

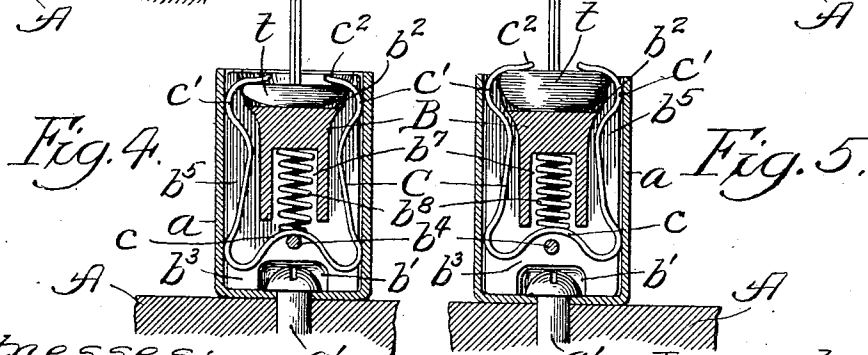
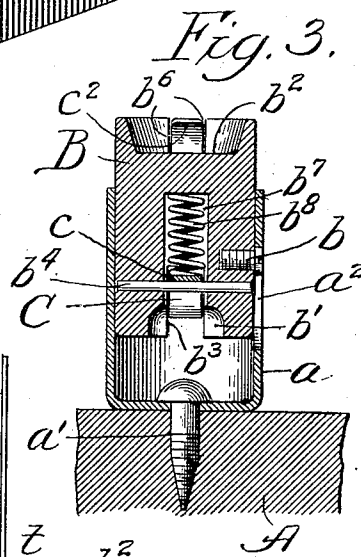
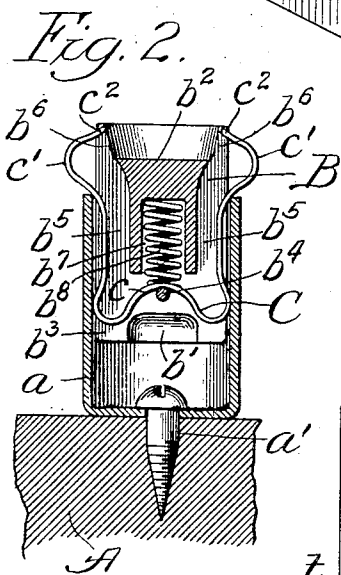
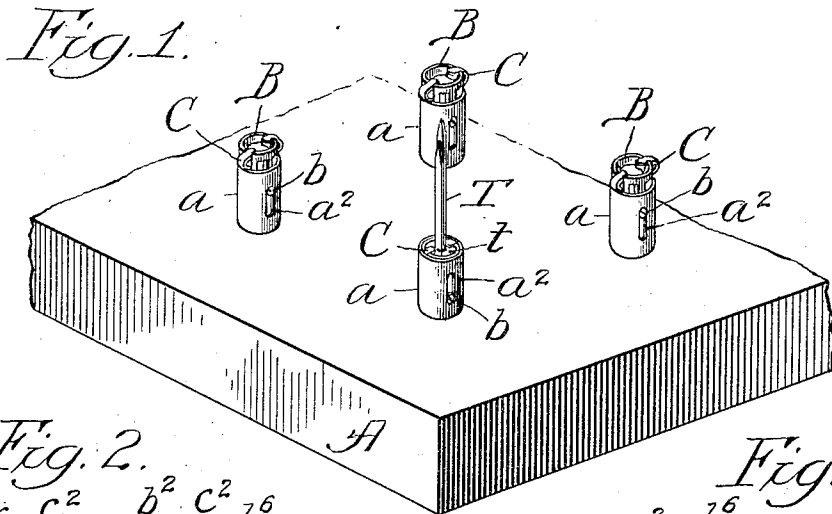
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BUTTON HOLDER.

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1,042,663.

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BUTTON-HOLDER.

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To all whom it may concern.

Be it known that I, JOHN L. FRESHEL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Button-Holders, of which the following is a specification, reference being had therein to the accompanying drawing.

