

No. 677,559.

Patented July 2, 1901.

J. H. CLOYES.

BUTTON SUPPORT FOR TUFTING MACHINES.

(Application filed Jan. 19, 1900.)

(No Model.)

Fig. 1.

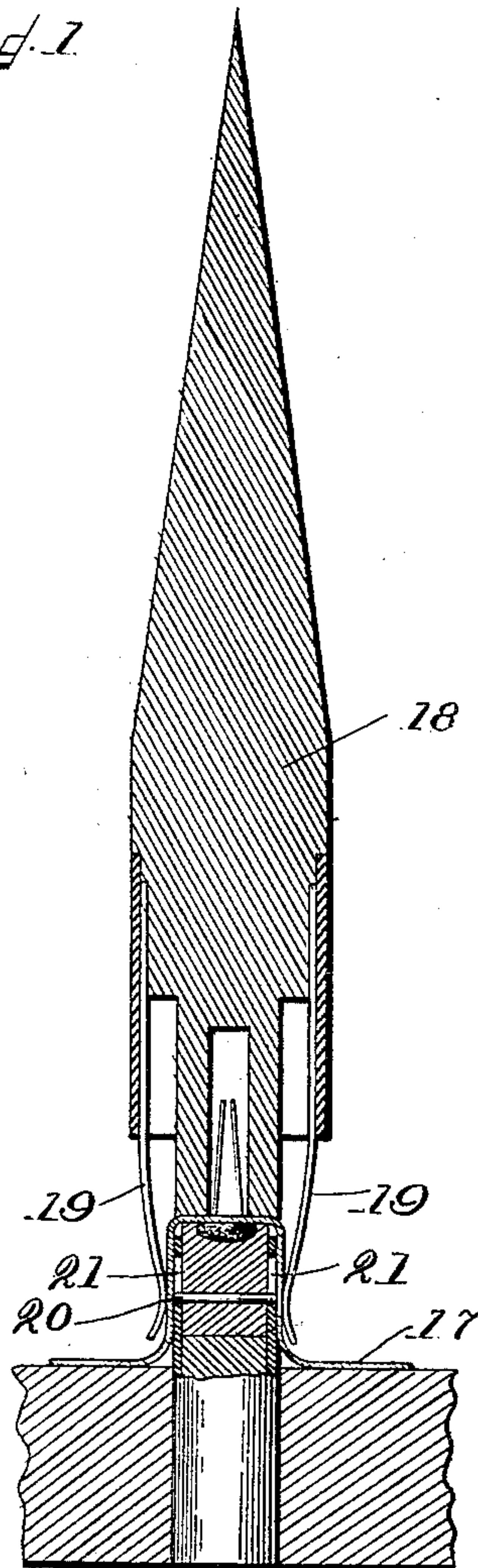


Fig. 2.

