March 30, 1926. 1,578,344

T. B. MUNROE

REENFORCED COMPOSITION BOARD

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Fig. 1.

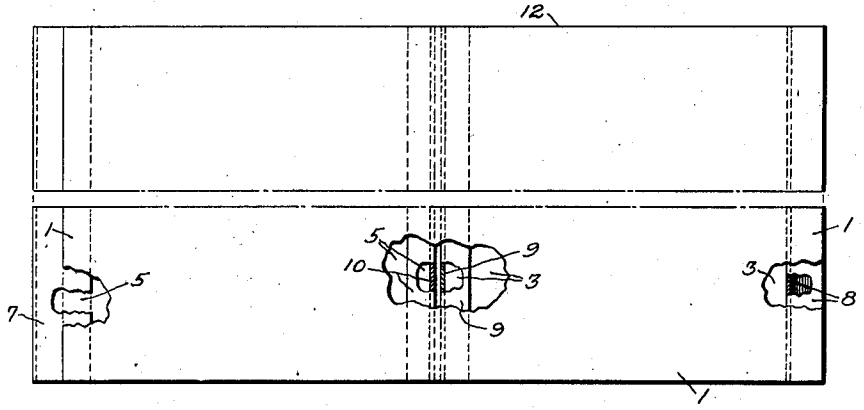


Fig. 2.

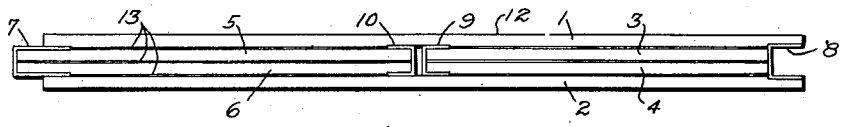


Fig. 3.

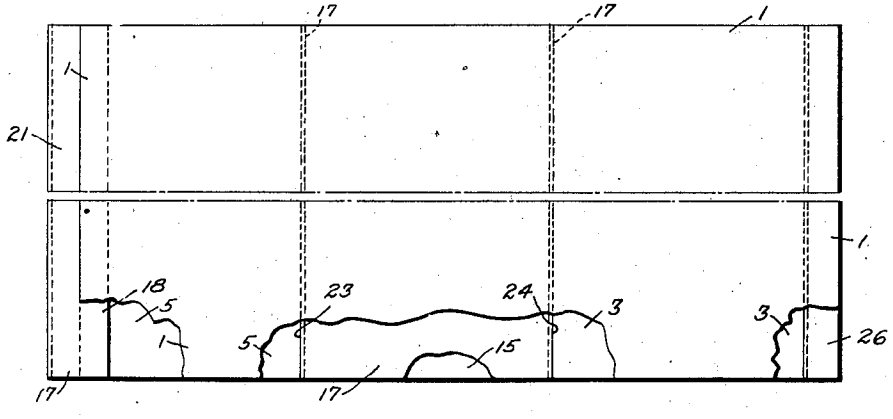
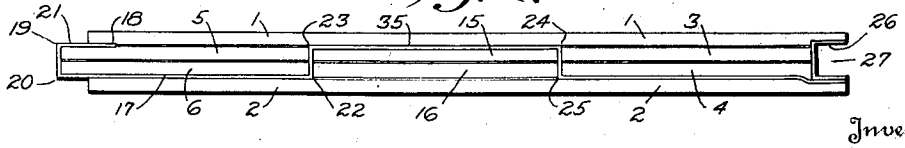


Fig. 4.



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Fig. 5.

