Oct. 25, 1938. P. R. ZINSER 2,134,496

TRIM PANEL CONSTRUCTION

Filed Nov. 16, 1936

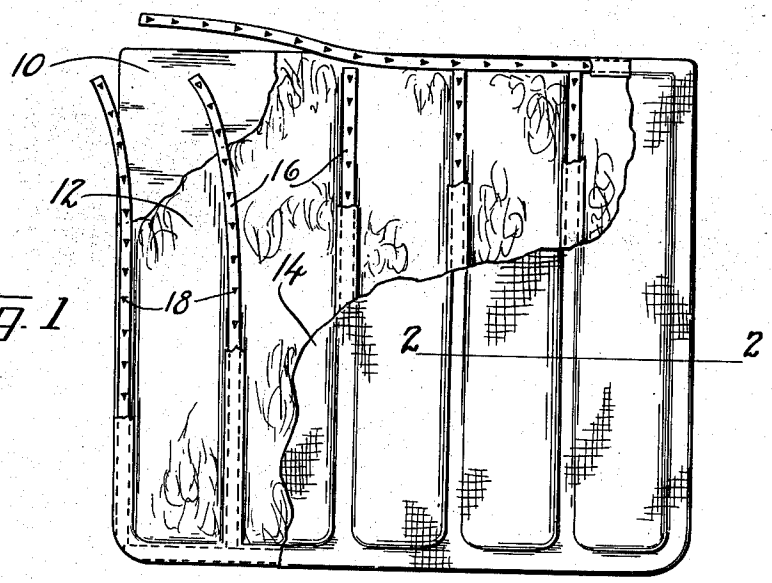


Fig. 1

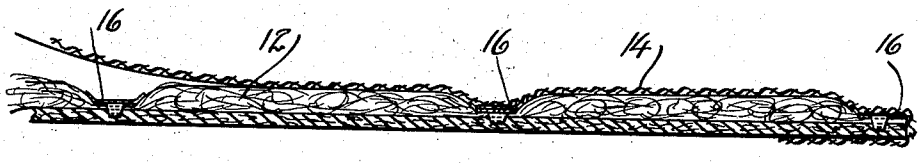


Fig. 2

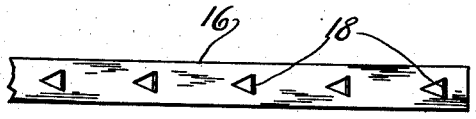


Fig. 3

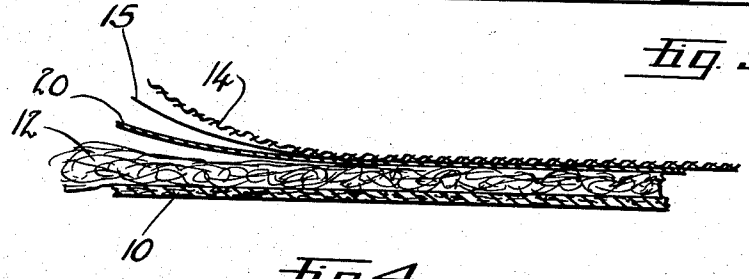


Fig. 4

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Patented Oct. 25, 1938

2,134,496

UNITED STATES PATENT OFFICE

2,134,496

TRIM PANEL CONSTRUCTION

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Application November 16, 1936, Serial No. 110,992

2 Claims. (Cl. 154—45.9)

My invention relates to improvements in trim panel construction and particularly to a covered padded trim panel.

An object is to provide a trim panel wherein the foundation board is covered with upholstery trim material and wherein suitable wadding is interposed between the board and the upholstery trim material in such a manner as to produce a padded, tufted, or upholstered effect.

Trim panels of this character are commonly used as interior trim panels in automobile closed bodies and an important feature is the provision of such a panel which is of rugged construction, attractive appearance, and inexpensive.

A further object is to provide such a panel wherein the wadding which is interposed between the trim material and the foundation board is secured to the foundation board independently of the trim layer and in such a manner that it will not become detached or loosened therefrom and will also present the desired padded or upholstered foundation for the trim layer.

This securement of the wadding to the foundation board is accomplished through the employment of fastening means which extends entirely through the wadding and to the foundation board but without passing through the board. Preferably the fastening is by means of fastener strips overlying the wadding having prongs extending therethrough and imbedded in the interior of the board. These strips not only secure the wadding along the line of the strip to the board but also substantially reinforce and strengthen the board whereby foundation board of less thickness than is customary may be used. The padded board is then covered with a sheet of upholstery material which overlies the wadding and the fastener strips and this upholstery material is adhesively secured to the wadding and compacted thereagainst along the line of the fastener strips.

These fastener strips are characterized in that while they securely engage the board to hold the wadding thereto they are not provided with parts which perforate the board or weaken the same as is the case where stitching is employed.

The provision of a row of apertures extending entirely through the board which results from staples extending through the board weakens the board along such line to a substantial extent and breakage of board so treated along such line of attachment is not infrequent.

A further characteristic is that the adhesive which bonds the upholstering fabric to the compacted line of wadding completely covers and seals over with a moisture resistant seal the fastener strip itself and such adhesive likewise may be absorbed by the wadding, providing wadding of an absorbent character is used, so as to produce a densified compacted wadding structure along the line of the fastener.

