

No. 618,030.

Patented Jan. 17, 1899.

A. FRESCHL.
APPARATUS FOR TUFTING CUSHIONS.

(Application filed July 11, 1898.)

(No Model.)

2 Sheets—Sheet 1.

Fig. 1.

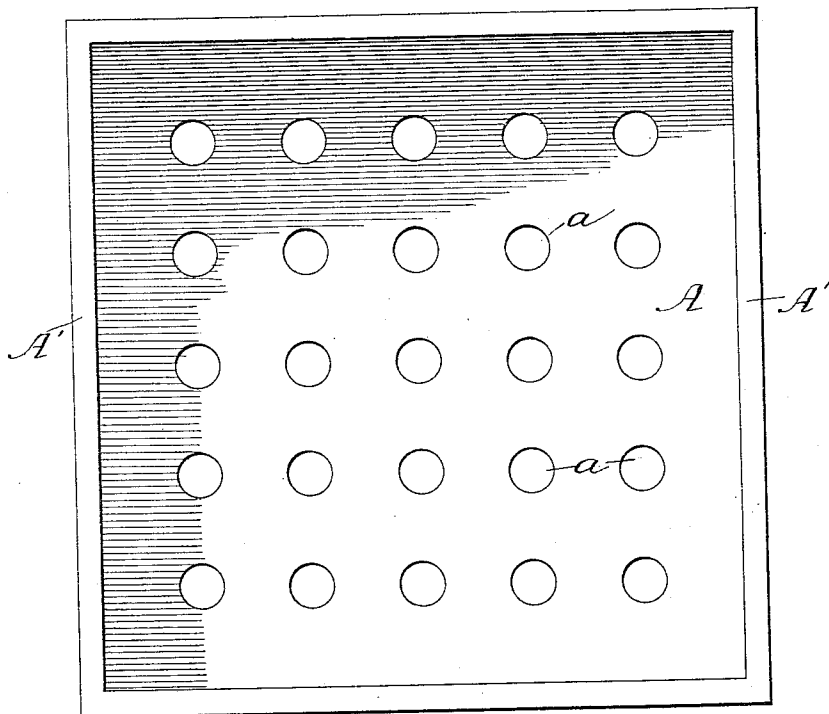
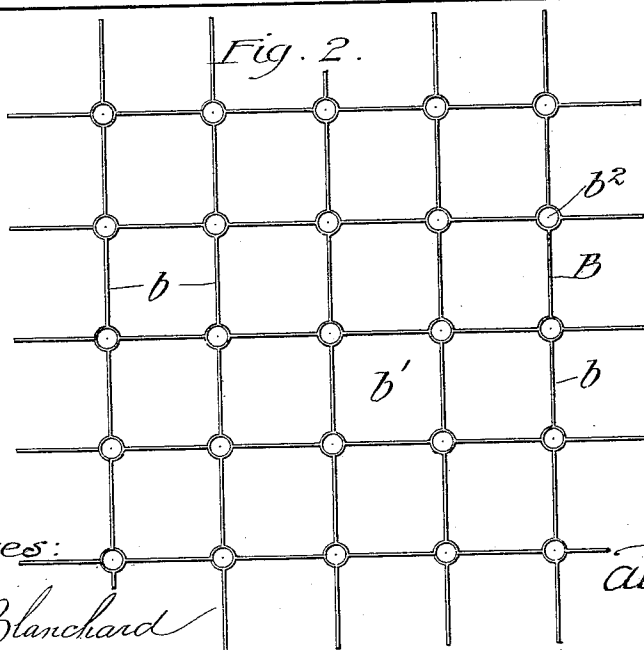


Fig. 2.



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2 Sheets—Sheet 2.

Fig. 3.

