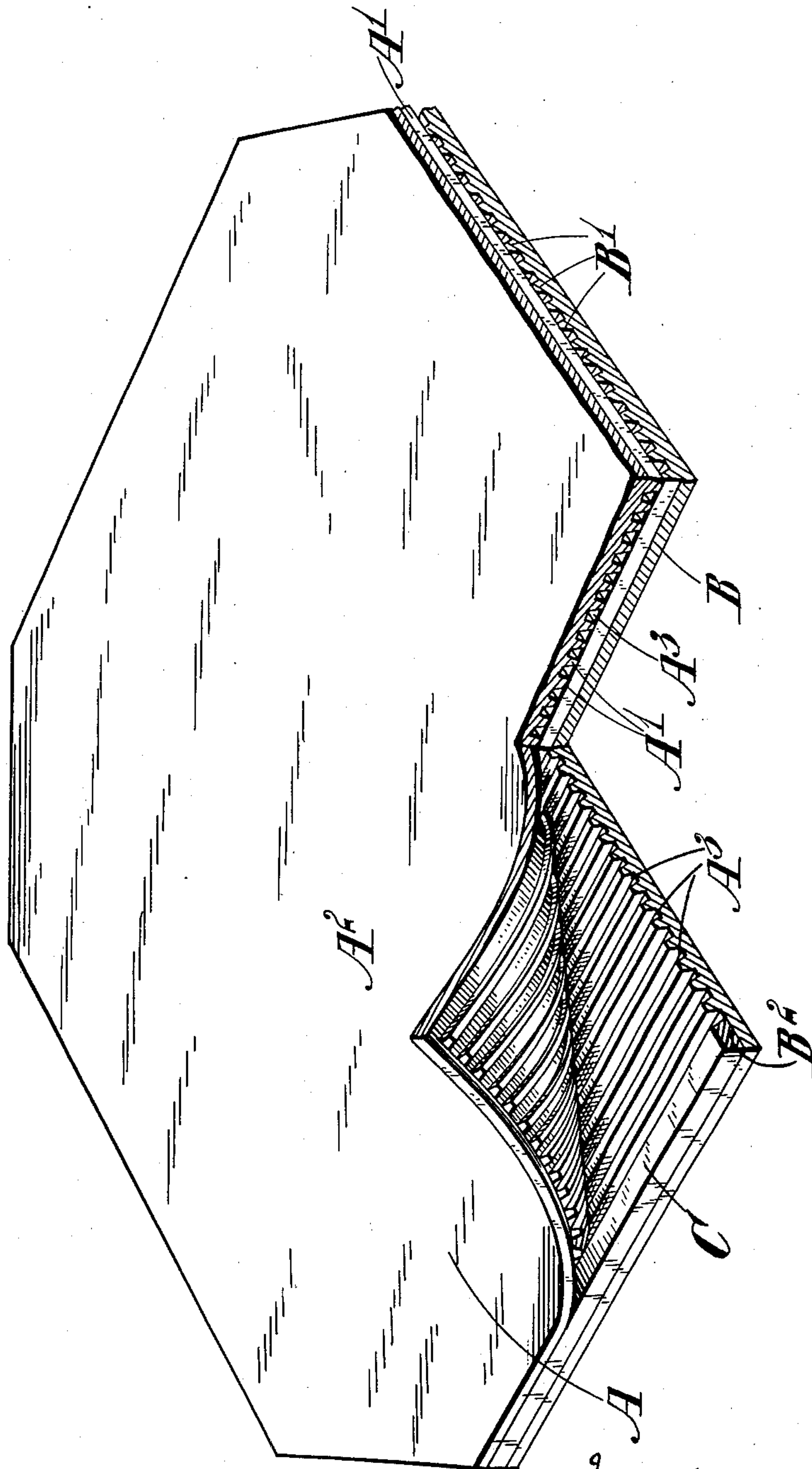


No. 839,834.

PATENTED JAN. 1, 1907.

R. K. GRAY.  
RUBBER MAT.

APPLICATION FILED FEB. 12, 1906.



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# UNITED STATES PATENT OFFICE

ROBERT KAY GRAY, OF LONDON, ENGLAND.

## RUBBER MAT.

No. 839,834.