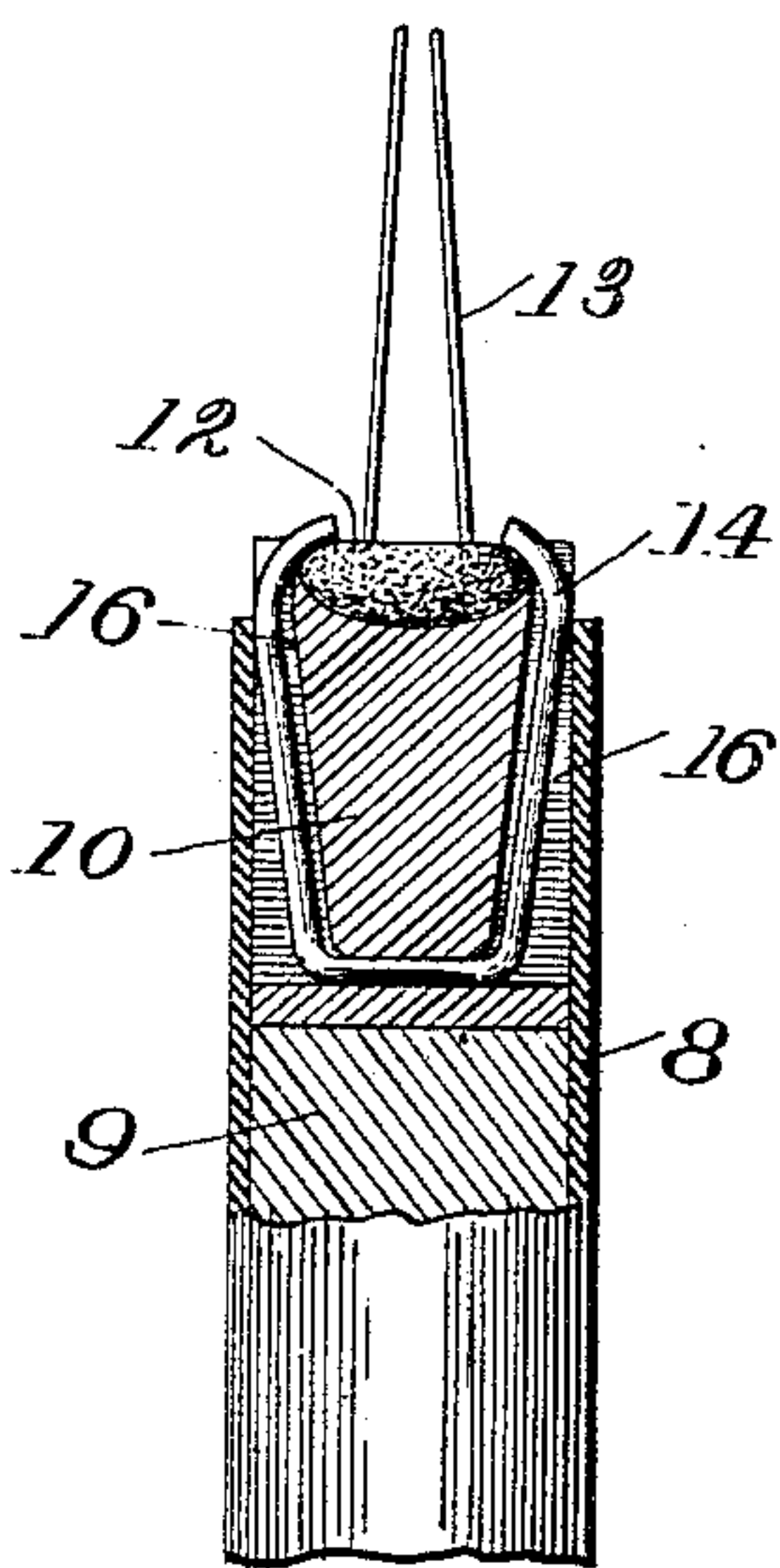


Fig. 3.