10 Tufting machines for making tufted pads or cushions for use in upholstering are provided with a plurality of upwardly projecting tufters or tuft-forming devices which are spaced apart upon the upper surface of the mold or former to correspond with the number and location of the depressions or tuft-pits in the face of the cushion or pad in which the outer and inner coverings are secured together, and in such machines as now generally used these tufters are in the form of button-supports having seats for headed clench-buttons or tufting-nails and means usually in the form of jaws or clamps, by which the buttons or nails are positioned on the supports with their points or shanks directed upwardly and in extension of said tufters while the process of making the cushion is being carried out and from which the buttons are adapted to be detached by lifting the pad after the prongs of the buttons are clenched to secure the inner and outer coverings together. A cushion or pad made by such machines consists usually of an upper or outer covering of cloth, leather, or the like, a lower covering or backing of burlap or other suitable material, and a filling of hair, moss, or like material, the filling being divided into a number of elevations or projections, and the inner and outer coverings being secured together in the tuft-pits between said elevations by suitable headed buttons or nails, whose shanks or prongs pass therethrough and through suitable apertured disks or washers, over which they are clenched.

50 The object of my invention is to provide a novel and improved form of tufter or holder for tuft-buttons for upholstering apparatus in which compensating means are provided to automatically vary the distance between the button seats and ends of the clamp or jaws for buttons having relatively thick and thin heads so that heads of different thickness shall be positively and auto-

matically held in position with their prongs directed outwardly or in extension thereof and may readily be detached from the holders to tuft the coverings together after the prongs have been bent.

The novel features of my invention will be hereinafter described, and clearly pointed out in the appended claims.

In the drawings—Figure 1 is a perspective view of a section of mold-board or former provided with tufters or button-supports embodying my invention and with one button in position; Figs. 2 and 3 are vertical sectional views taken at right angles to each other with the clamp raised to position to receive and discharge a button; Fig. 4 is a vertical sectional view of the holder with a button in place whose head is relatively thin, and Fig. 5 is a similar view with a button in position whose head is relatively thick.

The reference letter A represents a mold or former provided with a plurality of upwardly projecting tufters, preferably in the form of elongated tubes or hollow sleeves or posts, arranged in any desired manner to produce any suitable style or pattern of tufting in the finished pad or cushion, and T represents the usual clench nails or tuft-buttons employed having heads *t* supported by the tufters or holders during the formation of the cushion or pad, these parts being now well understood in the art.

Each tufter is in the form of a button holder, and the body of each holder consists of a sleeve or shell *a*, preferably a metallic tube or cylinder of elongated form closed at its lower end where it is provided with an opening to receive a screw *a'* by which it is fastened to the base of the mold-board or former. A block B fits in the body *a* and is movable longitudinally therein, being limited in its reciprocation and held against rotation by a pin *b* moving in the slot *a*² in the shell; the block is recessed in its lower end as at *b'* to fit over the head of the screw *a'* and at its upper end to provide a recess or button seat *b*². A spring clamp C is movably mounted on the block, and preferably consists of a U-shape spring strip whose lower cross or bow portion *c* fits in a transverse channel *b*³ in the base of the block and is retained therein by a transverse cross-pin *b*⁴, with its opposite arms

or jaws resting in and guided by opposite longitudinal slots or channels b^5 in the sides or perimeter of the block communicating with the transverse channel at their lower ends. The arms are bent outwardly as at c' near their upper ends beyond the body of the block when the latter is raised in its sleeve or shell, and so serve to hold the block and clamp in their upper position by projecting over the edge of the shell; and their ends are bent inwardly and pass through openings b^6 in the wall or flange of the button recess or seat when the block is moved down into the shell so that they then extend over the recess or seat. The block is provided in its base above the cross-pin b^4 with an axial recess or chamber b^7 opening into the transverse channel b^3 and forming a seat for an expansion coil-spring b^8 which presses the cross or bow portion c of the clamp normally against the cross-pin by reacting against the upper wall of its chamber and the bow portion of the clamp. The cross-pin is so located and positioned and the parts are so proportioned that the inner ends of the jaws or clamp when pressed into position over the seat or recess are spaced from the bottom of the recess a distance approximately equal to the thickness of the thinnest button head employed in this class of work, as shown for example in Fig. 4. By this construction when the block is in its upper position with the clamp open a button-head of minimum thickness may be placed in the seat or recess and then by pressing the block down into its shell the ends of the clamp are forced slightly upwardly by the action of the edge of the shell on the curved parts c' and then inwardly over the button-head, and the spring b^8 being put under tension by the upward movement of the arms or clamp then reacts to draw the clamp down with its ends against and upon the inverted lower face or surface of the button-head to hold the prongs of the button in perpendicular position so that it will not be displaced or disaligned during the subsequent manipulation of the fabric and other parts of the pad or cushion. When a button having a thicker head is employed, as shown for example in Fig. 5, the ends of the clamp when forced upwardly by the action of the edge of the shell on its curved portions bring the ends of the clamp to position to take over the lower face or surface of the head when they are forced inwardly by the descent of the block and clamp into the shell, and the reaction of the spring b^8 binds them on the head as before. The spring b^8 allows the clamp to move longitudinally with relation to the block any desired distance in order to enable the ends of the clamp to straddle or take over the thickest button head employed in machines of this character, and

