

No. 845,290.

PATENTED FEB. 26, 1907.

E. H. BINNS.
ROOFING MATERIAL.
APPLICATION FILED APR. 25, 1906.

FIG. 1.

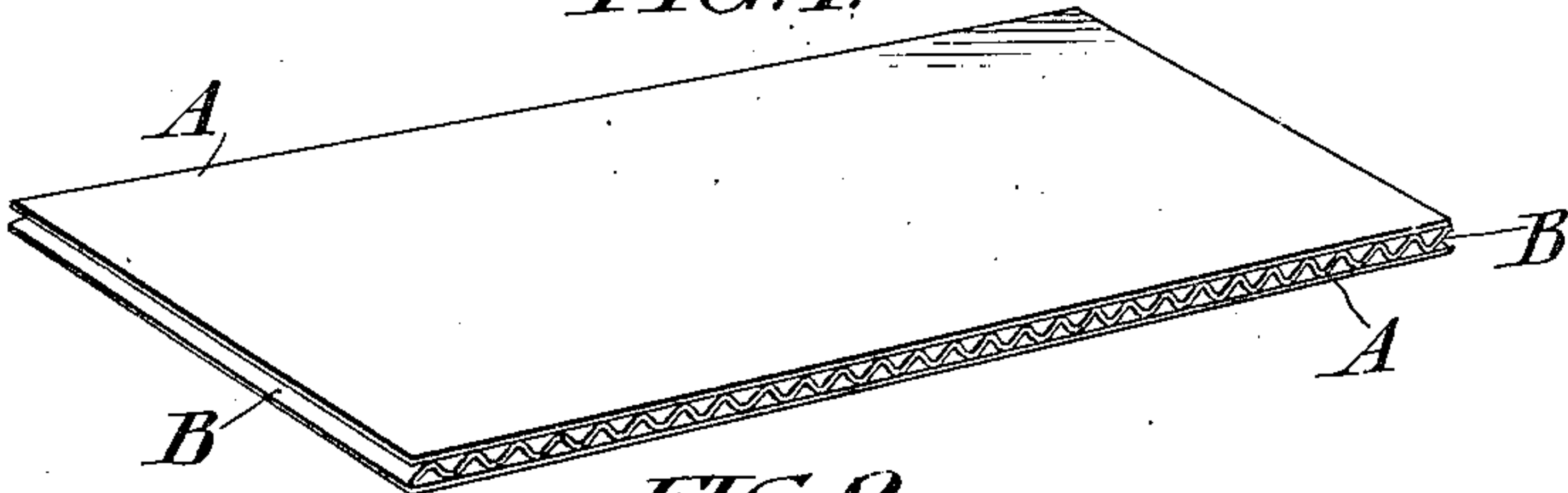


FIG. 2.



FIG. 3.

