May 27, 1952 B. BOERSMA ET AL 2,597,918

METHOD OF MAKING TACKING STRIPS

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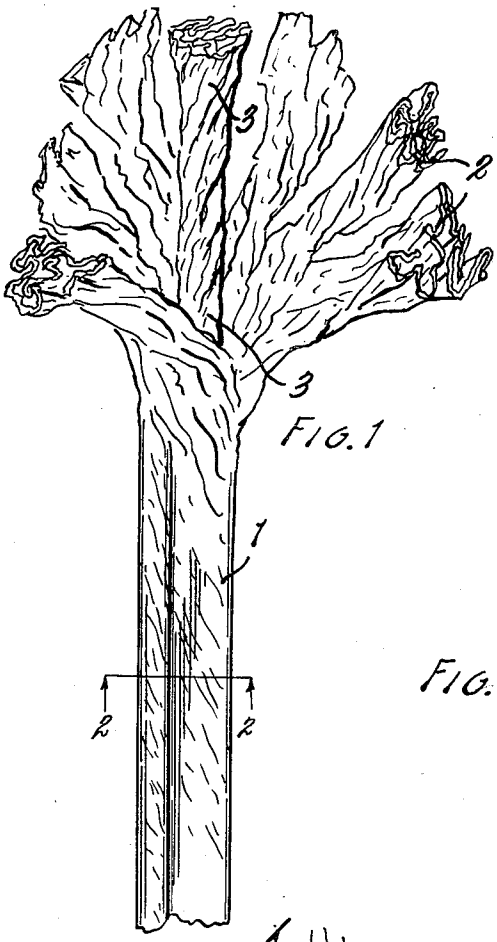


FIG. 1

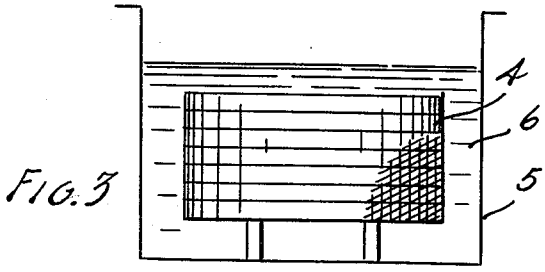


FIG. 3

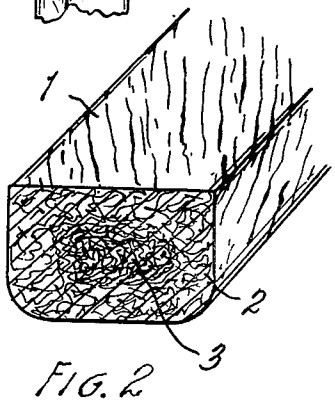


FIG. 2

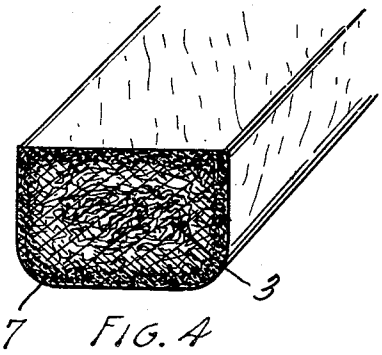


FIG. 4

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METHOD OF MAKING TACKING STRIP

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4 Claims. (Cl. 57—165)

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This invention relates to improvements in a tacking strip and method of making.

The main objects of this invention are:

First, to provide a tacking strip for upholstery and the like which may be formed of paper and at the same time is effective in retaining upholstery tacks and other fasteners and retains its bendability without breaking for a relatively long time.

Second, to provide a tacking strip having these advantages formed of strips of paper twisted or entwined together and compressed and having the surface thereof impregnated with a microcrystalline wax or other moisture excluding wax which also serves as an adhesive for the impregnated portions of the strip.

Third, to provide a tacking strip which is resistant to water and cleaning compounds thereby preventing deterioration of the strip when exposed to excessive quantities of water and cleaning compounds.

Fourth, to provide a tacking strip which will retain its shape and dimensions when exposed to excessive quantities of water and cleaning compounds.

Fifth, to provide a tacking strip which may be easily and economically manufactured because the waterproofing treatment may be applied after the strip is formed in the usual manner, and there is no change in shape or dimensions effected by the treatment.

Sixth, to provide a tacking strip having these advantages which may be very economically produced and by very practical commercial methods.

Further objects relating to details and economies of the invention will appear from the description to follow. The invention is defined and pointed out in the claims.

A structure which embodies the features of the invention is illustrated in the accompanying drawing, in which:

Fig. 1 is a fragmentary elevational view illustrating one of the steps in the manufacture of the tacking strip of our invention.

Fig. 2 is an enlarged cross sectional view on line 2—2 of Fig. 1.

Fig. 3 is a view mainly conventionalized illustrating the impregnating step of the method.

Fig. 4 is a fragmentary view in section on a line corresponding to that of Fig. 2 of the completed strip.

