

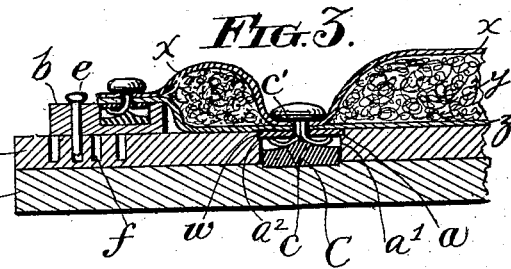
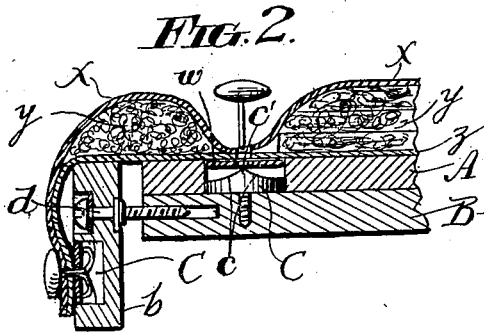
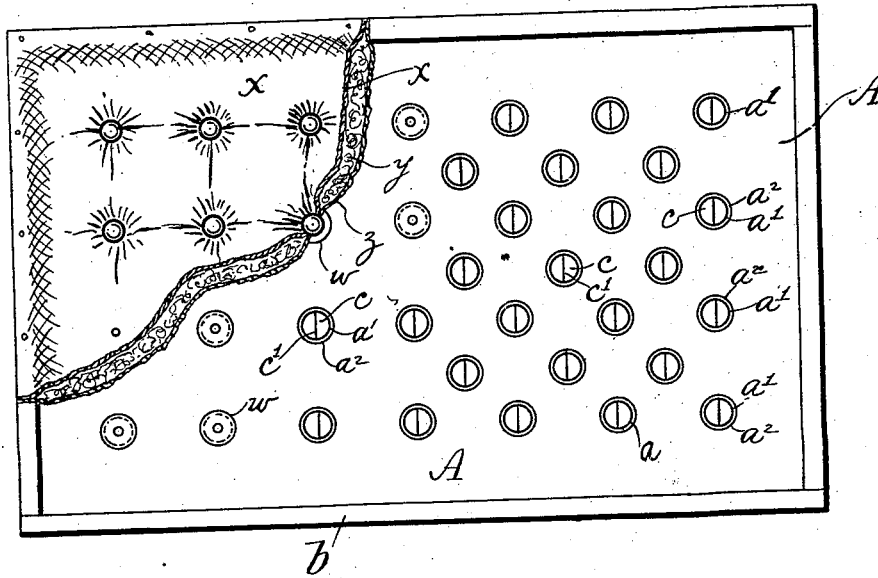
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Patented Jan. 14, 1902.

S. KARPEN.
TUFTING APPARATUS.
(Application filed Dec. 26, 1899.)

(No Model.)

FIG. 1



Witnesses:
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UNITED STATES PATENT OFFICE.

SOLOMON KARPEN, OF CHICAGO, ILLINOIS, ASSIGNOR TO ALFRED FRESCHL, OF CHICAGO, ILLINOIS, ACTING FOR THE NOVELTY TUFTING MACHINE CO., OF CHICAGO, ILLINOIS.

TUFTING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 691,271, dated January 14, 1902.

Application filed December 26, 1899. Serial No. 741,539. (No model.)

To all whom it may concern:

Be it known that I, SOLOMON KARPEN, of Chicago, Cook county, Illinois, have invented certain new and useful Improvements in Apparatus for Tufting Cushions; and I do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings.

This invention relates to improvements in apparatus for making tufted cushions for use in upholstering, and particularly to that type of apparatus in which suitable seats for washers and means to bend or clench the shanks of tuft-buttons are provided, wherein the various operations of making tufted upholstery may be performed by hand, and which comprise suitable means to seat washers and means to bend the shanks of the tuft-buttons when the latter are passed through the washers, so as to secure the parts of the cushion together.

The object of this invention is to provide an upholstering-machine of this class wherein the size of the edge rows of tufts may be varied. The best mode known to me of accomplishing this object and of applying the principles of the invention is as follows, reference being had to the accompanying drawings, which show simple and efficient constructions and arrangements of the various parts, and in which similar letters of reference indicate like parts throughout the several views.

In the drawings, Figure 1 is a plan view of an upholstering apparatus embodying the principles of my invention. Fig. 2 is a detail sectional view showing one of the means employed to adjust the position of the end or edge rows of buttons, and Fig. 3 is a detail sectional view showing different means that may be employed for the purpose of adjusting the position of the edge rows.

A cushion which my invention is adapted to produce consists of an upper or outer covering x , of cloth, leather, or the like, a lower covering or backing z , of burlap, cardboard, or other suitable material, and a filling y , of hair or similar material. Said filling is divided into a number of elevated rounded or diamond-shaped projections either before or after its insertion in the mold, the outer and

inner coverings being secured together between said elevations at the base of the cushion, thereby forming on the outer surface of the cushion a plurality of depressions or tuft-pits, in which the tuft-buttons are located. The outer edges of the cushion will be finished in any manner to suit the use to which it is to be put.

In carrying out my invention I provide a suitable apparatus, which in the preferred form of construction comprises a moldboard or former A and a base B, the mold being supported upon and with its top edge preferably slightly above the base to provide a space for the intermediate clenchers, as hereinafter described.