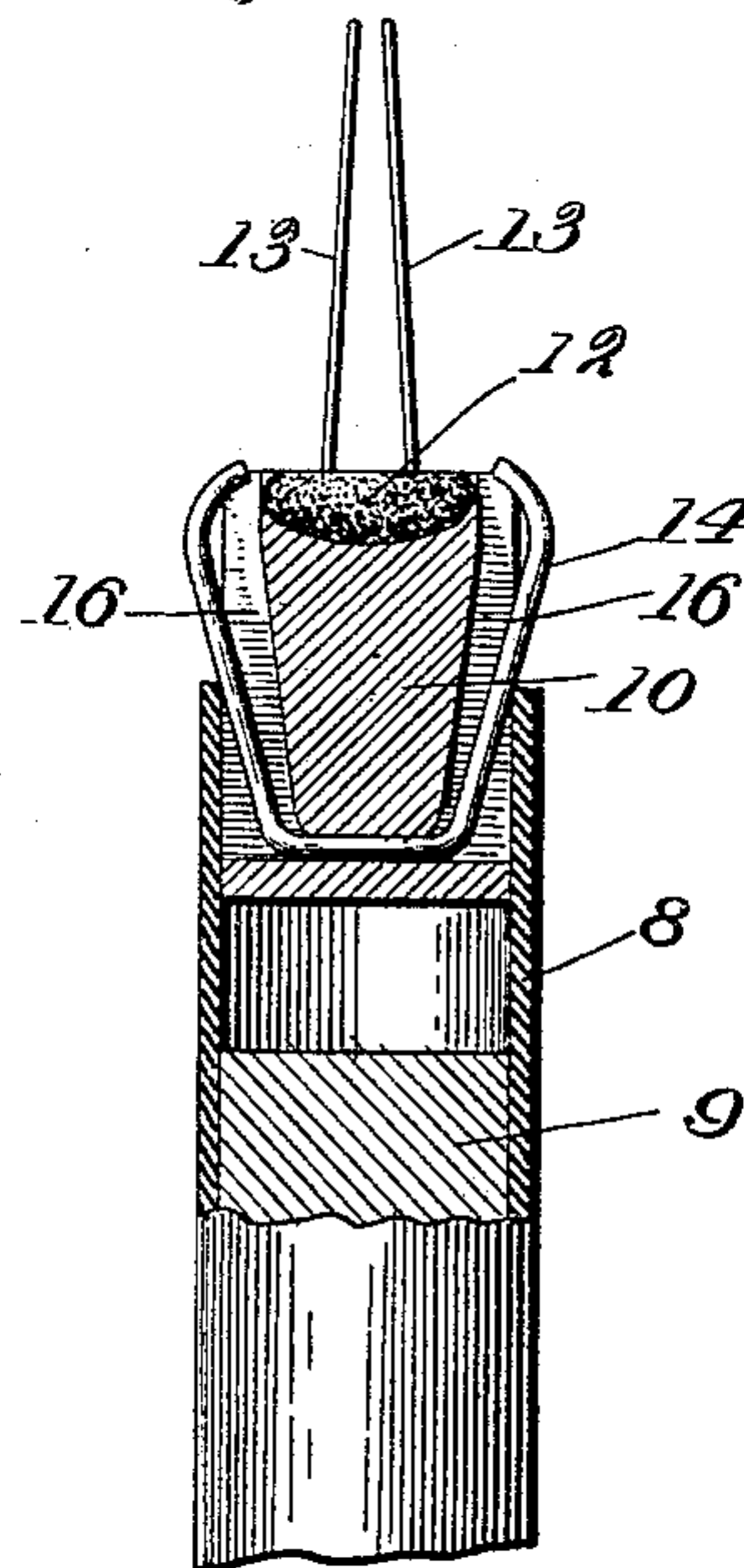


Fig. 4.

