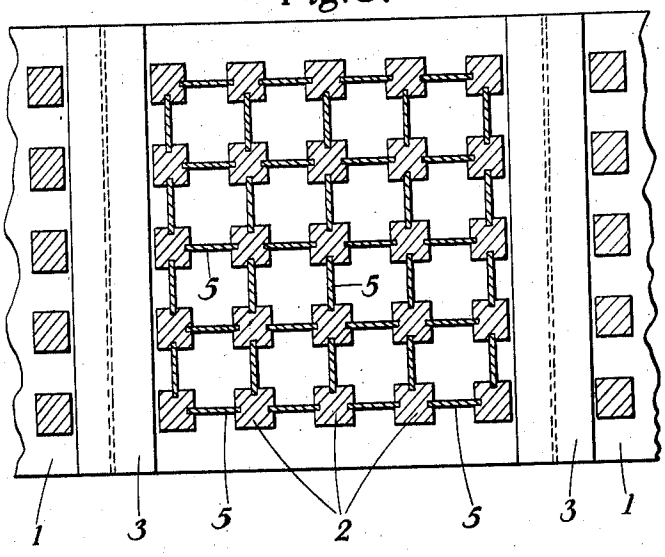


Fig. 3.



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Fig. 4.

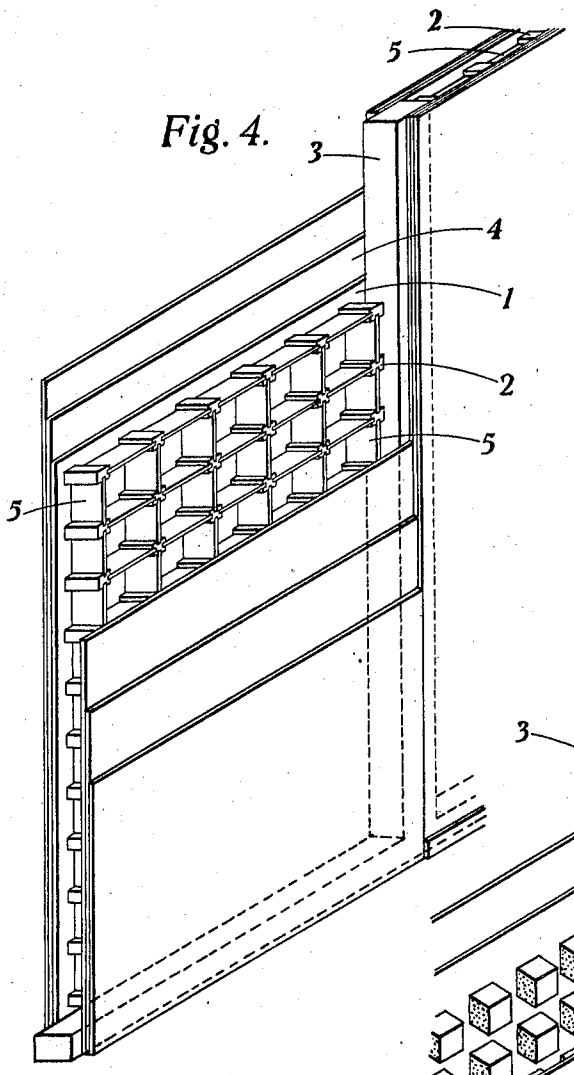
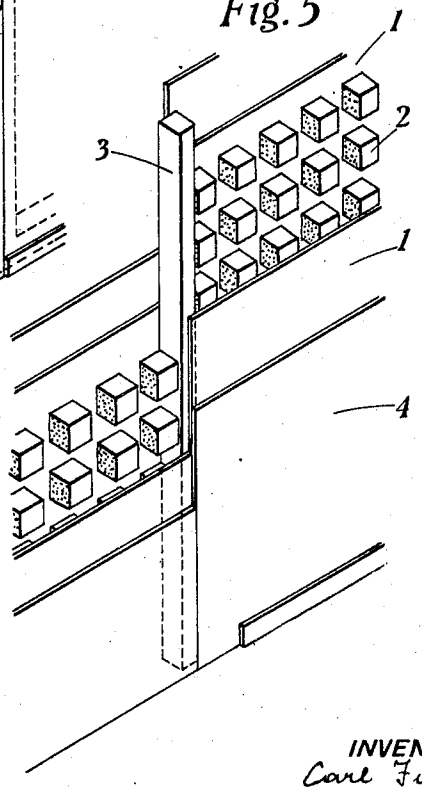


Fig. 5



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PANEL ELEMENT

Carl Fŭchs and Albert Arb, Zurich, Switzerland

Application December 19, 1933, Serial No. 703,056
In Switzerland July 8, 1932

1 Claim. (Cl. 20—15)

The present invention relates to improvements in the construction of structural elements and method of assembling same.

