

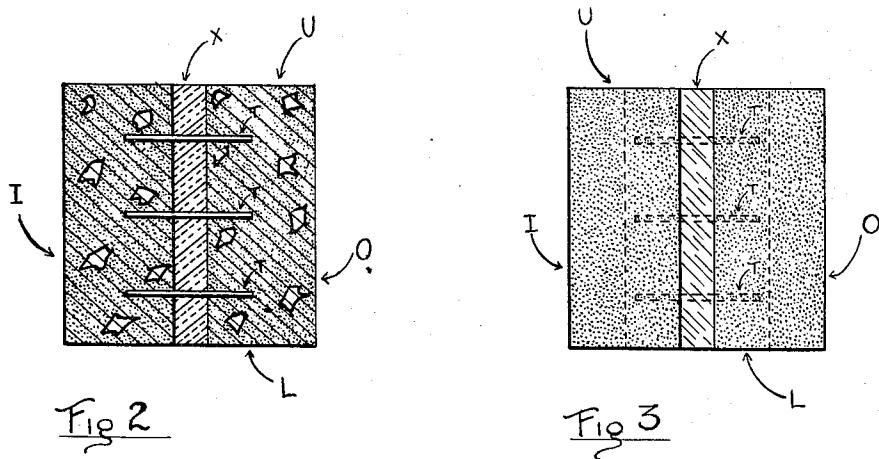
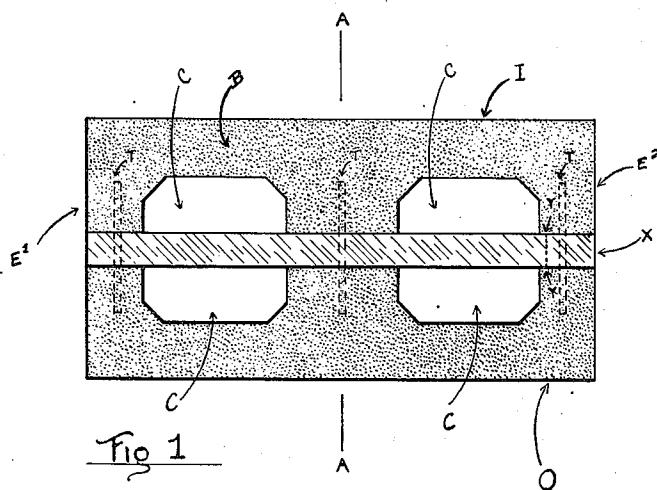
Dec. 5, 1939.

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2,182,470

MASONRY UNIT OR BLOCK

Filed April 27, 1938



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## UNITED STATES PATENT OFFICE

2,182,470

## MASONRY UNIT OR BLOCK

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Application April 27, 1938, Serial No. 204,544

5 Claims. (Cl. 72—43)

The invention relates to improvements in masonry units or building blocks. The objects of the improvements are to produce a masonry unit providing the maximum of strength and insulation value per pound of weight of structures composed of masonry units. It is further intended to provide a unit in which the moisture of condensation, inevitable in wall construction, will be dissipated from the insulating medium 5 with the greatest facility in the minimum length 10 of time.

One form of the invention is illustrated and described in the accompanying drawing in which; Figure 1 is a plan of the masonry unit as placed 15 in the finished structure.

Figure 2 is a cross section through the line A—A of Figure 1 but with the unit in an upright or true position with relation to the finished wall.

Figure 3 is an end view of the unit in the same position as in Figure 2.

As shown in this illustration the unit comprises a block of laminated or layer construction with all layers in parallel, vertical planes and so 25 disposed as to form together with identical layers in the adjoining units, a wall of three or more vertical sections. The various layers of the unit are all molded or cast into an integral unit being tied securely together by metal ties T in the process of manufacture. The insulating layer X 30 is made of a material with any desired heat, sound and moisture insulating qualities. It is generally rectangular in shape and preferably of the same dimensions as the face of the unit O making it extend to and flush with four surfaces 35 of the unit—the two ends E1 and E2, the upper face U and the lower face L in a plane parallel with the two faces O and I. It may, however, extend flush with only the upper and lower faces U and L and be terminated at either one or both ends at a point indicated by the dotted line Y—Y just inside the inner wall of the end webs. Where desired, the insulating layer X 40 may be comprised of two or more pieces—determined by the number of webs in the unit—of 45 dimensions identical with the cross sections of the webs in which they are placed, eliminating the use of insulation through the air cells, C.