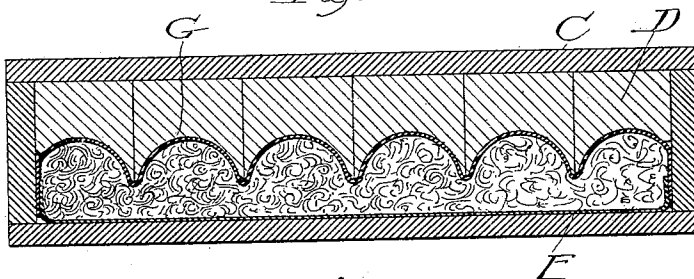


Fig. 4.

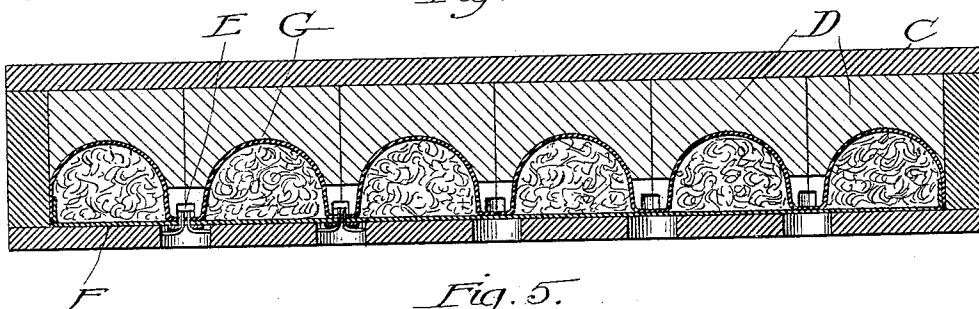


Fig. 5.

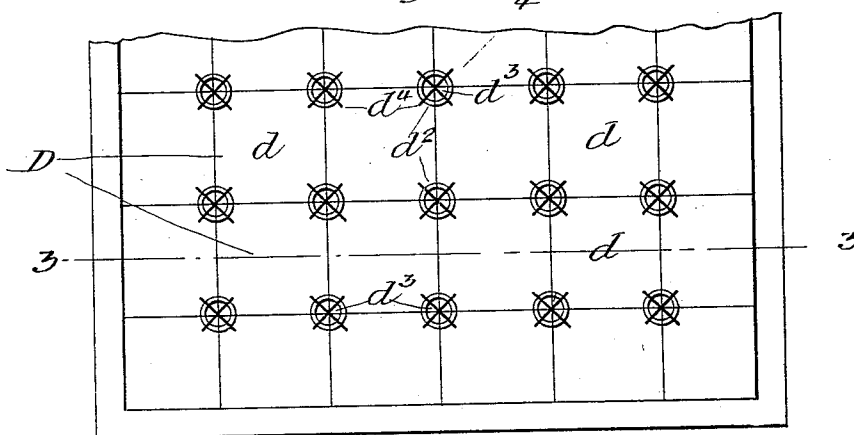
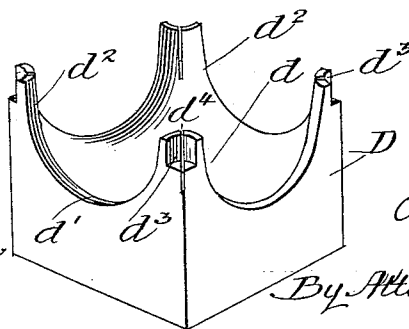


Fig. 6.



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UNITED STATES PATENT OFFICE.

ALFRED FRESCHL, OF CHICAGO, ILLINOIS.

APPARATUS FOR TUFTING CUSHIONS.

SPECIFICATION forming part of Letters Patent No. 618,030, dated January 17, 1899.

Application filed July 11, 1898. Serial No. 685,669. (No model.)

To all whom it may concern:

Be it known that I, ALFRED FRESCHL, of Chicago, in the county of Cook and State of 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, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improved apparatus for making tufted cushions for use in upholstering; and the invention consists in the matters hereinafter set forth, and more particularly pointed out in the claims.