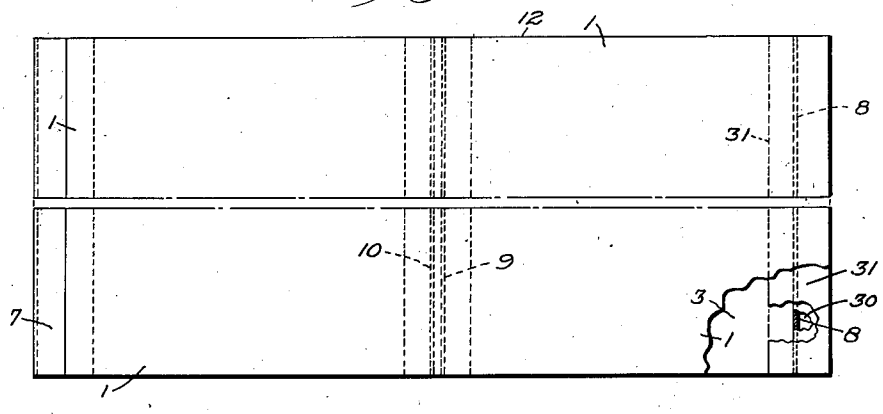


Fig. 6.

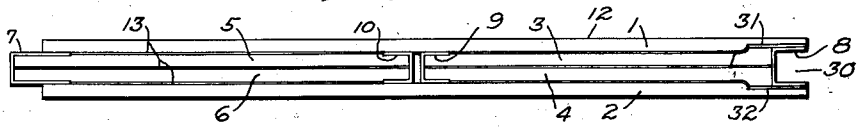
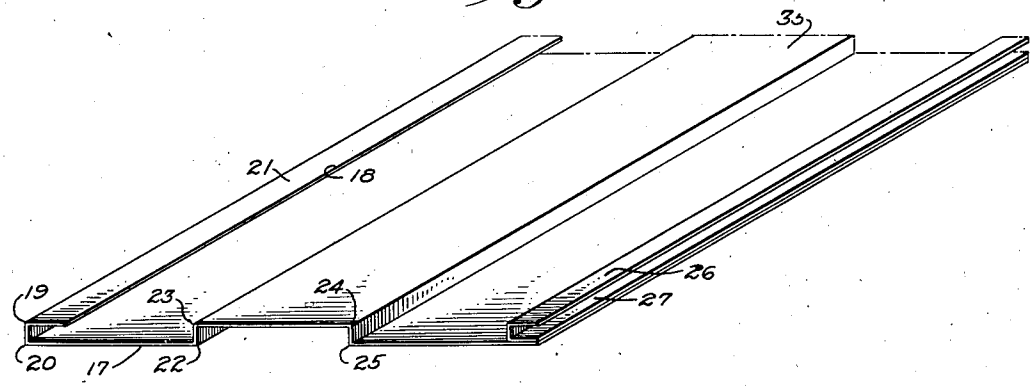


Fig. 7.



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UNITED STATES PATENT OFFICE.

TREADWAY B. MUNROE, OF CHICAGO, ILLINOIS, ASSIGNOR TO DAHLBERG & COMPANY, INC., OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

REENFORCED COMPOSITION BOARD.

Application filed September 4, 1925. Serial No. 54,530.

To all whom it may concern:

Be it known that I, TREADWAY B. MUNROE, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Reenforced Composition Board; and I do hereby declare the following to be a full, clear, and exact description of the invention such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to reenforced composition boards especially adapted for roofing material for partitions, floors, etc., and has for its object to improve the constructions heretofore proposed.

With this and other objects in view, the invention consists in the novel details of construction and combinations of parts more fully hereinafter disclosed and particularly pointed out in the claims.

Referring to the accompanying drawings forming a part of this specification, in which like numerals designate like parts in all the views:—

Figure 1 is a diagrammatic plan view partially broken away of a composition board made in accordance with this invention;

Figure 2 is a side elevational view of the parts shown in Fig. 1;

Figure 3 is a plan view partially broken away of a slightly modified form of the construction shown in Fig. 1;

Figure 4 is an end view of the parts shown in Fig. 3;

Figure 5 is a plan view partially broken away of a still further modified form of the invention;

Figure 6 is an edge view of the parts shown in Fig. 5; and

Figure 7 is a perspective view of the reenforcing member employed in the form shown in Figs. 3 and 4.