Other objects, advantages, and meritorious features of this invention will more fully appear from the following specification, appended claims, and accompanying drawing, wherein:

Figure 1 is a side elevation of a panel partly broken away and exhibiting my invention,

Fig. 2 is a cross sectional view taken on line 2—2 of Fig. 1,

Fig. 3 is a plan of a fragment of one of the fastener strips, and

Fig. 4 is a cross sectional view through a panel assembly exhibiting a slightly modified form of structure.

In the drawing I have illustrated a trim panel of a conventional type wherein there is a foundation board 10, a layer of wadding 12, and upholstery trim fabric 14. The foundation board may be of any suitable character. Different types of composition fiber board are on the market and in use. Certain of these are composition fiber boards which contain a binder such as asphalt that renders the board substantially impervious to moisture so that it will not appreciably absorb moisture or warp or vary in dimension when in use. One commercial board of this character is known as K B board. A board of this type may be employed. On the other hand, other types of fiber board may be used. The invention does not pertain to the type of composition fiber board employed.

The wadding may be of any character found suitable. Many types of commercial wadding are used in upholstery work. Felt is a common type of wadding. Wadding formed of loosely integrated cellulose material is well known. Jute is an example of a material which may be employed. The trim layer may likewise be of any suitable flexible sheet. Artificial leather and woven fabrics illustrate two commonly used trim materials.

In the past in making up an assembly of this character it has been common practice to adhesively secure the several laminations together and then to stitch through the several laminations to produce the desired outline of the embossment. The stitching might alone be depended upon to secure the several layers together. This practice however was attended with certain disadvantages. Stitching through the foundation board weakened the board along the line of stitching. It

tended to cause the board to break along such line. Furthermore, the threads of stitching served to draw moisture into the interior of the structure by a wick-like action. Frequently this resulted in disintegration of the threads or of the adjacent material and caused buckling of the structure when sufficient moisture was absorbed.

In the instant structure the wadding is secured to the foundation board through the employment of a fastener strip. One of these strips is indicated as 16. It is a strip of metal provided with a plurality of prongs 18. These prongs are so shaped that when the strip is rolled or pressed down upon the wadding the prongs extend entirely through the wadding and into the foundation board and clamp over within the board. Material of this kind is well known to the trade. The prongs may take any desired shape and the strips may be cut away between adjacent prongs to facilitate bending.

It will be seen that the prongs do not pass entirely through the board but are embedded within the interior of it. They do not appreciably weaken the board along the line of securement of the strip thereto. On the contrary, the presence of the strip serves to reinforce and strengthen the board. A board so treated is substantially stronger and more rigid than one that is not provided with these strips. Due to the absence of perforations through the board its interior is not exposed to the attacks of moisture. The wadding is held to the desired padded shape by the fastener strips as illustrated in Figs. 1 and 2. The upholstery trim cloth 14 may be treated upon one surface with a suitable adhesive such as a latex adhesive and this same adhesive may be sprayed along over the fastener strips and the adjacent area of wadding. The layer of trim material is then spread over the wadding and forced down snugly against the compacted area of wadding held down by the fastener strips 16. The edge of the material may be folded over the edge of the board as shown in Fig. 2.

The adhesive securely attaches the trim layer to the wadding and along the compacted lines of wadding formed by the fastener strips the adhesive seals the strips and the wadding with a moisture resistant seal. It also serves to saturate the wadding adjacent to the strip so that along its compacted line it is densified. It will be seen that the embossed character of the construction is preserved by the fastener strips holding the wadding in place and does not depend upon the bond formed between the adhesive and the padding. This connection will continue throughout the life of the panel.

In Fig. 4 a moisture resistant barrier layer 20 is interposed between the layer of trim material 14 and the wadding 12. The foundation board is here likewise indicated as 10 and the line 15 represents the film of adhesive that is spread over the rear face of the trim fabric. In this construction the barrier layer 20 preserves the wadding from any attack of moisture or cleaning materials which might be used to clean the trim fabric. The foundation board, if it were not of a moisture resistant character, would likewise be protected and might be coated on the back with a moisture resistant coating. It will be understood, of course, that in the construction shown in Fig. 2 the application of latex adhesive to the back of the trim fabric would provide a moisture resistant film more or less effective in sealing the interior against the entrance of moisture thereinto.

What I claim:

1. A trim panel comprising a foundation board, a layer of wadding overlying one face of the board, a fastener strip overlying the wadding and provided with prongs extending through the wadding into the board but without passing through the board securing the wadding along the lines of said strips compacted against the board defining an uncompressed area of wadding, said strips reinforcing and strengthening the board, and a layer of trim material secured by adhesive to the wadding along the line of said strip and forming a moisture resistant layer over said strips, said strips being provided with apertures therethrough, said adhesive extending through the apertures in the strip into the wadding thereunderneath.

2. A trim panel comprising a foundation board, a layer of wadding overlying one face of the board, a fastener strip having prongs struck out of the strip forming apertures through the strip, said strips overlying the wadding with the prongs of the strip extending through the wadding and into the foundation board securing the wadding compacted against the board underneath the strip, a layer of trim material overlying the wadding and strip, and a layer of adhesive securing the trim material to the wadding along the line of the strip through the apertures formed in the strip by the striking of said prongs therefrom.

PAUL R. ZINSER.