Nov. 17, 1936. G. R. SCHMIDT 2,061,046

METHOD OF MAKING METALLIC PADS

Original Filed Sept. 28, 1934

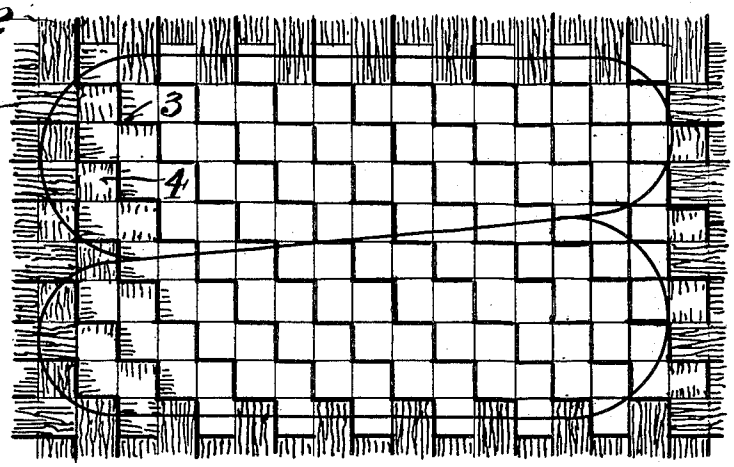


Fig. 1.

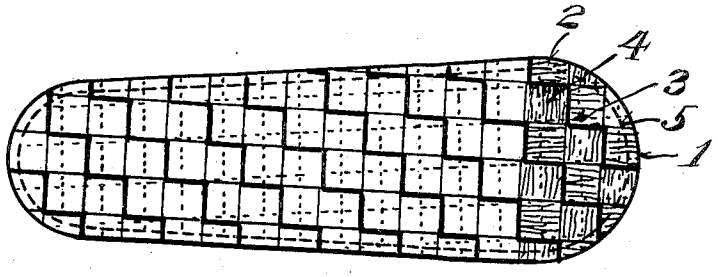


Fig. 2.

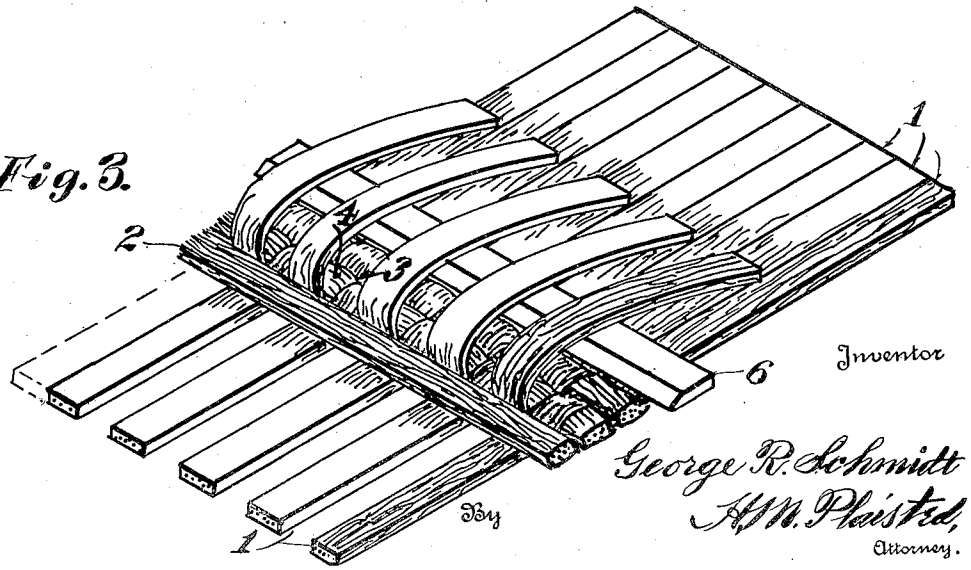


Fig. 3.

Inventor

George R. Schmidt

By H. M. Plaisted,

Attorney.

Patented Nov. 17, 1936 2,061,046

UNITED STATES PATENT OFFICE

2,061,046

METHOD OF MAKING METALLIC PADS

George R. Schmidt, St. Louis, Mo.

Original application September 28, 1934, Serial No. 745,904. Patent No. 2,021,749, dated November 19, 1935. Divided and this application July 5, 1935, Serial No. 29,810

3 Claims. (Cl. 29—148)

This invention relates to certain new and useful improvements in method of making metallic pads, the peculiarities of which will be hereinafter fully described and claimed.