In the preferred form of our invention, we form a tacking strip designated generally by the numeral 1 of a plurality of strips 2 of kraft paper, these being desirably twisted about a core 3 also

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of twisted kraft paper. The kraft paper is crumpled in the twisting as is indicated in Fig. 1. The strips of kraft paper are suitably moistened before twisting together and are compressed while containing a substantial amount of moisture into a hard strip as indicated in Fig. 2 of appropriate cross section usually of generally rectangular shape. However, this is varied both as to size and as to shape for different uses.

One of the extensive uses of tacking strips of this general character is in the affixing of upholstery to automobile seat cushions and backs and purpose of general illustration, reference may be had to the Falls Patent No. 1,977,051, October 6, 1934, which illustrates a tacking strip as applied to a seat cushion rim, the upholstery being secured by tacks driven into the tacking strip. It should be understood, however, that our improved tacking strip is adapted for a wide range of uses other than for the seats and back cushion, as for example, the securing of upholstery to the interior of a motor vehicle. Various uses and applications of these tacking strips require bending and there is a very pronounced tendency for the tacking strips with which we have heretofore been familiar, to dry out and break and split when it is attempted to use them in situations where bending is required.

The primary object of our invention is to provide a tacking strip which not only has superior tack holding qualities but which does not become brittle when bending or tend to unravel or unwind. We are aware that it is old in the art to twist strips of paper together and compress and conform to the desired cross section. Our advance in the art consists in the impregnating of the conformed strip while the strip contains a substantial amount of moisture with a moisture resisting wax, preferably a micro-crystalline wax which serves as an adhesive to bind the outer portion or the impregnated portion of the paper strips together thereby minimizing the opening up or breaking of the paper strips. This wax also seals in the moisture within the strip so that it does not dry out for a considerable time and may be bent or flexed.

A further advantage of substantial importance is that the tacking strip is resistant to water and cleaning compounds, thereby preventing deterioration when the strip is exposed to excessive quantities of water and cleaning compound. It will be understood that water and cleaning compounds are used to cleanse the unfinished body or work on which the tacking strip has been installed, and it has been rather common experi-

ence that tacking strips commonly used may absorb sufficient water or cleaning fluid to result in swelling or serious distortion.

We have illustrated in Fig. 3 in a somewhat conventional manner the impregnating step which we find practical. As a preliminary step in the twisting or intertwining of the paper strands 2 they are moistened, then twisted and then intertwined together by a suitable machine known in the industry and while still wet, are compressed or compacted into the desired cross section. It will be understood that the strips are commercially of different sizes and cross sectional shapes for particular requirements.

The material is wound into a roll indicated at 4 in Fig. 3 and this roll is placed in a tank 5 or other suitable container desirably having heating means, not illustrated, associated therewith, the roll being supported in submerged relation to the impregnated micro-crystalline wax as indicated at 6. The wax is heated desirably to at least 212° F. preferably approximately 250° F. but in any event to a temperature which will vaporize some of the moisture from the outer portions of the strip permitting the wax to penetrate. We have conventionally illustrated the penetration of the wax at 7 in Fig. 4. The depth of penetration may be varied considerably but it is desired that it should be sufficient to provide an effective seal for the moisture within the inner part of the strip. It is also desired that the sealing wax be of sufficient depth to provide an effective adhesive for the outer plies or portions of the paper strips. Moisture resisting wax compositions such, for example, as paraffine wax latex mixtures should retain their flexibility for considerable periods and may be used with quite satisfactory results but commercial micro-crystalline wax is at present preferred by us not only in that it produces satisfactory results, but that it is available at reasonable prices enabling the economical practice of our invention.

We have not attempted to point out or describe various adaptations which we contemplate as it is believed that this disclosure will enable those skilled in the art to embody or adapt our invention as may be desired.

Having thus described our invention, what we claim as new and desire to secure by Letters Patent is:

1. The method of making a tacking strip comprising the steps of twisting together strips of moistened kraft paper, compressing while moist into a relatively hard strip of uniform cross sectional dimensions, and while moist impregnating the outer portion of the strip by submerging in micro-crystalline wax heated to approximately 250° F. whereby some of the moisture is evaporated from the strip and the penetration of the wax facilitated.

2. The method of making a tacking strip comprising the steps of twisting together strips of moistened paper, compressing while moist into a relatively hard strip, and while moist impregnating the outer portion of the strip by submerging in wax heated to a melting temperature thereby resulting in some of the moisture being evaporated from the strip and the penetration of the wax facilitated.

3. The method of making tacking strips comprising the steps of interwrapping strips of paper while moist, compressing while moist to provide a relatively hard strip adapted to receive and retain upholstery tacks and the like, and impregnating the conformed strip to substantial depth with micro-crystalline wax while the wax is heated to above 212° F.

4. The method of making tacking strips comprising the steps of interwrapping strips of paper while moist, compressing while moist and conforming to provide a relatively hard strip adapted to receive and retain upholdstery tacks and the like, and impregnating the conformed strip to substantial depth with moisture resisting wax.

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