In the drawings, Figure 1 is a top plan view of the foundation or base-board of an apparatus made in accordance with my invention. Fig. 2 is a top plan view of a frame which is employed to properly divide the filling material used in such cushions. Fig. 3 is a cross-section of the apparatus with the parts in position in one stage of the operation of making the cushion, said section being taken in a plane parallel with the sides of the base-board and between two adjacent rows of tufts in the cushion. Fig. 4 is a section of the apparatus, taken diagonally in a plane which intersects the points at which the cushion is tufted, dividing the moldboard on the line 4 4 of Fig. 5. Fig. 5 is a bottom plan view of the moldboard or upper or movable part of the apparatus. Fig. 6 is an enlarged perspective view of one of the molding-blocks.

In said views, A designates a base-board which forms the bottom of an open-topped box, hereinafter termed the "mold-box," within which the cushion is to be formed, said box having connected side walls A' A', which are desirably attached permanently to said plate. B designates a reticulated frame which is adapted to be placed upon said base-board and within the walls A' A' to provide compartments within which the filling material is placed, and thereby properly divide such filling material into a plurality of separate masses or divisions, forming, severally, the rounded protuberances of the upholstering. The inner and outer coverings of the cushion are fastened together at the bases of said divisions, as common in this class of upholstering.

C designates a board which is adapted to fit over the open end of the mold-box, to the inner surface of which are attached a plurality of molding blocks or forms D, which project into the mold-box when the board C rests thereon. Said blocks are made of such form on their inner sides and are so arranged as to provide a plurality of molds or cells, which are adapted to give the desired form to the masses of filling material in said mold-box when pressed down upon the same.

The base-board A is provided with a plurality of apertures *a*, which are located at the points at which the covers of the cushions are to be fastened together or tufted, there being a number of apertures equal to the number of tufts in the cushion to be made in the apparatus. Said base-board is made of a form to correspond with the form of the cushion to be made thereon, and the apertures *a* are arranged in each instance in an angular relation to correspond with the shape of the divisions of the cushion desired.

The reticulated form B is of the same exterior form as the cushion to be made in the apparatus, and consists of a plurality of transversely-arranged thin strips or plates *b*, which are adapted to be placed edgewise on the base-plate A and are attached firmly together at their points of intersection. Said points of intersection of the members of the frame are located opposite to the apertures *a* of the base-board when the frame is in place thereon. Said frame affords a plurality of separate compartments *b'*, within which the filled material is adapted to be placed to divide the same into a plurality of masses, at the bases of which the covers are fastened together or tufted. Preferably said frame is provided at the intersection of the strips *b* with a plurality of posts *b²*, to which said strips are permanently attached. Said posts are shown as made of tubular form and extend vertically from the upper to the lower edge of the strips. The purpose of said posts *b²* is to more effectually separate the filling material in the mold-box at the points opposite to the apertures *a*, so as to provide at such points vertical openings in the filling material, into which the outer covering of the cushion is depressed and through which the tufting or fastening devices may be inserted.

The molding blocks or forms D, which are attached to the board C and which consti-