The composition board herein disclosed may be made of any suitable material but is preferably made out of the fibrous material known on the market as "celotex". This material is made from bagasse fibers which have been only partially cooked and therefore retain substantially all their original strength, and the material has numerous interstices or air cells so that its heat insulating qualities are very high. Further, the board is usually made in any desired lengths and thicknesses but generally about one-half inch thickness, and its coherence, tenacity and strength is such that it may be cut and sawed very much like lumber and can be substituted for lumber in many constructions.

Referring more particularly to Fig. 1, the board there illustrated may be made of an outer layer 1 of celotex, a lower layer 2 of celotex and intermediate layers 3, 4, 5 and 6 of less dimensions than are the layers 1 and 2. In order to strengthen this composition board there is provided on one end or edge of the same the U-shaped metal member 7 which embraces the outer edges of the boards 5 and 6 and which extends a considerable distance beyond the outer edges of the outer boards 1 and 2, so as to form a tongue or engaging member with an adjacent composition board. On the opposite end or edge of the completed composition board there is provided another U-shaped member 8 which is larger in dimensions than is the member 7, and which instead of projecting beyond the outer edges of the outer layers 1 and 2, projects inside said edges so as to form a groove as illustrated. Further, at or near the middle of the completed board there is provided the U-shaped metal member 9 which embraces one edge of the pair of boards 3 and 4, and there is also provided another U-shaped metal member 10 which is disposed oppositely to the member 9 and which embraces one of the edges of the intermediate members 5 and 6.

As best illustrated in Fig. 1, the members 7, 8, 9 and 10 may extend throughout the length or width of the completed board 12 so as to reenforce and strengthen the same. The various boards lettered 1, 2, 3, 4, 5 and 6 are or may be connected by any suitable means or material, but I prefer to employ a cement material such for example as Portland cement and casein, or rubber latex and casein, or asphaltum cementing material, or a sodium silicate. These cementing materials are merely placed on the surfaces of the individual boards, whereupon the boards are pressed together and the seams indicated at 13 are thus formed with the cement material holding the boards firmly in place.

In the form of invention shown in Figs. 3 and 4, the same character of boards lettered from 1 to 6 in the preceding figures are or may be employed, and in addition an extra

pair of boards 15 and 16 of less dimensions than are the boards 3 and 4 shown Fig. 2 are also employed.

In these last mentioned Figures, 3 and 4, a reenforcing metal sheet 17 is used which has one extreme edge 18 located between the boards 1 and 5 and which then extends outward beyond the extreme edge of the board 1 and is bent at the points 19 and 20, to form a tongue 21 whereupon said metal sheet 21 extends toward the right, as seen in Fig. 4, between the boards 2 and 6 and is bent upwardly at the point 22, then bent again at the point 23 and extends toward the right as seen in Fig. 4, between the boards 1 and 15, to the point 24 where it is bent downwardly and again bent at the point 25, where it extends still further toward the right between the boards 4 and 2, until it reaches the extreme end of the board 2 as illustrated. Between the boards 1 and 2 and contacting with the extreme right-hand edges of the boards 3 and 4 is the U-shaped metal member 26 forming a groove 27 into which a tongue 21 of a similar board is adapted to fit when the boards or units are assembled together, all as will be clear from Figs. 3, 4 and 7.

Coming now to the still further modified form of construction shown in Figs. 5 and 6, the parts that are similar to the parts in Figs. 1 and 2 are lettered by the same reference numerals. That is, this construction is substantially the same as that shown in Figs. 1 and 2, except the U-shaped member 8 forming the groove 30 is reenforced on its upper and lower flanges by the strengthening or reenforcing metal strips 31 and 32.