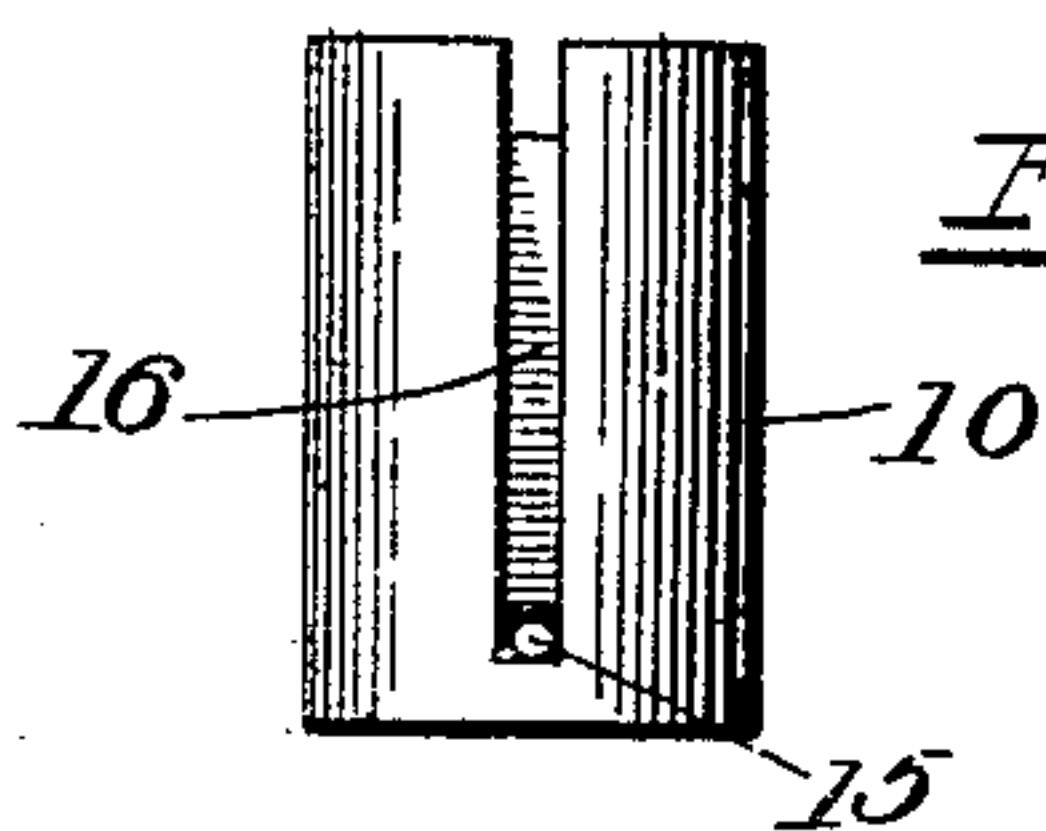


Fig. 6.