Specification of Letters Patent.

Patented Jan. 1, 1907.

Application filed February 12, 1906. Serial No. 300,750.

*To all whom it may concern:*

Be it known that I, ROBERT KAY GRAY, a subject of the King of England, residing at London, England, have invented certain new and useful Improvements in or Relating to Rubber Mats, of which the following is a specification.

This invention relates to rubber mats and the like, and has for its object to construct an article which shall be more yielding to the tread and of more assistance in deadening sound than those at present in use, besides being simple to manufacture.

According to this invention sheet-rubber is produced with parallel ribs thereon either straight, concentric, or otherwise, and two such sheets are placed face to face with the ribs on one sheet forming an angle, preferably a right angle, to the ribs on the other sheet. The edges of the two sheets are now united in some convenient manner, so as to form an air-tight joint. The resulting mat combines the advantages of two ribbed mats, with the addition that the air trapped between the surfaces of the two ribbed sheets forms an additional cushion and gives increased advantages.

The ribs may be of any convenient cross-section either with rounded, flat, or other edges, as may be best suited to the wearing of the ribs on the two sheets when face to face. The two sheets are preferably only united round their edges; but, if desired, they may be connected at suitable intervals throughout their meeting faces, or at the places where the crossing ribs touch each other some suitable cement may be applied. In order to confine the air, in place of having large sheets small sheets combined as above described may be made up as tiles and these tiles arranged in a pattern or, as found convenient, upon some backing substance, either rubber or other material. In some cases the tiles may be laid separately on an existing flooring. It will be appreciated that each tile thus made up comprises the two sheets face to face with their ribs crossing each other and the edges united with an air-tight joint. Thus each tile is a separate air-cushion. The tiles may have their adjacent edges connected together, if desired.

Preferably the entrapped air is under atmospheric pressure; but, if desired, an increased pressure may be used, the mat being

permanently sealed up after the air has been pumped in or an inflating-valve being provided.

It will be appreciated that a mat constructed in accordance with this invention combines the advantages of the yielding nature of the ribs—as, for example, where these are of tapered cross-section with the cushioning effect of the trapped air.

The accompanying drawing is a perspective view showing, by way of example, one construction of mat according to this invention, portions of the figure being broken away for the sake of clearness. In the drawing, A is a sheet of rubber formed with ribs A' upon one surface, and B is a similar sheet having ribs B'. These two sheets are placed one upon the other, so that the ribbed surfaces are together, the ribs A' lying upon the ribs B', which they cross in the example shown at substantially right angles. At the edges of the sheet A a space A<sup>2</sup> is left free from the ribs A', and a similar space B<sup>2</sup> is left at the edges of the sheet B. Between these two plain surfaces A<sup>2</sup> and B<sup>2</sup> a fillet C is placed and cemented thereto in any convenient way, so as to form an air-tight joint all round the mat. The spaces A<sup>3</sup> formed between the ribbed surfaces are thus closed and, if desired, may be inflated in any convenient way.

It is to be understood that this construction is given purely by way of example and that the sheets of which the mat is composed may be made in any preferred way so far as the shape of the ribs and other constructional details are concerned. Further, it may obviously be convenient in some cases to form the fillet C as a beading integral with one of the sheets; but the air-tight joint between the two sheets may be made in any suitable manner.

Although in the construction illustrated the upper surface of the mat is shown as plain, yet it is to be understood that any corrugation, beading, pattern, or the like may be made thereon to give a grip when the mat is trodden upon or for any other purpose.

It will be appreciated that though the invention is particularly above referred to as being applicable to mats, yet it can be employed for other purposes where sound is to be deadened or a yielding face required to be given to any surface.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. A rubber mat comprising two sheets, each ribbed on one side only, placed one on the other with the ribs on the upper sheet crossing those on the lower sheet so as to form communicating air-channels throughout the space inclosed between the two sheets.

2. A rubber mat comprising two sheets, each ribbed on one side only, placed one on the other with the ribs on the upper sheet

crossing those on the lower sheet so as to form communicating air-channels throughout the space inclosed between the two sheets which are united at their edges by an air-tight joint.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ROBERT KAY GRAY.

Witnesses:

E. CALLIS,

G. F. WARREN.