It will now be clear from the foregoing, celotex material or similar fibrous material may be cut up into suitable lengths and dimensions, and the parts thus produced firmly cemented together with the reenforcing materials such as those lettered 7, 8, 9, 10, 26, 31 and 32, disposed in strengthening relations or reenforcing relations to the cut-up parts whereupon in each instance a relatively strong reenforced composition board will result having a metal covered tongue 7 on one edge or end thereof and a metal groove 8 on the other end or edge thereof so that when similar units are brought together, the tongue 7 of the one unit will fit into the groove 8 of another unit, and thus may be large surfaces covered by these said boards. In addition to this, each board is or may be strengthened throughout its middle portions as by the metal members 9 and 10 or by the single sheet of material 17 illustrated in Fig. 7 which is provided with the upwardly extending bent strengthened portion 35 shown.

It will be clear that by putting together two or more composition boards made as above disclosed and joined as described, partitions, walls of houses, and roofs of houses may be readily constructed. Of course, at the joints between two or more finished boards, supporting members of various kinds (not shown) are provided.

It is obvious that those skilled in the art may vary the details of construction as well as the arrangement of parts and also the material out of which the parts are made, without departing from the spirit of the invention, and therefore it is not desired to be limited to the above disclosure except as may be required by the claims.

What is claimed:—

1. A reenforced composition building board composed of a plurality of layers of fibrous material secured together, and provided on one extremity with a sheet metal reenforced tongue, on another extremity with a sheet metal reenforced groove, and with sheet metal reenforcing material disposed on the interior of said board.

2. A reenforced composition building board composed of a plurality of layers of fibrous heat insulating bagasse material secured together, and provided on one extremity with a sheet metal reenforced tongue, on another extremity with a sheet metal reenforced groove, and with sheet metal reenforcing material disposed on the interior of said board.

3. A reenforced composition board comprising a plurality of strata of heat insulating material secured together, said board provided on one extremity with a reenforcing tongue of metallic material and on another extremity with a groove of reenforcing metallic material and said board further provided internally with metallic reenforcing material.

4. A building board comprising a plurality of layers of fibrous material secured together with metallic reenforcing material therebetween, one extremity of said board provided with a tongue reenforced by metallic material, and the opposite extremity of said board provided with a groove reenforced by metallic material.

5. A building board comprising a plurality of layers of fibrous material secured together with a sheet of metallic reenforcing material therebetween, one extremity of said board provided with a tongue reenforced by the said sheet of metallic material, and the opposite extremity of said board provided with a groove reenforced by the said sheet of metallic material.

6. A building board comprising a plurality of layers of fibrous material secured together with a sheet of metallic reenforcing material therebetween, one extremity of said board provided with a tongue reenforced by said sheet of metallic material formed thereover, and the opposite extremity of said board provided with a groove reenforced by

said sheet of metallic material formed therein.

7. In a building board comprising an upper and a lower outer sheet of heat insulating material the combination of a plurality of inner sheets likewise of heat insulating material, said inner sheets so disposed relatively to said outer sheets as to provide at one extremity of said board a tongue and at the opposite extremity of said board a groove; a sheet of metallic material disposed between said outer sheets and provided with opposite edges adapted to reenforce said tongue and groove; and means to secure all of said sheets together.

8. In a building board comprising an upper and a lower outer sheet of heat insulating material the combination of a plurality of inner sheets likewise of heat insulating material, said inner sheets so disposed relatively to said outer sheets as to provide at one extremity of said board a tongue and at the opposite extremity of said board a groove; a sheet of metallic material disposed between said inner sheets and said outer sheets and provided with opposite edges adapted to reenforce said tongue and groove; and means to secure all of said sheets together.

9. In a building board comprising an upper and a lower outer sheet of fibrous bagasse heat insulating material the combination of a plurality of inner sheets likewise of fibrous bagasse heat insulating material, said inner sheets so disposed relatively to said outer sheets as to provide at one extremity of said board a tongue and at the opposite extremity of said board a groove; a sheet of metallic material disposed between said outer sheets and provided with opposite edges adapted to reenforce said tongue and groove; and means to secure all of said sheets together.

In testimony whereof I affix my signature.

TREADWAY B. MUNROE.