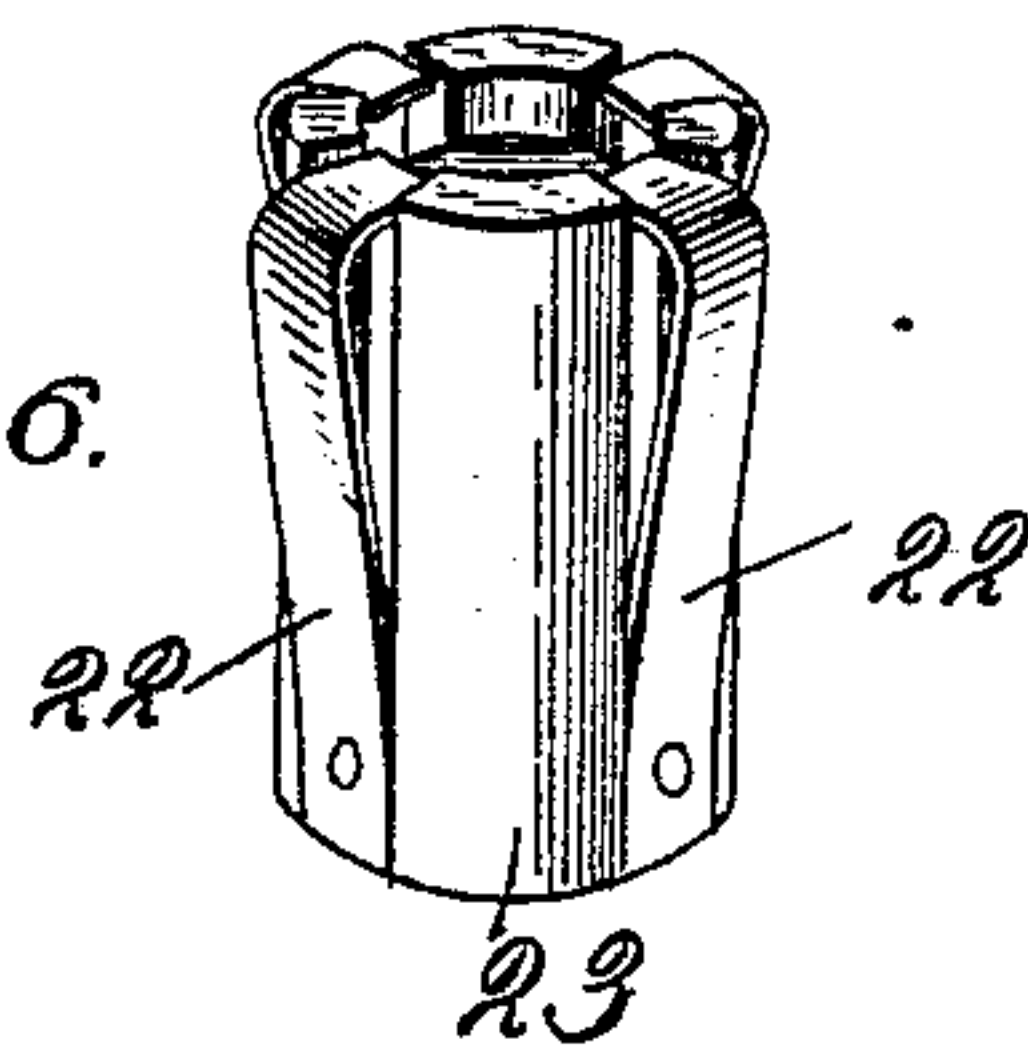
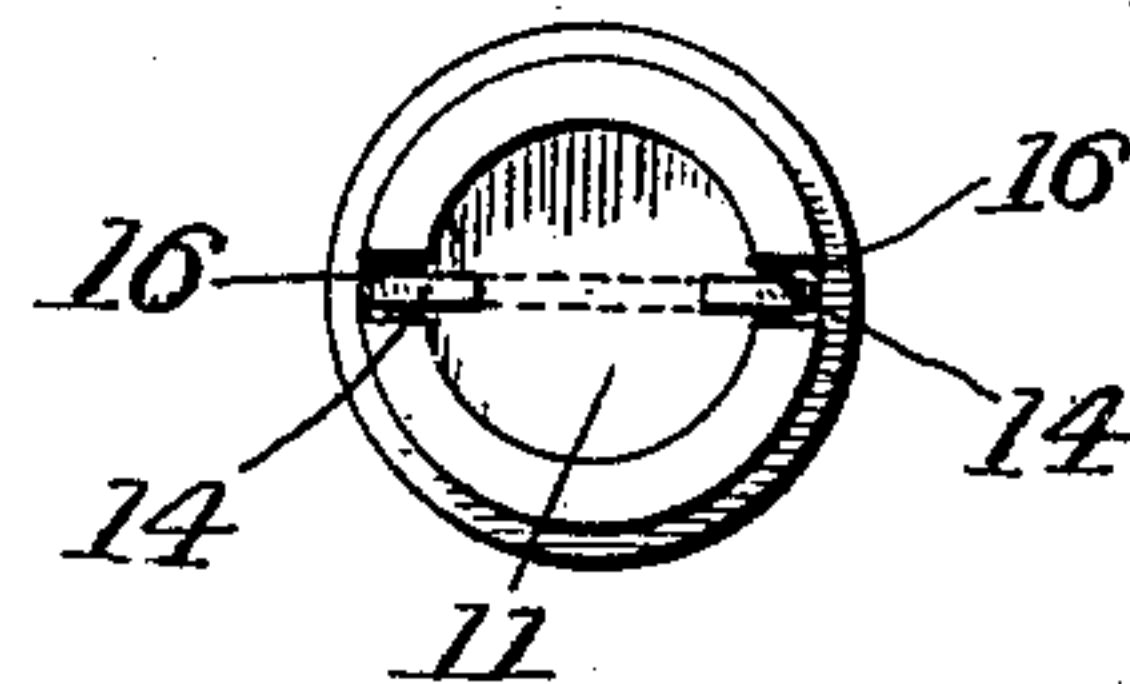


Fig. 5.



WITNESSES

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BUTTON-SUPPORT FOR TUFTING-MACHINES.

SPECIFICATION forming part of Letters Patent No. 677,559, dated July 2, 1901.

Application filed January 19, 1900. Serial No. 1,994. (No model.)

To all whom it may concern:

Be it known that I, JAMES H. CLOYES, 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-Supports for Tufting-Machines, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates to the art of manufacturing upholstered cushions and similar articles, and has particularly to do with the manufacture of such articles by the use of what are known as "tufting-machines," consisting of a board or plate provided with a number of pins or button-supports arranged on the board at points corresponding to the arrangement of the buttons in the finished product. Each of said pins is provided with a recess in its upper end adapted to receive the head of a tufting-button, the button being supported thereon head downward. The covering fabric, usually leather, is then placed on the pins, the shanks of the buttons projecting through it, the fabric being loosely arranged between the different pins, so as to provide the necessary fullness for making the tufts. After the fabric has been put in place tufting-pegs are placed over the pins to protect the buttons and hold the fabric in proper position for receiving the filling material, which is pressed down by means of a follower, and after the filling material has been pressed down sufficiently the follower and the tufting-pegs are removed and the bottom fabric is applied and secured in place by spreading the shanks of the buttons which are first passed through the bottom fabric.