The moldboard A is of the shape and size required to produce a tufted pad of the desired dimensions, and preferably is provided with seats a for washers, arranged to correspond with the number and location of the depressions in the cushion and opposite the points in the cushion at which the inner and outer coverings are secured together, it being of course understood that the seats are disposed so as to produce these depressions or tuft-pits in the cushion in any desired style or pattern of tufting. These seats may be provided in any desired manner. For example, as shown in Figs. 2 and 3, the board may be provided with perforations a' , which preferably will be circular in outline and of approximately the size of the washers employed. The sides of the perforations may be vertical or plain, and the washers may be held therein by friction, as in Fig. 2, or the perforations may be provided with shoulders, as at a^2 in Fig. 3, in order to more securely hold the washers in place during the subsequent operation of forming the cushion.

The base B is provided with means to clench the shanks or prongs of the buttons, which are disposed thereon so as to correspond with the locations of the seats in the moldboard for the washers. These clenchers C, which are preferably of metal, may be provided in a variety of forms and arrangements, their function being to bend or clench the metal shanks of the tuft-buttons as the latter are driven to place to secure the inner and outer

coverings and the washers together, and the essential requirement is that they shall be of suitable design to perform this function.

Whenever the clenchers are adapted to be used with double-prong tuft-buttons it will be expedient for the more successful operation of the apparatus to employ some form which shall insure the bending of the two prongs in different directions. This may of course be accomplished by any form which shall provide differently-disposed faces or contact portions for the opposite prongs of this style of button, and any clencher which presents such faces to the shanks will answer the purpose. A suitable form is illustrated in Figs. 2 and 3 of the drawings, in which the oppositely-inclined or slightly-curved faces *c* are united in a central projection or ridge *c'*, in which case the shanks of the buttons will be spread in opposite directions, as clearly shown in Fig. 3. Any equivalent form may be employed which will accomplish the bending of the two prongs, such as a cone or a pyramid or any other construction that has a similar cross-section. These clenchers are disposed upon the base in such relation to the washer-seats that their apices shall come at the centers of the seats, and when the form shown in Figs. 2 and 3 is employed the ridges or central projections will preferably be arranged to extend in the same direction, as shown in Fig. 1, as this will enable the operator to insert the buttons in a uniform manner, so that the prongs shall always be presented in correct relation to the ridges. The arrangement is such that the apex of each clencher preferably comes about flush with the line of the shoulder *a*² when this construction is employed, so that the shanks or prongs of the buttons shall be bent close up against the lower faces of the washers.

The margins or pipings constituting the edge rows often vary in size to suit the use to which they are to be put, and in order to provide for the making of the tufts or pipings of the edge rows in different sizes upon the same mold I make the outer or edge row or rows of tufters adjustable with relation to the tufters that produce the tuft-pits in the body of the cushion. This adjustment may be accomplished in any suitable manner, and I have illustrated simple and efficient means for this purpose.

The reference-letter *b* indicates a side rail that is adjustably attached to the board or mold and that carries a row of washer-seats and clenchers to form an edge row of tuft-pits. This side rail may be adjusted in order to vary the distance between its row of clenchers and the clenchers of the body of the mold by any suitable means. For example, in Fig. 2 I have shown this side rail adjustable toward and away from the tufters of the body of the mold by means of a threaded bolt *d*, and in Fig. 3 I have shown this side rail adjustable and held in any position by screws or pins *e* entering in one of a series of holes

or perforations *f*. When it is desired to change the size of the edge row of tufts, the edge rail bearing the edge row of tufters is set at any desired adjustment. It will of course be understood that the mold may have these adjustable rows on as many sides as may be desired.

The method of making a cushion with the apparatus described is as follows: Suitable washers *w*, provided with eyes or perforations, are first seated within the openings in the board and a backing or inner covering *z*, of suitable material, is then stretched over the board and may be secured in place by any suitable means. The outer covering *x* will desirably be previously provided with a plurality of apertures through which the shanks of the buttons are to be inserted or with marks on its outer surface to indicate where the prongs shall pierce, these marks or perforations being made in such manner as to correspond with the pattern of tufting to be produced and so as to leave sufficient fullness of material to produce the projections or cells between the depression or tuft-pits in the finished cushion. The outer covering is applied face upward, and preferably the operator as a preliminary step secures the outer and inner coverings together along one of the edge rows of seats, inserting the prong of a button through the coverings and the eye of the washer at each seat of the row, the locations of the seats being easily determined by hand and the button being driven home with a sharp tap of a hammer or mallet to cause the prong or prongs to bend upon the clenchers and secure the parts in place. The filling material *y* is then applied to the backing, it being of any desired form and material, but preferably constituted of the prepared strips of tufting known to the trade as "Kelly pads." Any order in applying the filling may be followed as is most convenient to the operator. The entire face of the mold may be filled at once and the outer covering applied to the same and independently secured over the different elevated projections, or each cell or pocket in the cover may be filled and the cover secured to the backing at that point before filling the next adjacent cell, and so on until all the cells or pockets of a row are completed, the next row then being filled in the same way until all the cells or pockets of the cover are finished. The buttons are inserted one by one at the washer-seats, and when driven home they draw the cover down into the depressions or tuft-pits between the elevations in such manner as to secure the coverings together at the base of the cushion, their shanks bending under the impact of a blow to securely hold the washers in place against the lower face of the backing. The outer edges of the cushion will be united in the same manner in order that the cushion shall be a complete and finished article as it comes from the machine.

Having thus described my invention, what

I claim, and desire to secure by Letters Patent, is—

1. An upholstering apparatus having washer-seats and clenching means arranged in 5 rows, the clenched seats of an edge row being adjustable.

2. In an upholstering-machine, a mold having washer-seats and clenching means arranged in rows upon its body, a side rail having 10 washer-seats and clenched seats arranged

therein, and means to position the rail at varying distances from the body-rows.

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

SOLOMON KARPEN.

Witnesses:

MAMIE E. TOBIN,
J. McROBERTS.