tute, together with the same, a cellular board and the movable part of the apparatus, consist of a plurality of similar and equal blocks, which correspond in horizontal area with the spaces included within lines intersecting the centers of the apertures *a* of the base-board. Said blocks or forms are permanently attached in any suitable manner to the inner surface of the board C, so that they project downwardly into the mold-box when said board is in the position shown in Figs. 3 and 4. Said blocks are attached to the board with their vertical sides in contact with each other and fill the space between the side walls A' of the mold-box. Each of said blocks or forms is provided on its inner side with a concave recess *d*, which constitutes a cell, within which one of the separate masses of the filling material is adapted to be pressed or molded to give rounded form thereto. The vertical side walls of said blocks at the lower edges thereof are preferably cut away to form curved notches *d'*, which terminate in a plane inside of the plane of the central part of the recess, as clearly shown in Fig. 3, thereby leaving the corners of said blocks at the inner side thereof of their full length and constituting four separate inwardly-extending projections *d*². The outer rows of said blocks or those adjacent to the side walls A' A' of the mold-box are not provided on their sides adjacent to said side walls with the inward projections *d*², the recesses therein forming less than complete cells, and the side edges of the cushion are independently finished after the same has been removed from the mold-box. Said blocks or forms may be made of solid blocks of wood or other suitable material and cut to the form required or may be molded in such form as found most convenient or desirable. They will be made of such length that the projecting parts *d*² thereof reach to or nearly to the upper surface of the base-board when the movable part of the mold is depressed into the mold-box. With this construction when said blocks are attached to the board C with their vertical sides in contact with each other the projections *d*² of four adjacent blocks will form at the lower sides of the same a depending extension D', preferably of circular form as viewed endwise, which is adapted to depress the outer covering of the cushion between the divisions of filling material and serve as a support for a tufting button or nail, as will hereinafter appear. Said blocks are so arranged on the board C with respect to the base-board that the intersections of said projections *d*² stand opposite to the apertures *a* in said base-board, and the cellular or concave surfaces of said blocks stand opposite to the imperforated sections of said board, as shown in Fig. 4.

Means are provided for detachably connecting a tufting or fastening device, such as the tufting-nails E, to the lower or inner ends of the extensions D' in a manner to pierce the inner and outer covers of said

cushion when the movable part of said apparatus is operated to press the filling material into form, said nails being arranged to extend into the apertures *a* of the base-board and being fastened in any common or preferred manner. As herein shown, each of said extensions D' is provided at its outer end with a socket *d*³, adapted to receive and hold the head of a tufting-nail E. Conveniently the inner walls of said socket will be made inwardly tapering, so that when the head of the nail is pressed into engagement with the same the wedge action of the walls will act to hold the same in place. As a further and separate improvement and in order that the nail may be held yieldingly in place in the socket, the extreme ends of the extensions D' are slit, as shown at *d*⁴, thereby forming in the walls of the socket a plurality of spring-arms, which engage the head of the nail with a yielding pressure.

The operation of manufacturing upholstering with an apparatus made as described is as follows: A backing or foundation F, which may be of strawboard, burlap, or the like and of slightly-greater size than the full size of the cushion to be made, is first placed upon the base-board A with the margins thereof turned up upon the inner face of the side walls A'. The reticulated frame B is then placed in the mold-box upon said backing, with the posts *b*² thereof opposite to the apertures *a* in the base-board. The compartments *b'* of said frame are then successively filled by hand with a suitable quantity of filling material, which is compressed therein to give the desired firmness to the cushion. The grating B and the posts *b* thereof serve to separate and give shape to the several masses of the filling material contained in said compartments to prepare the same for the application of the covering G and the insertion of the tufting-nails. Said frame is then removed from the mold-box, and the fabric or covering material G, which is to form the outer surface of the upholstering, is pressed down over said filling material and fastened to the backing at the bases of the several divisions thereof. Preferably said outer fabric will be fitted to the tufting-nails, which have previously been inserted into the inner ends of the extensions D', said mold-board being for this purpose inverted and the covering being placed face downward over the same. Said covering material G may be perforated at suitable points to receive the nails or fasteners used for tufting. The moldboard and attached covering G are then reverted and placed over the filling material with the tufting-nails in alignment with the openings between the divisions of said filling material. Said mold is then lowered, and the fabric G is depressed against the filling material to conform the same to the upper surface thereof. The extensions D' of said mold are in this operation depressed into the openings between

the several divisions of filling material which were formed by said posts d^2 , and thereby carry the fabric into the same until it comes in contact or nearly in contact with the backing F. When the mold has been pressed downward as far as possible, the nails will have been thrust through both coverings G and F of the cushion and will project into the apertures a of the base-board in position to be fastened in any convenient manner. Said tufting-nails in the present instance are provided with two prongs, which are adapted to be bent radially outward into engagement with the outer surface of the backing or with washer e , applied to the same and engaging said outer surface of the backing. When all the tufting-nails have been fastened in the manner described, the movable portion of the mold will be disengaged from said buttons and the cushion removed from the mold-box and the edges thereof finished in the usual manner.