Heretofore in machines of the character described the buttons have not been secured in the button-supporting pins; but the heads of the pins have simply rested in the recesses in the upper ends thereof, so that the shanks of the buttons frequently tipped over out of proper position for the application of the covering fabric, making it necessary for the operator to straighten them up before he could proceed with the application of the fabric, and this has constituted a very serious objection to the general use of tufting-machines, because, while it has been possible in small machines for the operator to right the small

number of buttons used, in large machines where a large number of buttons are necessary it has been found almost impossible for an operator to do satisfactory work.

My present invention has to do with the button-supporting devices above referred to, and has for its object to remedy the evil above pointed out.

To this end it consists, broadly, in providing the button-support with means for positively retaining the button-shank in a perpendicular position, so that the fabric can be properly applied thereto and providing for the automatic release of the button when the tufting operation is completed, and it also includes certain details of construction by which the above beneficial result is secured.

That which I regard as new will be set forth in the claims.

In the accompanying drawings I have illustrated two forms of my invention; but I do not limit myself to its embodiment only in the forms illustrated, as various modifications may be made.

Figure 1 is a vertical section illustrating a part of the tufting-machine board, a button-supporting pin, and a tufting-peg, showing also the button and the cover fabric in place. Fig. 2 is an enlarged detail, being a partial vertical section of the button-support and button, showing the parts in operative position. Fig. 3 is a similar view showing the arrangement of the button-support and button before and after the tufting operation. Fig. 4 is an elevation of a part of the button-support. Fig. 5 is a plan view of the button-support, and Fig. 6 is a perspective view showing a modification.

Referring to the drawings, 7 indicates the tufting-machine board.

8 indicates a tufting-pin which is secured in a perpendicular position in the board 7 and is cylindrical at its upper end, as shown in the drawings. The pin 8 is preferably formed by inseting a metal tube in the board 7 and securing it properly in place, a plug 9 being afterward fitted in the tube and terminating a short distance below the upper end thereof, as shown in Fig. 3. Instead of using a circular tube or cylinder, as illustrated, the pin 8 may be of other shape in cross-section.

10 indicates a block which is adapted to fit in the upper end of the pin 8 and move longitudinally therein. Said block is provided with a recess 11 in its upper end, of suitable shape to receive the head 12 of a tufting-button, as shown in Figs. 2 and 3, so that the shanks 13 of the button may be carried in a perpendicular position with reference to the board 7.

14 indicates a spring-clamp which is secured to the block 10 and is adapted to engage opposite edges of the button-head 12, as shown in Fig. 2. Said clamp 14 is made by bending a piece of elastic wire to substantially U shape and bending the ends slightly inward to the form illustrated in Fig. 3. The sides of the clamp 14 do not normally lie parallel with each other, but extend slightly outward, for a purpose which will be hereinafter explained. The clamp 14 is mounted in the block 10, its lower portion being fitted in a transverse passage or channel 15 in the block, its sides being fitted in slots 16 in said block, as shown in the drawings. The sides of the clamp 14 extend out, as above stated, far enough so that the upper end portions thereof normally project outward beyond the slots 16 and the inner surface of the pin 8, as shown in Fig. 3. The normal position of the clamp is shown in Fig. 3, and when the clamps are in such position they serve to hold the block 10 in its upper position by reason of their projecting beyond the inner edge of the pin 8. At this time the inwardly-bent ends of the clamp 14 do not project over the recess 11. When, however, the block 10 is moved down in the pin 8, the upper edge of said pin engages the sides of the clamp 14 and forces the ends of said clamp inward to the position shown in Fig. 2, so that they then extend over the recess 11, as shown in Figs. 2 and 5.