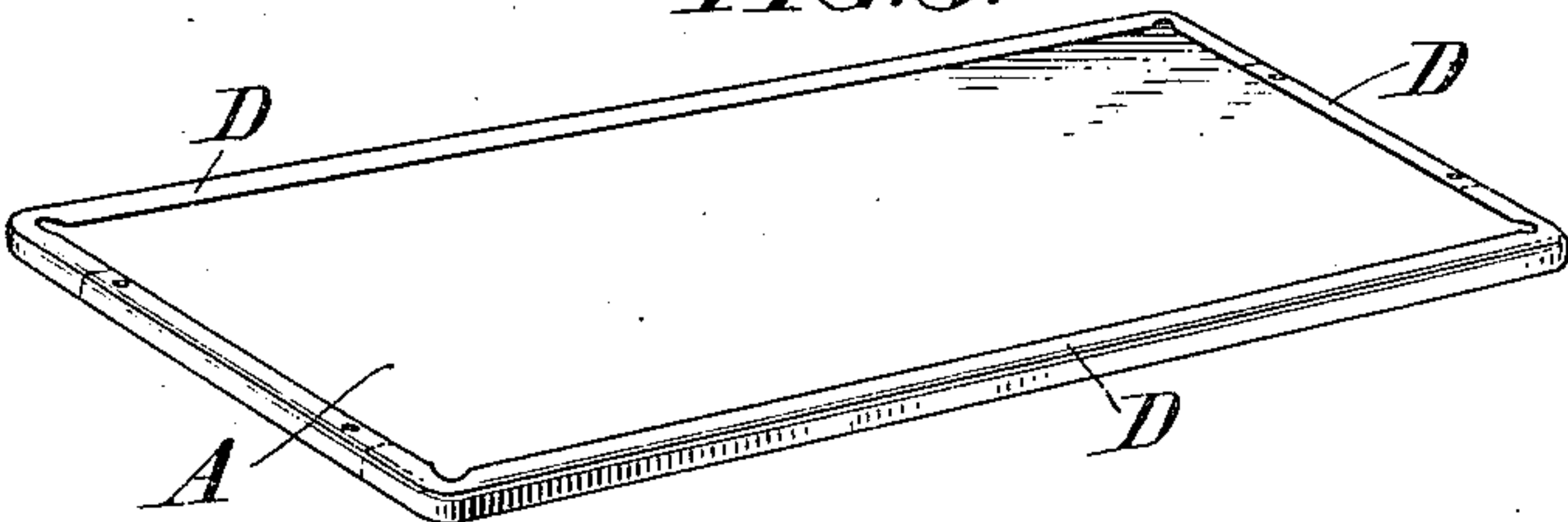


FIG. 4.

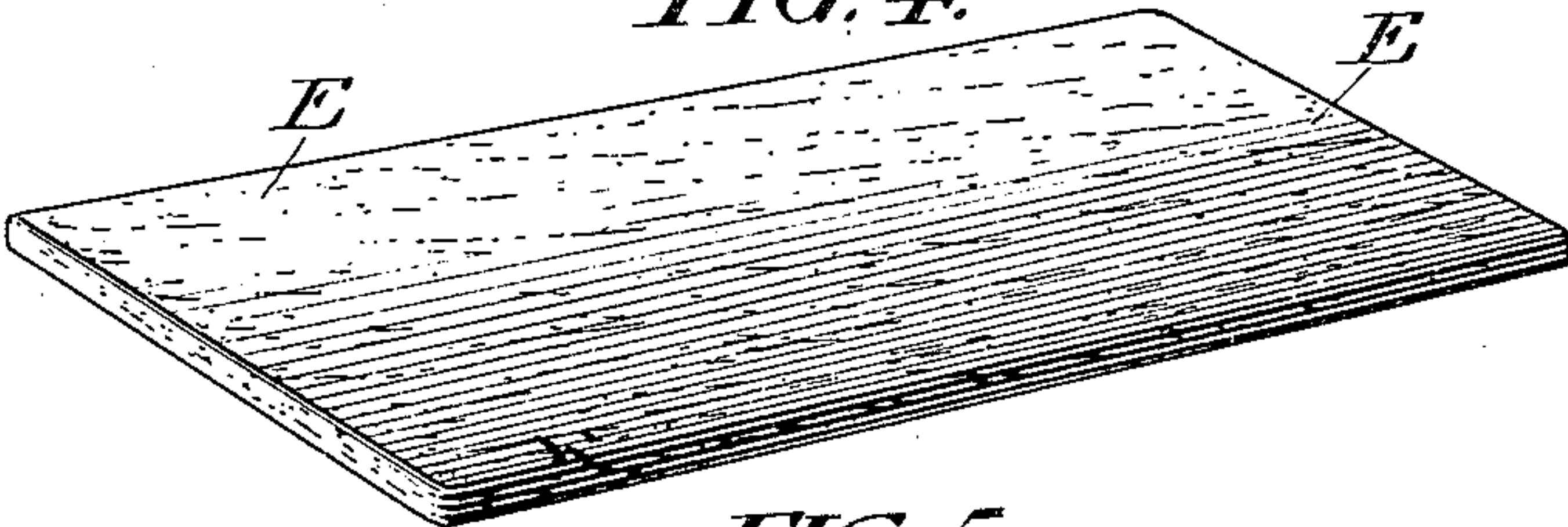


FIG. 5.

