Sept. 9, 1924. 1,508,221

A. H. GALLAGHER

CARPET CUSHION

Filed June 26, 1922

Fig. 1.

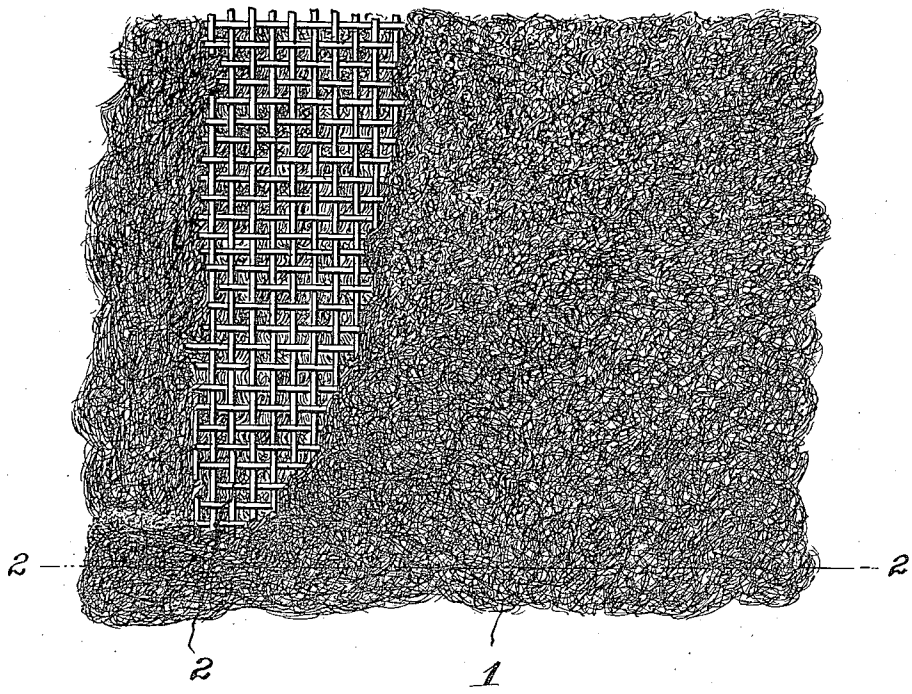
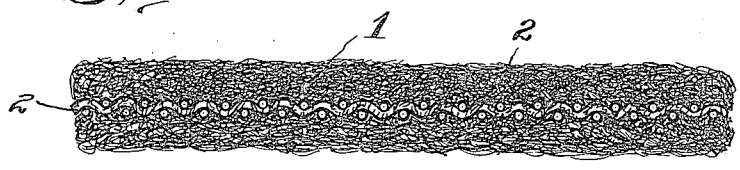


Fig. 2.



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Patented Sept. 9, 1924. 1,508,221

UNITED STATES PATENT OFFICE.

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CARPET CUSHION.

Application filed June 26, 1922. Serial No. 571,009.

To all whom it may concern:

Be it known that I, ALFRED H. GALLAGHER, residing at Chicago, in the county of Cook, State of Illinois, have invented certain new and useful Improvements in Carpet Cushions; 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 carpet cushions.

On account of the peculiar use to which a carpet cushion is put it must have certain characteristics to make it practical as a commercial article. It must be such that it can be sold at a low price, and, therefore, it must be capable of being manufactured at a small cost. This means that both the process of manufacture and the materials of which the cushion is made should be inexpensive. Furthermore, the carpet cushion must have sufficient tensile strength so as not to fall to pieces when handled, and it must have sufficient cushioning properties to produce the desired effect under the carpet. A cheap material from which carpet cushions may be made is animal hair, but so far as I am aware all attempts to produce a satisfactory carpet cushion from animal hair have failed.

The principal object of this invention is to provide a satisfactory and practical carpet cushion made from animal hair.

Another object is to provide an improved carpet cushion that will answer the requirements set forth above.

Ordinary hair felt has been tried as a padding or cushion for carpets, but it has been found to be unsatisfactory and impractical due to the following objectionable features: (1) a lack of tensile strength so that when laid, taken up and relaid, as is necessary in cleaning floors and rooms, the padding falls to pieces; (2) an absence of firmness or body which cannot be obtained in ordinary hair felt unless it is fulled. The fulling process is expensive and therefore impractical. (3) Hair felt as ordinarily made with the customary washing, drying and dusting processes still retains a characteristic animal odor, due mainly to the animal oils and greases. This odor is seriously objectionable. It is ordinarily removed by the expensive process known as scouring, under which the hair is subjected to repeated washings in soap solutions, or in the presence of naphtha or other volatile oils. The ordinary processes of scouring hair result in a product altogether too high priced to be used in a carpet cushion and is suitable only for hairs and wools used in higher priced fabrics such as carpets, blankets and wearing apparel.