By the construction described when the block 10 is in its upper position the head 12 of a button may be placed in the recess 11, and by then pressing down on the button and block 10 the ends of the clamp 14 may be brought over the head of the button, clamping it firmly in place and holding its shanks 13 in a perpendicular position, so that the button may be retained in proper position to receive the fabric as long as desired. When the operation of tufting has been completed, at which time the shanks 13 are spread and bent down upon the bottom of the article operated upon, by simply lifting the article the various blocks 10 will be drawn up out of the pins 8, thereby releasing the button-heads 12.

The position of the various parts, together with the arrangement of the tufting-peg and the cover fabric, is shown in Fig. 1, wherein 17 indicates the fabric, and 18 the tufting-peg, which is provided with elastic clamping devices 19, which press the fabric around the pin 8.

For the purpose of limiting the movement of the block 10 it is provided with a transverse pin 20, the ends of which move in slots

21 in the pin 8. The block 10 may be removed by simply removing the pin 20.

In Fig. 6 I have illustrated a modified form of clamping device, consisting of flat springs 22, secured at their lower ends to a block 23, generally similar to the block 10. The only difference between the block of Fig. 6 and the others illustrated is in the manner of securing the clamping devices to it and in the number of clamps used. Obviously any desired number of clamping devices may be employed.

My invention is not limited to the specific devices illustrated and described, except in so far as such devices are specifically claimed. It should be understood, therefore, that my invention includes other modifications than that illustrated.

That which I claim as my invention, and desire to secure by Letters Patent, is—

1. A button-support for tufting-machines having means normally out of position and movable into position to engage the button to hold the shank thereof in a perpendicular position and acting to release the button by a pull on the shank thereof and means for actuating said engaging means, substantially as described.

2. A button-support for tufting-machines having retaining means for holding the shank of a button in a perpendicular position, said retaining means being adjustable to move into and out of position to engage the button, means for operating said retaining means, and a tufting-peg arranged in suitable relation to said means, substantially as described.

3. A button-support for tufting-machines having elastic retaining means normally out of position and movable into position to engage the button to hold the shank thereof in a perpendicular position and acting to release the button by a pull on the shank, substantially as described.

4. A button-support for tufting-machines, having an endwise-movable member, a recess adapted to receive the head of a button, a clamp for securing it therein, and means for operating said clamp by endwise movement of said movable member.

5. A button-support for tufting-machines, having an endwise-movable member, a recess adapted to receive the head of a button, an elastic clamp for securing it therein, and means for operating said clamp by endwise movement of said movable member.

6. A button-support for tufting-machines, consisting of an external sleeve, a reciprocating block therein adapted to support the button, and a 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, substantially as described.

7. A button-support for tufting-machines, consisting of an external sleeve, a reciprocating block fitted therein, and a clamping device operated by the inward movement of

said block to clamp the head of a button to said block, said block being adapted to release said button-head when moved outwardly, substantially as described.

5 8. 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, and laterally-movable clamps
10 operated by the movement of said block in said sleeve for clamping and releasing the button-head, substantially as described.

9. The combination of an external sleeve, a block adapted to slide therein, said block
15 being adapted to support a button at its upper end, and clamps carried by said block, said clamps being arranged normally to project outward beyond the inner edge of said sleeve and to be moved inward by the inward
20 movement of said block to engage said button, substantially as described.

10. The combination of an external sleeve, a block adapted to slide therein, said block being adapted to support a button at its up-
25 per end, clamps carried by said block, said clamps 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, and means for limiting the movement of said
30 block, substantially as described.

11. The combination of a sleeve, a block 10 having vertical slots 16 and a transverse passage 15, and a clamp 14 consisting of a wire bent to substantially U shape, the lower
35 portion of said wire being fitted in said passage 15, the side portions of said wire being fitted in said slots 16 and normally projecting outward, the upper ends of said wire being bent inward, substantially as described. 40

12. The combination of a tufting-board, one or more perpendicular tufting-pins secured thereto, each of said pins carrying a button-supporting block and a button-holding clamp, said blocks being movable longitudinally of said pins and being adapted by
45 such longitudinal movement to operate said clamps to engage or release a button, substantially as described.

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Witnesses:

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