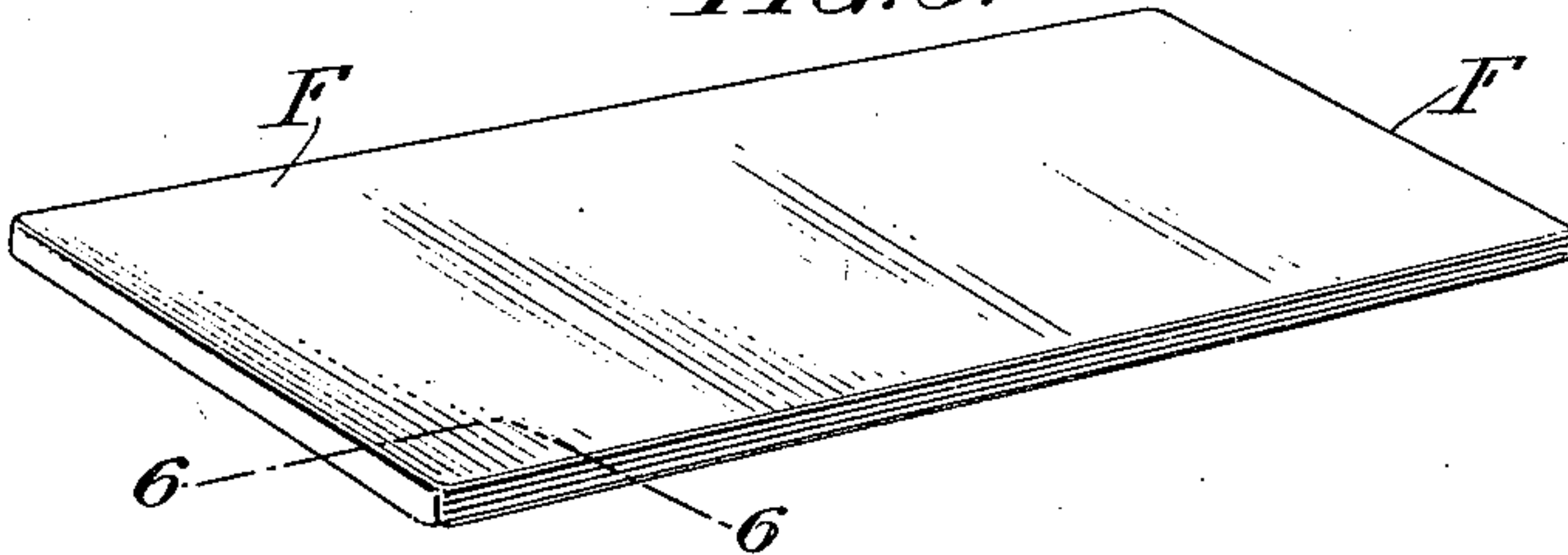
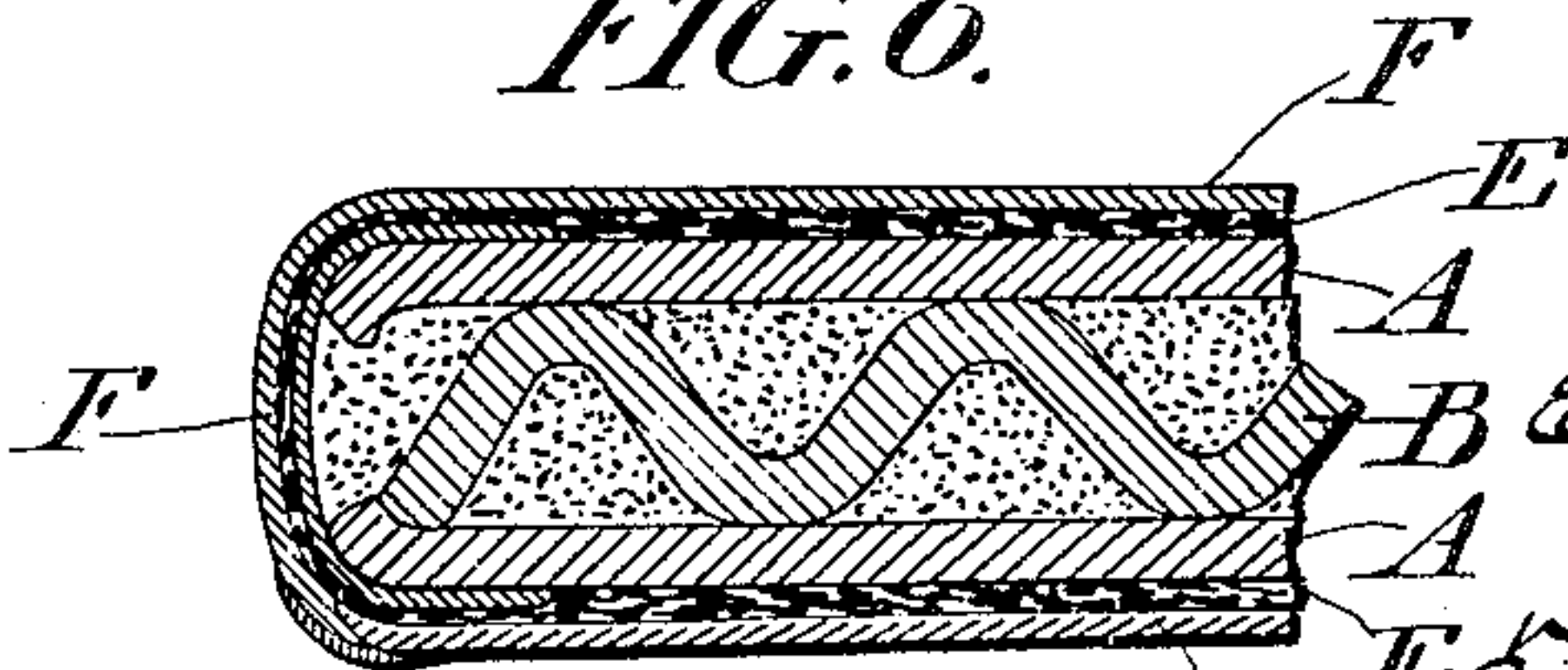


