Jan. 30, 1934. A. C. FISCHER 1,945,308

CONSTRUCTION MATERIAL

Filed Aug. 21, 1926

Fig. 1.

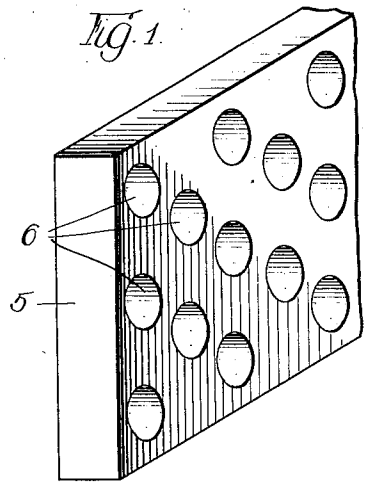


Fig. 2.

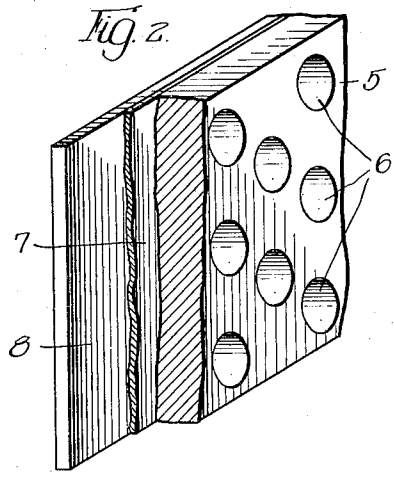


Fig. 3.

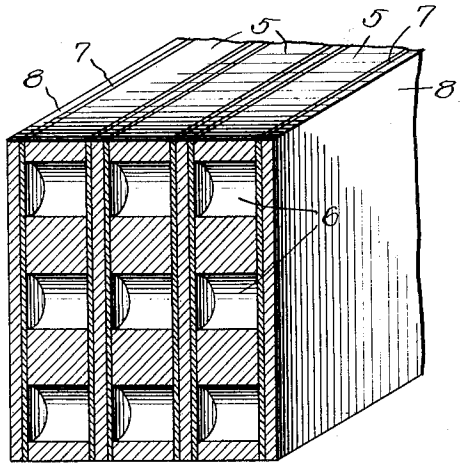


Fig. 4.

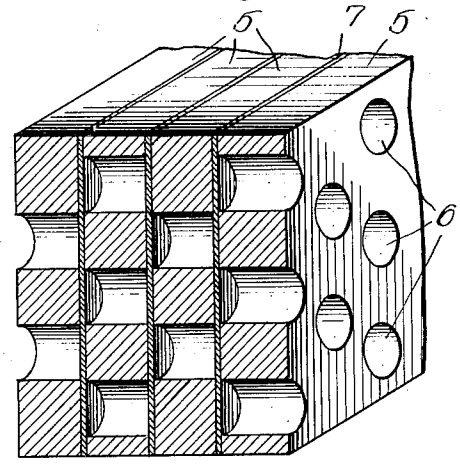
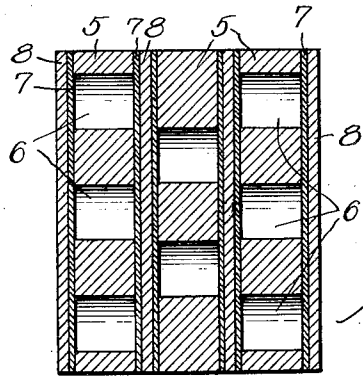


Fig. 5.



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Patented Jan. 30, 1934 1,945,308

UNITED STATES PATENT OFFICE

1,945,308

CONSTRUCTION MATERIAL

Albert C. Fischer, Chicago, Ill., assignor to The Philip Carey Manufacturing Company, a corporation of Ohio

Application August 21, 1926. Serial No. 130,682

5 Claims. (Cl. 154—44)

This application is a continuation in part of my application Serial No. 336,713, filed November 8, 1919, for Air, moisture and soundproof structures, and method of and material for producing same.

The salient features of the invention covered by this application reside in a construction in which a perforated sheet or layer is used for developing insulating and yielding properties in various forms of structures. Such, for instance, as wall structures, floorings, cold storage refrigerators, paving and in all places where preformed blocks, sheets or other forms of insulating and yielding materials are used for thermal insulation, waterproofing contraction and expansion, and other purposes.

Various forms of the invention are illustrated in the accompanying drawing, in which Figure 1 is a perspective view of a perforated sheet which forms the primary layer in the built-up insulation material contemplated by my invention.

Figure 2 is a perspective view of the same perforated sheet, backed with a layer of mastic and a non-perforated sheet or layer;

Figure 3 is a perspective view of a multiple layer of multiple thickness, showing superimposed non-perforated layers and perforated layers;

Figure 4 is a similar view of a single thickness of non-perforated layers alternating with perforated layers;

Figure 5 is a view in cross section of the multiple layer structure.