The cellular moldboard, which consists of the board C and blocks D, may be made from a single piece of material, if desired, or from separate pieces arranged otherwise than as herein shown. I do not therefore restrict myself to the construction illustrated.

The outer cover G and backing F may be otherwise fastened together—as, for instance, said parts may be secured together by stitching inserted by a properly-shaped needle through the apertures a of the base-board from the under side thereof. In this case the sockets at the inner ends of the extension D' may be omitted. Other means of fastening said covers together will readily suggest themselves to persons skilled in the art, and I do not wish to be restricted in this respect.

I claim as my invention—

1. An upholstering apparatus comprising a perforated base-board, a removable reticulated frame adapted to rest thereon with the points of intersection of its members opposite the apertures in the base-board, and a downwardly-movable, cellular moldboard, provided with a plurality of cells which come opposite the several imperforate sections of the base-board, and adapted to give rounded form to the separate masses or divisions of the filling material, and provided with a plurality of inward extensions opposite the apertures in said base-board adapted to pass between said masses of filling material.

2. An upholstering apparatus comprising a perforated base-board, a removable reticulated frame adapted to rest thereon with the points of intersection of its members opposite the apertures in the base-board, and a downwardly-movable cellular moldboard, the cells of which come opposite to the imperforate sections of the base-plate and provided opposite said apertures of the base-board with means for receiving and holding a tufting button or nail.

3. An upholstering apparatus comprising a

perforated base-board, a removable reticulated frame adapted to rest thereon and provided at the points of intersection of its members with vertical posts arranged opposite to the apertures in the base-plate and a downwardly-movable cellular moldboard, the cells of which come opposite to the imperforate sections of the base-plate and provided opposite said apertures of the base-board with inward projections adapted to receive and hold a tufting button or nail.

4. An upholstering apparatus comprising a perforated base-board, a removable reticulated frame adapted to rest thereon with the points of intersection of the members thereof opposite to the apertures in the base-plate, and a downwardly-movable cellular mold comprising a board and a plurality of mold-blocks attached to the inner side thereof with their vertical faces in contact with each other, each of said blocks being provided on its inner side with a concave recess forming a cell and provided at their lower corners with inward projections, the projections of each four adjacent blocks forming together a substantially cylindric inward extension adapted to be depressed between adjacent masses or divisions of filling material.

5. An upholstering apparatus comprising a perforated base-board, a removable reticulated frame adapted to rest thereon, with the points of intersection of its members opposite to the apertures in the base-plate, and a downwardly-movable cellular moldboard having a plurality of cells which come opposite the imperforate sections of the moldboard and provided centrally of each four adjacent cells, opposite each of the apertures in said base-board with inward extensions which are provided at their inner ends with sockets adapted to receive and hold a tufting button or nail.

6. An upholstering apparatus comprising a perforated base-board, a removable reticulated frame adapted to rest thereon, with the points of intersection of its members opposite to the apertures in the base-plate, and a downwardly-movable cellular moldboard having a plurality of cells which come opposite the imperforate sections of the moldboard and provided centrally of each four adjacent cells, opposite each of the apertures in said base-board with inward extensions which are provided at their inner ends with sockets adapted to receive and hold a tufting button or nail, the walls of said sockets being slitted to form spring-arms which yieldingly engage said nail or button.

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two witnesses, this 5th day of July, A. D. 1898.

ALFRED FRESCHL.

Witnesses:

WILLIAM L. HALL,
CHARLES W. HILLS.