FIG. 6.



WITNESSES:

Stewart
A. S. Williams

INVENTOR

Edward H. Binns

BY

E. Francis J. Chambers
ATTORNEY.

UNITED STATES PATENT OFFICE.

EDWARD H. BINNS, OF UPPER MERION TOWNSHIP, MONTGOMERY COUNTY, PENNSYLVANIA.

ROOFING MATERIAL.

No. 845,290.

Specification of Letters Patent.

Patented Feb. 26, 1907.

Application filed April 25, 1906. Serial No. 313,539.

To all whom it may concern:

Be it known that I, EDWARD H. BINNS, a citizen of the United States of America, residing in the township of Upper Merion, in the county of Montgomery, in the State of Pennsylvania, have invented a certain new and useful Improvement in Roofing Material, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to roofing material, and has for its object the construction of a plate or tile out of different materials and in such a manner that when all are combined in one structure a practical and economical article is produced.

My invention consists in the details of construction and manner of operation set forth in the following description and accompanying drawings, in which like reference characters refer to the corresponding parts.

In the drawings, Figures 1, 2, 3, and 4 represent perspective views of my invention, taken during the successive steps of the construction of the same. Fig. 5 is a perspective view of my invention as a completed article, and Fig. 6 is an enlarged longitudinal section on the lines 6 6 of Fig. 5.