The tendency of making the most important parts of buildings such as walls, floors and ceilings very quickly and rapidly by assembling suitably constructed structural elements has led to a considerable number of constructions of structural elements which can be produced cheaply in very large quantities and can be assembled without the use of bricks and plaster. Such elements have hitherto been chiefly made of artificial stone. It is essential that the elements should, in addition to the required mechanical strength fulfill very high requirements as regards insulation of heat and sound.

The present invention consists in an improved construction of building elements adapted to be manufactured in very large quantities and very economically of wood, and method of assembling same.

The improved method of assembling and construction of structural building elements is chiefly characterized in that a plurality of plate-shaped elements are placed side by side and are so constructed that the complete wall, ceiling or floor is substantially constituted by at least two parallel walls held apart by suitable distance members, air spaces being provided between the walls and the walls being adapted to be covered with a suitable covering material, if required.

The structural elements used in carrying out the improved method are made in suitable standard sizes and consist each of at least two plates of equal size made of wood or cellulose, said plates being spaced apart by suitable distance members so as to form rigid and closed units.

The accompanying drawings show by way of example constructions embodying the features of the invention.

Fig. 1 shows a wall partly in cross section and partly in top view,

Fig. 2 shows a wall in elevation and partly in section,

Fig. 3 shows in elevation and partly in section a modified construction of the wall,

Figs. 4 and 5 show wall constructions in perspective views.

The building elements comprise each two parallel plates 1, 1 which are spaced apart by distance pieces 2 in such a manner as to leave between the plates an air space. The elements are covered on one or both sides with a covering 4. The plates 1, 1 are preferably made of wood, whilst the covering material 4 is preferably made of cellulose. Xylotin plates are particularly suitable, inasmuch as this material not only has very high mechanical strength, but is a very good heat and sound insulator. The material can be worked by means of the usual woodworking tools, and it can be painted, covered with paper or concrete and plastered by means of an interposed wire fabric. The covering may, of course, be applied to the finished wall. Two abutting building elements constructed as above described may be connected at their juncture by means of a binder 3, and for this purpose the distance members must be so arranged as not to prevent the insertion of the binder.

According to the purpose for which the building is intended, the elements may be made of more than two parallel plates and in that case a smaller distance will, as a rule, be used between the plates. Several elements may, of course, also be arranged in series.

A wall or other structure made according to the present invention has the advantage that the space between the plates may be used for heating, ventilating or cooling purposes and may also be used for the reception of electric and other conduits.

In some cases in which it is essential to increase the mechanical strength whilst maintaining satisfactory heat and sound insulation, the distance pieces may be connected together by means of webs 5 (Figs. 3 and 4). For this purpose the distance pieces may be made of rectangular or circular cross section and may be provided with grooves so that the distance pieces are connected by webs 5 inserted into opposite grooves. The depth of the webs is preferably the same as that of the distance pieces and both the distance pieces and the webs may be connected to the plates by gluing or nailing, so that a very strong and rigid element is obtained which is divided by the distance pieces and webs into a plurality of entirely closed airtight chambers having a very high insulating value. Elements constructed in the above described manner are particularly suitable for the main walls and floors and in all cases in which great mechanical strength and high heat and sound insulation are required.

In some cases the individual chambers of an element may be filled with any suitable filling material.

It may be pointed out that the described building elements are extremely light and therefore very cheap to transport.

We claim:

A building element comprising spaced plates of equal size having reinforcing spaced blocks between the plates and secured thereto, web members seated in recesses in the blocks and connecting adjacent blocks, the edges of the plates extending a sufficient distance beyond the reinforcing elements to form channels for the reception of binders to which the edges of the sheets of adjacent panels are secured to form a continuous connected structure of a plurality of building elements.

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