Referring now to the drawing in detail. To build up the structure contemplated by the invention I first take a layer, or a sheet, or a strip 5, as the case may be, and perforate the same as at 6. This gives me the perforated layer shown in all the figures. Any suitable material may be used for this layer 5. I may choose to use felted fibrous material, waterproofed or unwaterproofed, or I may use a composition sheet, strip or layer. The composition may be blown asphalt having incorporated therein fibrous material, or it may be a felt structure saturated with waterproofing material, such as commonly used for such purposes in making roofing material. Should I use a waterproofed fibrous mass, or an over-saturated felt mass, or a composition comprising blown asphalt with fibrous matter incorporated therein, I would produce a sheet which would be more or less adhesive on the surface, and it would be suitable for use as an insulating layer, particularly for use between two structures, which would present a surface area enclosing the perforations, as for instance, in between flooring, that is to say, rough and surface flooring. The sheet would function to good advantage in this connection, in that the waterproofing material used would more than likely ooze and flow into cracks and seal the same. This would be especially true in the case of felted fibrous structures which had been over-saturated with waterproofing material so as to leave an excess on the surface thereof. It would also be true in the case of an over-saturated felt, or an asphaltic mass. In the latter instance the fibrous matter would tend to retard the flow of the asphalt and at the same time leave sufficient to ooze into the cracks, particularly if pressure was developed on the sides of the sheet or strip, as the case may be.

As an alternative structure I may select the same kind of a sheet 5 and surface the same with a layer of mastic 7, and upon this layer I could use a saturated felt sheet 8. If there was enough excess waterproofing saturant on the sides of the sheet or strip 5 I could do away with the mastic layer 7.

I may also desire to surface the opposite side of the sheet with a like layer of mastic 7 and a like saturated felt sheet 8. For the purpose of illustration, however, I have shown only one side surfaced.

In lieu of the saturated felt sheet 8 I may use a fibrous composition, waterproofed or unwaterproofed, depending upon requirements.

In case I desire to use alternating layers with a so-called built-up structure I may develop a multiple layer structure, as shown in Figure 3, in which perforated layers 5 are surfaced with felted sheets 8, superimposed upon layers of mastic 7. In this form the perforations would be completely enclosed. In lieu of this structure I may produce still another built-up multiple layer structure with the perforated sheets 5 alternating with layers of mastic 7, without the felted sheet 8. The outer surface of the structure may be left so as to expose the perforatons.

In Figure 5 I have shown practically the same structure as shown n Figure 3, excepting that the perforations are arranged in staggered relation. This staggered relation of the perforations is also shown in Figure 4, and it should be noted that the perforations in one sheet are presented against a solid portion of an adjacent sheet.

The multiple layer structure may be made in any thickness desired, and the same possibility also applies to the thickness of the individual sheets, the idea being to take advantage of the insulating properties of a perforated sheet, par-

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ticularly when the perforations are closed either by superimposed layers forming a part of the built-up structure or else by the sides of the structure in which the built-up sheets are installed.

The waterproofing properties of insulation made in accordance with this invention will be proof against moisture and the perforations develop soundproof qualities. Furthermore, it can well be appreciated that the structure will also develop certain qualities which will readily respond to pressure, so that the structure may act as a means for compensating for expansion and contraction between the parts of the structure in which it is installed. The latter advantage would be particularly true in the case of a structure in which the perforated sheet or layer 5 is made of felted fibrous material, or a composition of blown asphalt and fibrous material.

I claim:

1. A multiple layer resilient, board-like strip of constructional material comprising a core of superimposed bituminized sheets, some of which are imperforate and some of which are formed with a series of recesses, and surface layers for covering and reenforcing the core to provide a cellular structure.

2. A multiple layer resilient, board-like strip of constructional material comprising an asphaltic core of superimposed bituminized sheets, some of which are imperforate and some of which are formed with a series of recesses, and surface layers for covering and reenforcing the core to provide a cellular structure.

3. A multiple layer resilient board-like strip of constructional material comprising a core of superimposed bituminized sheets some of which are imperforate and some of which are perforated with a series of recesses, and waterproofed surfacing layers for covering and reenforcing the core to provide a cellular structure.

4. A multiple layer, board-like strip comprising a core of perforated and imperforated bituminized sheets alternately superimposed with the perforations of the perforated sheets in staggered and off-set relation, and imperforate surface layers for covering and reenforcing the core to provide a cellular structure.

5. A multiple layer, board-like strip comprising a core of bituminized perforated and imperforated sheets alternately superimposed with the perforations of the perforated sheets in transverse alignment, and imperforate surface layers for covering and reenforcing the core to provide a cellular structure.

ALBERT C. FISCHER.