the spring then retracts the clamp along the block until the ends engage and positively hold the head in place. Ordinarily it will be sufficient if the ends of the clamp rise to about the level of the upper edge of the block as the depth of recess or seat usually corresponds with the maximum thickness of the button-heads, but this may of course be varied by varying the tension or force of the spring; or the clamp need not be raised by the shell as the former descends in the latter as the ends of the clamp may be upturned as at c^2 to ride or cam over the button-heads and raise the clamp to position and put its compensating spring under tension. When the work is completed by lifting the cushion or pad the blocks are drawn up to their raised positions when the clamps will spring to open position to release the button-heads.

The present disclosure of the principles of my invention in connection with apparatus represents a practical embodiment of its several features, but I desire to have it understood that the apparatus shown is merely illustrative and that the invention may be exemplified in other ways.

I claim:

1. A button-support for tufting-machines comprising a hollow body, a block movable therein and having a button-seat, retaining means normally out of position and movable into position to engage a button head, and a spring carried by the block between the retaining means and block to move the former toward the latter to space the retaining means a predetermined distance above the button-seat.

2. A button-support for tufting-machines, consisting of an external sleeve, a reciprocating block therein adapted to support the button, a button-retaining device operated by the movement of said block in said sleeve to retain the button-shank in a perpendicular position or to release it, and a spring between the block and retaining device to normally space the latter above the former at a predetermined distance.

3. A button-support for tufting-machines, consisting of an external sleeve, a reciprocating block fitted therein, a clamp operated by the inward movement of said block to clamp the head of a button to said block, and adapted to release said button-head when moved outwardly, and means expanding between the clamp and block to move the clamp into the sleeve lengthwise of the block.

4. A button-support for tufting-machines, consisting of an external sleeve, a sliding block adapted to move in said sleeve, said block being adapted to support a button at its upper end, laterally-movable clamps operated by the movement of said block in said sleeve for clamping and releasing the

button-head, and a spring reacting between the clamp and block to move the clamp into the sleeve lengthwise of the block.

5 5. The combination of an external sleeve, a block adapted to slide therein, said block being adapted to support a button at its upper end, a clamp carried by said block, said clamp being arranged normally to project outward beyond the inner edge of said sleeve and to be moved inward by the inward movement of said block to engage said button, means for limiting the movement of said block, and a spring mounted in the lower portion of the block acting on the clamp to draw the latter into the sleeve to vary the space between the clamp and block.

10 6. The combination of a sleeve, a block having vertical side slots and a transverse channel, a clamp consisting of a wire bent to substantially U-shape, the bow of said wire being fitted in said channel and the side portions of said wire being fitted in said slots and normally projecting outward, the upper ends of said wire being bent inward, and a spring between the bow of the clamp and the block to vary the space between the upper ends of the wire and the block.

25 7. The combination of a tufting-board, one or more perpendicular tufters secured thereto, each of said tufters carrying a button-supporting block and a button-holding clamp, said blocks being movable longitudi-

nally of said tufters and being adapted by such longitudinal movement to operate said clamps to engage or release a button, and a spring supported in the block reacting between the block and the clamp to draw the latter toward the former.

8. A button support comprising a cylindrical body, a block movable therein and having a button seat at its top and a transverse channel at its bottom, a U-shape spring clamp having its bow in the channel and its ends extending above the seat, a cross-pin in the block below the bow, and a spring reacting between the bow and block to move the clamp toward the block.

9. A button support, comprising a cylindrical body, a block movable therein and having a button seat at its top and an axial recess in its lower end and a transverse channel below the recess, a U-shape spring clamp having its bow in the channel and its ends extending above the seat, a cross-pin in the block below the bow, and a spring in the axial recess reacting between the bow and block to allow the bow to rise to different distances above the cross-pin.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN L. FRESHEL.

Witnesses:

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J. McROBERTS.