Aug. 12, 1930. C. E. RAHR 1,772,686

WALL BOARD

Filed March 2, 1926

Fig. 1.

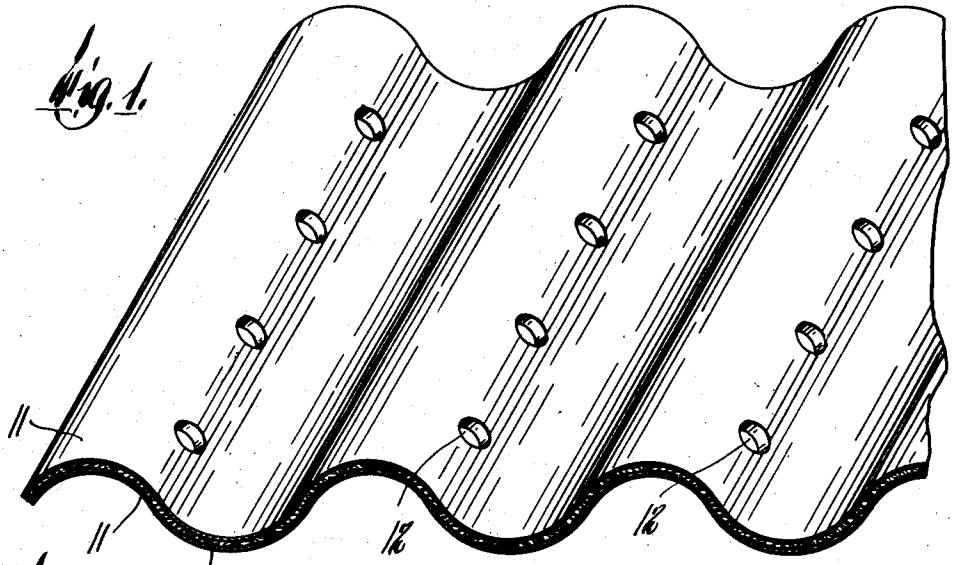


Fig. 2.

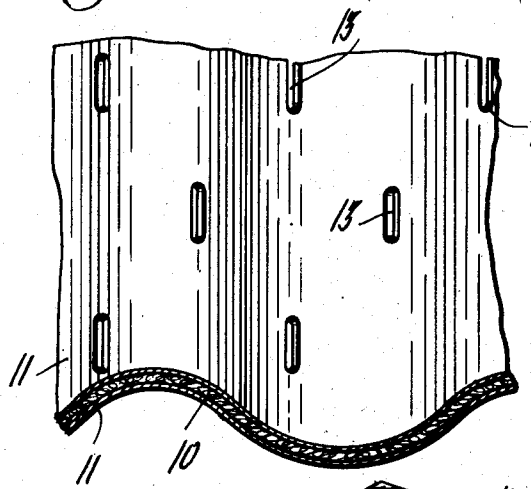


Fig. 3.

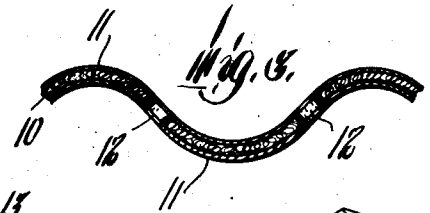


Fig. 4.

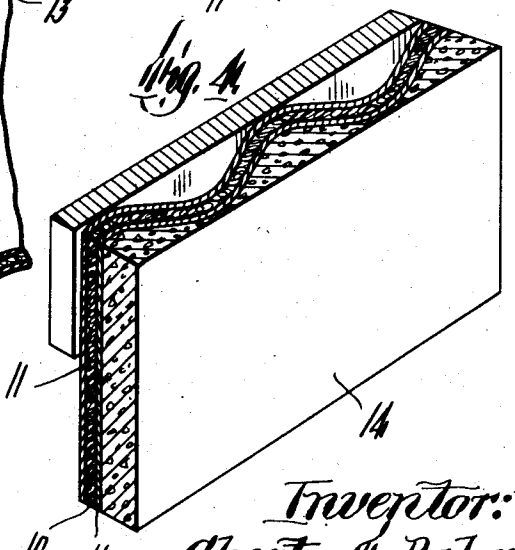
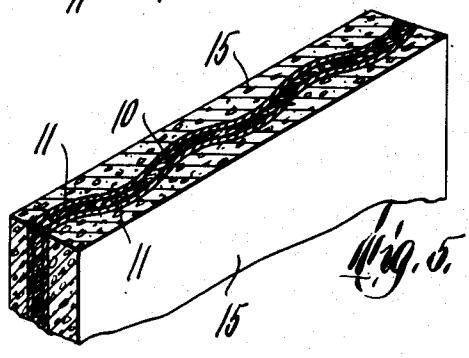


Fig. 5.



Inventor:
Chester E. Rahr.
by Edwards Brown Dunlap & Hoyt
Attys.

Patented Aug. 12, 1930 1,772,686

UNITED STATES PATENT OFFICE

CHESTER E. RAHR, OF BROOKLINE, MASSACHUSETTS, ASSIGNOR TO THE FLINTKOTE COMPANY, OF BOSTON, MASSACHUSETTS, A CORPORATION OF MASSACHUSETTS

WALL BOARD

Application filed March 2, 1926. Serial No. 91,840.