This application is a division of my co-pending application, Serial No. 745,904, filed September 28, 1934 (Patent No. 2,021,749, November 19, 1935) for Metallic pads which was allowed June 10, 1935.

This method applies to that class of inventions which relate to the treatment of certain materials to produce a particular result or product. More specifically, it relates to operations performed by rule which consist entirely of mechanical transactions, but which may be performed by hand as in the present application.

The main object of my herein described method is to plait into a pad certain strands of metallic fibres loosely disposed in substantially parallel arrangement of more or less tangled fibres in fabricated bundles of steel wool for instance, so as to interlace them in lengthwise and crosswise warp and woof strands which are held in the disposed position by frictional engagement of the strands themselves. The resulting product is a plat weave resilient metallic pad, porous to steam and heat and suitable for use as a cushion in a buck for pressing garments as described in said co-pending parent application.

Heretofore, pads of this class have been made of metallic shavings disposed in a layer and felted together, having wire interlaced or sewed through the irregularly disposed fibres of the mass in various directions and intersecting at various points in the mass.

Also, a pressing pad has been made of a succession of parallel strands of metallic wool arranged lengthwise and held by rows of lock stitched wire extending transversely. Such wire fastening means lacks the resilience of the metal shavings of the metallic wool.

My pad is characterized by the elimination of such wire fastenings to maintain its form, and by greater flexibility, resilience, and uniformity of surface as will now be described.

In the accompanying drawing in which like reference numerals indicate corresponding parts,

Fig. 1 represents a plan view of a metallic wool pad exemplifying my invention;

Fig. 2, a pad of my construction as adapted for use on the usual garment pressing buck; and

Fig. 3, a perspective plan view of my pad in the course of construction.

Metallic wool is manufactured in various sizes of fibres, and of various metals. That make which is known to the trade as ribbon steel wool is made in grades of flat fibres of increasing sizes #1, #2 and #3. Coarser fibres than #3 are known as steel shavings #1, and upwards. It is #3 ribbon steel wool which I prefer to use in constructing my present metallic pad, but I do not confine myself to the size of fibres nor the metal of which they are composed.

Referring to the drawing, the numeral 1 designates parallel lengthwise strands of metallic wool interlaced with similar parallel transverse strands 2 preferably of the same material and size, and alternately disposed above and below the lengthwise strands at substantially right angles as shown in Fig. 1. These strands are approximately 3'' x 1'' in their loosely intermingled fabricated condition as obtained from the manufacturer, and preferably consist of relatively long ribbon steel fibre elements which are more or less parallel to the length of the strand, and are intermingled and tangled with each other so that the strands are easily handled and have considerable tensile strength.

When such strands are interlaced as indicated in the figures of the drawing, they form a pad which is equally flexible and strong both lengthwise and crosswise; which is independent of any other fastening devices than the strands themselves when in use; and is of uniform cushioning resiliency in every portion. The porosity for the passage of steam as in a pressing machine, is also uniform in such a pad.

Furthermore, the surface of my pad when first assembled, presents a uniform surface of depressions at the intersections 3, alternating with rounded humps 4 which change under pressure in use, to a substantially flat uniform surface which affords a practically uniform cushioning resistance at every point under the usual fabric covering on which is placed the garment being pressed.

Such cushioning condition is increased by superposing such a one-layer pad on another so as to alternate the intersections of the strands in one layer with the humps in the adjacent layer, as indicated in Fig. 2. Said disposition of the layers increases the resistance to any tendency to shift one layer on another adjacent layer, and improves the intermingled contact engagement of the adjacent strands under pressure.

When such a pad of multiple layers is first assembled, the edges of the pad are preferably secured by coarse stitching 5 about one inch from the edges, as indicated. This stitching is of

cotton thread which forms only a temporary connection at said edges to facilitate handling in shipping transportation.

The threads are soon scorched and broken when subjected to the heat and steam of a pressing machine which flattens and intimately engages the adjacent surfaces of such layers, and so avoids shifting of the layers with respect to each other, and also any massing or ridges under rolling pressure.

The method of construction of my pad is as follows: The strands of metallic wool are laid in parallel rows about four to the foot on a table, forming a rectangle of a length and breadth 2'' or 3'' more than twice the desired size of the pad when finished (Fig. 1).