The outer and inner layers O and I in the three layer block are made of concrete or similar load bearing material. In a unit having more than three layers, the alternate layers are of this load bearing material with the insulating layers separating them. These load bearing sections are so designed as to form, in the com-

pleted unit, one or more air cells on either side of the insulating layers. The air cells so formed extend completely through the body of the unit in a vertical direction. These load bearing sections may have a cross section of any size but this cross section should be of only sufficient size to obtain a desired load bearing surface B leaving the air cells as large as possible for the size of the unit. The larger the air cells, the more rapid the dissipation of the condensed moisture 10 absorbed by the insulating layer.

The insulating efficiency of this unit may be increased to any desired point by increasing the number of layers to five or more and using two or more layers of insulation separated by either 15 web sections or a full size section or sections with webs on either side to match with the webs of the face layers and to produce the desired air cells.

Without further description it is believed that 20 anyone familiar with masonry or architectural practice will readily appreciate the features and advantages of this unit and realize that this design produces a masonry unit of great strength, high insulating value, high moisture penetration 25 resistance and eliminates to a large extent the ultimate rotting or disintegration of the insulation.

It is, of course, understood that changes in shapes, dimensions, materials and minor details 30 of construction may be resorted to without departing from the spirit of the invention or the scope of the appended claims.

I claim:

1. A laminated masonry unit, comprising a 35 pair of vertically disposed parallel horizontally spaced load bearing layers, each having upon its inner face a vertically extending web opposed to the corresponding web of the other layer, said webs forming vertically extending air cells within 40 the unit having open sides opposed to said load bearing layers, an intermediate layer of insulating material disposed between said opposed webs and having surfaces directly exposed to said air cells, and metal ties anchored into said 45 webs and extending through said insulating layer to bind said load bearing and insulating layers together as a unit.

2. A laminated masonry unit, comprising a 50 pair of vertically disposed parallel horizontally spaced load bearing layers, each having upon its inner face a plurality of horizontally spaced vertically extending webs opposed to the corresponding webs of the other layer, said webs forming vertically extending air cells within the unit 55

- having open sides opposed to said load bearing layers, an intermediate layer of insulating material disposed between said opposed webs and having surfaces directly exposed to said air cells, and metal ties anchored into said webs and extending through said insulating layer to bind said load bearing and insulating layers together as a unit.
3. A laminated masonry unit, comprising a pair of vertically disposed parallel horizontally spaced load bearing layers, and wall sections integral with said layers and forming vertically extending air cells within the unit, and an intermediate layer of insulating material extending into contacting relation with said end walls to span and be directly exposed to said air cells.
4. A laminated masonry unit, comprising a pair of vertically disposed parallel horizontally spaced load bearing layers, end wall sections integral with said layers, each of said layers having upon its inner face a vertically extending web horizontally spaced from said end walls and opposed to the corresponding web of the other layer, said webs forming vertically extending air cells within the unit having open sides opposed to said load bearing layers, an intermediate layer

of insulating material disposed between said opposed webs extending into contacting relation with said end walls to span and be directly exposed to said air cells, and metal ties anchored into said webs and extending through said insulating layers to bind said load bearing and insulating layers together as a unit.

5. A laminated masonry unit, comprising a pair of vertically disposed parallel horizontally spaced load bearing layers, each having upon its inner face a pair of vertically extending end wall forming webs and an intermediate vertically extending web spaced from said end webs and forming vertically extending air cells within the unit having open sides opposed to said load bearing layers, the webs of one layer being opposed to the corresponding webs of the other layer, an intermediate layer of insulating material disposed between said opposed webs to span and be directly exposed to said air cells, and metal ties anchored into said webs and extending through said insulating layer to bind said load bearing and insulating layers together as a unit.

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