I have discovered that these objectionable characteristic animal odors can be entirely eliminated by intimately associating the hairs with ozone. This is one of the things which makes it possible for me to produce a thoroughly satisfactory carpet cushion made from animal hair.

The improved carpet cushion is illustrated in the accompanying drawing in which—

Figure 1 is a plan view with a part of the hair felt removed to expose the reinforcing fabric; and

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

In the drawing, the hair felt is shown at 1. This may be a loosely felted body of animal hairs such as that of cattle, calf or goat, but preferably it is a loosely felted mixture of cattle hair and hog bristles. I have found that this particular mixture of fibers produces a felt which has very efficient cushioning properties and it will not become compact and hard in use. Such a felt is disclosed in my prior Patent No. 1,368,920 and consists in 75% more or less of cattle hair and 25% more or less of hog bristles, which proportions are preferred in the present invention. The felt 1 is reinforced by an intermediate layer of fabric 2. This preferably should be a fabric of open weave with high tensile strength, such as burlap, netting or cheese cloth. The fabric imparts the necessary tensile strength to the felt. The fabric may be coated with an adhesive so that the fibers of the felt will adhere to it. This ensures a sufficiently firm union between the animal hairs and the fabric. This union is further obtained by a certain amount of interlacing of the animal hairs with the strands of the fabric produced by the felting operation.

The carpet cushion may be made by any suitable process. I have found that a practical process is to first prepare the animal hair by washing, drying and cleaning it. It is then ozonized by intimate contact with air containing a percentage of ozone. Follow-

ing this it is opened by pickering and is then carded and formed into bats. The fabric is saturated in a liquid containing adhesive matter which is soft and sticky, when moist or subjected to heat, but solid when dried or cool, like glue, size or asphalt. The ozonized bats are laid upon the felting table with the saturated fabric placed between the bats, in such a way as to leave the fabric approximately in the middle of the bats, although it may be nearer one surface than the other. The bats of ozonized hair with the saturated fabric between them are then felted, as in the ordinary felting process, resulting in a sheet of felt which has been both stiffened and strengthened by the fabric and that has been made suitable for use as a carpet cushion by the ozonization of the hair.

It will therefore be seen that I have produced a satisfactory carpet cushion made from animal hair, which may be manufactured at a small cost, which is entirely free from odor and which has the necessary tensile strength.

What I claim is:

1. The method of forming a carpet cushion which consists in coating a fabric with an adhesive, placing layers of animal hair on both sides of the adhesively coated fabric, and thereafter loosely felting the same together, whereby the adhesive penetrates only those portions of the layers which are immediately adjacent the fabric.

2. The method of forming a carpet cushion which consists in coating a fabric with an adhesive, placing a mixture of cattle hair and hog bristles on both sides thereof, and thereafter felting the same together.

3. The method of forming a carpet cushion which consists in coating a fabric with an adhesive, placing a layer consisting principally of ozonized cattle hair in contact with one side of the adhesively coated fabric, placing a layer of material in contact with the other side of the adhesively coated fabric, and thereafter felting the same together.

4. The method of forming a carpet cushion which consists in coating a fabric with an adhesive, placing layers of deodorized animal hairs on both sides of the adhesively coated fabric, and thereafter felting the same together.

5. The method of forming a carpet cushion which consists in impregnating burlap with an adhesive, placing layers containing cattle hair on both sides of the impregnated burlap, and thereafter felting the same together.

6. A carpet cushion comprising a loosely felted body consisting principally of animal hair, and an intermediate reinforcing sheet of fabric embedded therein.

7. A carpet cushion comprising a loosely felted body consisting principally of deodorized animal hair, and an intermediate reinforcing sheet of fabric embedded therein.

8. A carpet cushion comprising a loosely felted mixture of cattle hair and hog bristles, and an intermediate reinforcing sheet of fabric embedded therein.

9. A carpet cushion comprising a loosely felted body consisting principally of cattle hair, and an intermediate reinforcing sheet of burlap embedded therein.

10. A carpet cushion comprising a felted body consisting principally of cattle hair, and an intermediate reinforcing sheet of fabric embedded therein, the fabric and only that portion of the felted body immediately adjacent the fabric being impregnated with an adhesive.

11. A carpet cushion comprising a loosely felted body of ozonized animal fibers and an intermediate reinforcing sheet of fabric embedded therein.

In testimony whereof I affix my signature.

ALFRED HUGH GALLAGHER.