A metal bar **6**, preferably beveled on one edge, is laid across all the strands near the middle, to hold them in place and serve as a guide for the first cross strand. Then a set of alternate strands is lifted and laid back over said guide bar, leaving a set of intermediate strands lying on the table. Then a strand of suitable length is laid crosswise of said strands lying on the table, and the strands that were lifted are lowered upon the cross strand and replaced on the table. In the next step, the set of strands lying under said cross strand is lifted and laid back over said cross strand, and another cross strand is laid on the set now lying on the table and is laid laterally as snugly adjacent the previous cross strand as the present lifted set will allow. The second cross strand is now covered by lowering upon it the last lifted set of lengthwise strands, and another set of intermediate lengthwise strands is lifted for similarly placing the third cross strand; and so on till the end of the pad is reached. Then the other half-length is interlaced in a similar manner. The cross strands are placed laterally as stated, as it is not practical to draw them into place lengthwise. The interlacing is preferably started on a transverse line at the middle of the lengthwise strands, for convenience in handling the strands, but the interlacing may be otherwise carried out if desired.

While it is preferred to interlace the cross strands with alternate long strands it is evident they may interlace with every third long strand, and vice-versa, without departing from the spirit of my method.

As indicated in Fig. 1, such a pad is conveniently made in the form of a rectangle, and then cut to the desired size and tapering shape forming two layers for use in a pressing buck. One of these two portions may then be superposed on the other for the double thickness desired. The tapering cut separating the initial pad is on a bias and the opposite edges are parallel with the strands. By placing the bias edge of one layer on the straight edge of the other layer as indicated in Fig. 2, the intersections and humps in one layer will not coincide with similar portions of the other layer. Such staggered arrangement indicated by dotted lines in Fig. 2, effects a better frictional contact while the temporary stitching at the edges will maintain the relative adjusted position of the layers for shipping transportation as before described.

Thus the warp and woof strands arranged lengthwise and crosswise as described, are composed of bundles of steel wool fibres which are loosely disposed substantially parallel to each other and to the length of the strands, as indicated in the drawing, and such bundles are held in their loosely fabricated position by more or less tangled arrangement of the fibres and are not otherwise held together in the strands themselves. When, however, they are plaited in warp and woof strands, interlaced lengthwise and crosswise in a plat weave steel pad of suitable size as above stated, the humps thus formed on the surfaces of the material thus fabricated, present a substantially parallel arrangement of the fibres thereto as indicated in the drawing, and thus present a substantially uniform smooth surface initially of humps and depressions and avoid forming a multiplicity of loose ends of fibres which would perforate the cloth covering of the pad on which the garment to be pressed is disposed.

I claim:

1. The herein described method of making a pad for a pressing buck, consisting in first making a rectangular pad of two series of irregular wool strands intersecting and interlaced with each other, dividing said pad on a bias lengthwise, trimming the divided portions to the desired size forming two tapering layers as portions of equal size, superposing one layer on the other, and temporarily securing the edges of the layers together.

2. The herein described method of making a steel wool pad for a pressing buck from loosely intermingled fabricated ribbon steel fibre elements forming strands of metallic wool, consisting in laying a series of strands parallel to each other, lifting a set of alternate strands and placing laterally a similar strand crosswise of a set of intermediate strands, lowering upon the said cross strands the first set, and lifting the intermediate strands for placing another cross strand in succession, dividing said pad on a bias lengthwise, trimming the divided portions to the desired size forming two tapering layers as portions of equal size, superposing one layer upon the other and temporarily securing the edges of the layers together.

3. The herein described method of making a steel wool pad for a pressing buck from strands of loosely intermingled and tangled ribbon steel fibre elements, consisting in laying a series of strands lengthwise parallel to each other, exerting a holding pressure on all the strands on a transverse line intermediate their ends, lifting some of the strands up to the said line of pressure, laying a cross strand laterally on the other strands, and lowering the said lifted strands upon said cross strand to hold it by frictional contact while the other lengthwise strands are lifted for laterally placing another cross strand parallel and adjacent the said first cross strand; and so on successively until one end of the said lengthwise strand is reached; then performing similar plaiting operations from the said first cross strand to the other end of the lengthwise strand, dividing said pad on a bias lengthwise, trimming the divided portions to the desired size forming two tapering layers as portions of equal size, superposing one layer upon the other, and temporarily securing the edges of the layers together.

GEORGE R. SCHMIDT.