Referring to Figs. 1 and 2, A A indicate parallel sheets of strawboard, paper, or other like material between said sheets, and glued to the same is a corrugated sheet B. This latter sheet is also made out of light material and forms, together with the outside sheets, interstices or channels, so that the entire structure may be defined as "cellular." These interstices or channels are filled with powdered slaked lime, sand, or other granular material C to give body to the structure. The parallel sheets A A are bound around their edges by a metallic strip D, as shown in Fig. 3, to confine the granular material or filling between the sheets and within the interstices or channels. This metallic strip is made up of two pieces of thin sheet-iron substantially U-shaped in transverse section, each piece inclosing an edge and one side of the sheets and bent at right angles at a point adjacent to each of its ends to inclose a portion of the end edges of said sheets. The right-angled portions of this metallic strip

are of such a length as to overlap each other along the end edges of the sheets and are fastened together in any suitable manner. The edges of the sheets are confined on their four sides within the U-shaped metallic strip, being inserted and driven therein with a pointed instrument or in any other suitable manner. So much of the structure as above described I may define as the body portion of my plate or tile. This body portion is dipped in liquid asphalt and then passed through small heated rolls to form a smooth coating E on the entire exterior surface thereof, as shown in Fig. 4. I confine the body portion thus coated by two thin sheets of lead or other metallic foil-like material. One of these sheets is cut a little larger than the surface area of the plate and has its corners notched, so that the overlapping portions may be rolled around the edges of the body portion. The other sheet is made slightly larger than the surface area of the body portion and incloses the opposite side of the plate. The two sheets are joined together by soldering the adjacent edges.

The filling of the interstices or channels with granular material can be effected by turning the parallel sheets with their contained channels upon their edges, placing the same side by side, and binding them tightly together in a suitable box adapted to act as a shaker. The granular material is spread over the surface of the upper edges of the channels and by virtue of the movement of the box is shaken into the channels until the latter are filled. Should this operation be continued a short period after the filling, the said material will become thoroughly packed.

By the above-described construction I am enabled to produce a practical and economical plate or tile having essentially the advantages of a solid metal plate and at the same time save in the cost thereof by substituting a cheaper body material. Of course it is obvious that I may utilize any thin material in the construction of the casing and that I can also substitute for the strawboard or paper sheets and granular material any other material having the functions of a body or filler.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material, said body portion being inclosed within a casing of thin metallic foil-like material.

2. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material, the said body portion being coated with asphalt and inclosed within a casing of thin metallic foil-like material.

3. A roofing-plate having a body portion made up of a cellular sheet having its interstices filled with granular material and bound around its edges by a metallic strip, the said body portion being coated with asphalt and inclosed within a casing of thin metallic foil-like material.

4. A roofing-plate having a body portion made up of a cellular sheet having its cellular interstices filled up with granular material the said body portion being coated with asphalt and inclosed within a casing consisting of two thin metallic foil-like sheets, the one being of larger surface area than said body portion and having its overlapping portions inclosing the edges of the same and the

other being connected to the first-mentioned sheet by soldered joints.

5. A roofing-plate having a body portion made up of granular material confined in channels formed between light strawboard sheets, the said body portion being bound at its edges by a metallic strip and having its outer surface coated with asphalt, a casing for said body portion of thin metallic foil-like material.

6. A roofing-plate having a body portion made up of granular material confined in channels formed between strawboard sheets, the said sheets being bound at their edges by a metallic strip and the said body portion being coated with asphalt, a casing inclosing said body portion, the said casing being made up of two thin foil-like metallic sheets the one being of larger area than said sheets and having its overlapping edges inclosing the edges of said body portion, and the other being connected with the first-mentioned sheet by a soldered joint.

EDWARD H. BINNS.

Witnesses:

ARNOLD KATZ,
D. STEWART.