This invention relates to building material which is capable of being used in the place of lath, plasterboard and similar materials, also as a base for roofing material. It is an object of this invention to provide a material which is light, strong and water resistant. It is also an object to provide a material that can be easily and cheaply made and which will not be materially weakened or deteriorated by moisture.

Other advantages and uses will be apparent from the illustrations in the drawing, in which

Figure 1 shows in perspective a piece of material embodying my invention.

Figure 2 is a cross section of the same.

Figure 3 shows a slightly modified form.

Figure 4 shows, on a smaller scale, a piece of the material used as lathing, nailed in place and with plaster applied thereto.

Figure 5 shows a fragment of wall-board made up of a sheet of my material faced with plaster.

Referring to the drawing in detail, a piece of corrugated builders' board illustrating an embodiment of my invention is shown in Figure 1. As shown, it comprises three or more plies, the central ply or plies 10 being preferably of a fibrous waterproof material, and outer or facing plies of paper, as described in the patent to Kirschbraun No. 1,479,044. The central ply or plies may be prepared by making an emulsion of asphalt, colloidal clay, or its equivalent, and water, to which may be added infusorial earth, cork, or other suitable filler, and dry fibre. The further addition of dry infusorial earth or filler will take up some of the moisture and make a thick mixture which can readily be spread in a thin sheet or other desired form. By spreading a thin layer of such a mixture on a flat sheet of paper and laying another sheet of paper on top, a board may be formed by pressing the lamina together into adhesive contact. The invention is not limited to the use of an emulsion in forming the central ply, but contemplates any mixture of fibres and a waterproofing substance, such as asphalt, with the optional addition of a suitable filler. Such a mixture may be treated by heat or otherwise to make it sufficiently plastic to be formed into a sheet. While the combination of a waterproof central ply with untreated paper covering plies is found most satisfactory for building purposes, I may make one or more of the covering plies of paper which has been sized, or otherwise treated.

A further method of making the central waterproof ply 10 is made possible by the non-adhesive nature of emulsions of asphalt or other hydrocarbons. This important characteristic permits the use of such an emulsion in a paper machine, the emulsion being mixed with the stock and deposited on the paper-forming cylinder or other device on which the pulp is deposited. As the emulsion remains non-adhesive while wet, it will go through the machine without sticking to the cylinder or otherwise clogging the machine. In ths way, the board may be produced in a multiple-cylinder machine, the emulsion being mixed with the stock for the central ply or plies, the outer plies being of any suitable material, such as chip, rag, or straw stock, with which sawdust or wood flour may also be mixed. It is desirable that the outer plies have a somewhat coarse and porous texture.

The board may be corrugated by pressing the board with or without heating in the usual manner well known to the art, either before or after perforations are punched in the sheet. The perforations may be arranged as desired. In Figure 1 they are shown as arranged in linear series, and are generally circular. Another arrangement is shown in Figure 2 where the holes are staggered. As shown in this figure, the holes may be elongated. The vertical lines of holes are preferably located midway between each crest and trough of the corrugations, but they may be punched through the crests or troughs or both. The board may also be made with no perforations.

The corrugations may be of any desired depth, being preferably as shallow as consistent with necessary strength when used as building lath, or as a foundation or reinforce for wall-board to economize on plaster.

The construction disclosed gives a light

strong board which is waterproof and is not appreciably weakened by moisture. It is cheap, and easy to cut to shape. It may be nailed in place like lathing in a building to receive wall plaster 14, or it may be used as a core for wall-board, with a smooth even facing 15 of gypsum or other suitable plaster or plastic material on one or both sides, entering the perforations, filling the corrugations, and bonding with the untreated paper facing plies of the board. By smoothing off both surfaces of the plastic material, as shown in Figure 5, a superior wall-board may be obtained with plane surfaces and corrugated core. The covering plies of untreated paper offer a porous texture permeable by plaster and thus suitable for bonding with the plaster applied, while the perforations cause the plaster to be securely anchored to the board by fingers of plaster which extend therethrough.

The board may be put to other uses. For example, an unperforated board may be coated with blown asphalt and slate, or any of the well known materials now used in the roofing art. Instead of filling the corrugations and producing a plane exterior surface, as is usually desirable when plaster is applied to the board, the coating of asphalt may be applied in an even layer which will follow the corrugations and present a corrugated surface on the finished article. The result will be a superior roofing element having many desirable qualities. Many other such uses will be apparent to those familiar with the building arts.

I claim:

1. Wall-board comprising a core of multiply perforated corrugated builders' board, said board having a central ply of fibrous waterproof material and facing plies of paper, and facing layers of plastic material bonded to said paper plies and extending into said perforations.

2. Wall-board comprising a core of multiply perforated corrugated builders' board, said board having a central ply of waterproof fibrous material and facing plies of paper, and facing coats of plaster permeating said paper plies and mutually bonded through said perforations.

In testimony whereof I have affixed my signature.

CHESTER E. RAHR.