W. E. BUSER.

BUTTON SUPPORT FOR TUFTING MACHINES.

APPLICATION FILED MAR. 18, 1909.

960,074.

Patented May 31, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

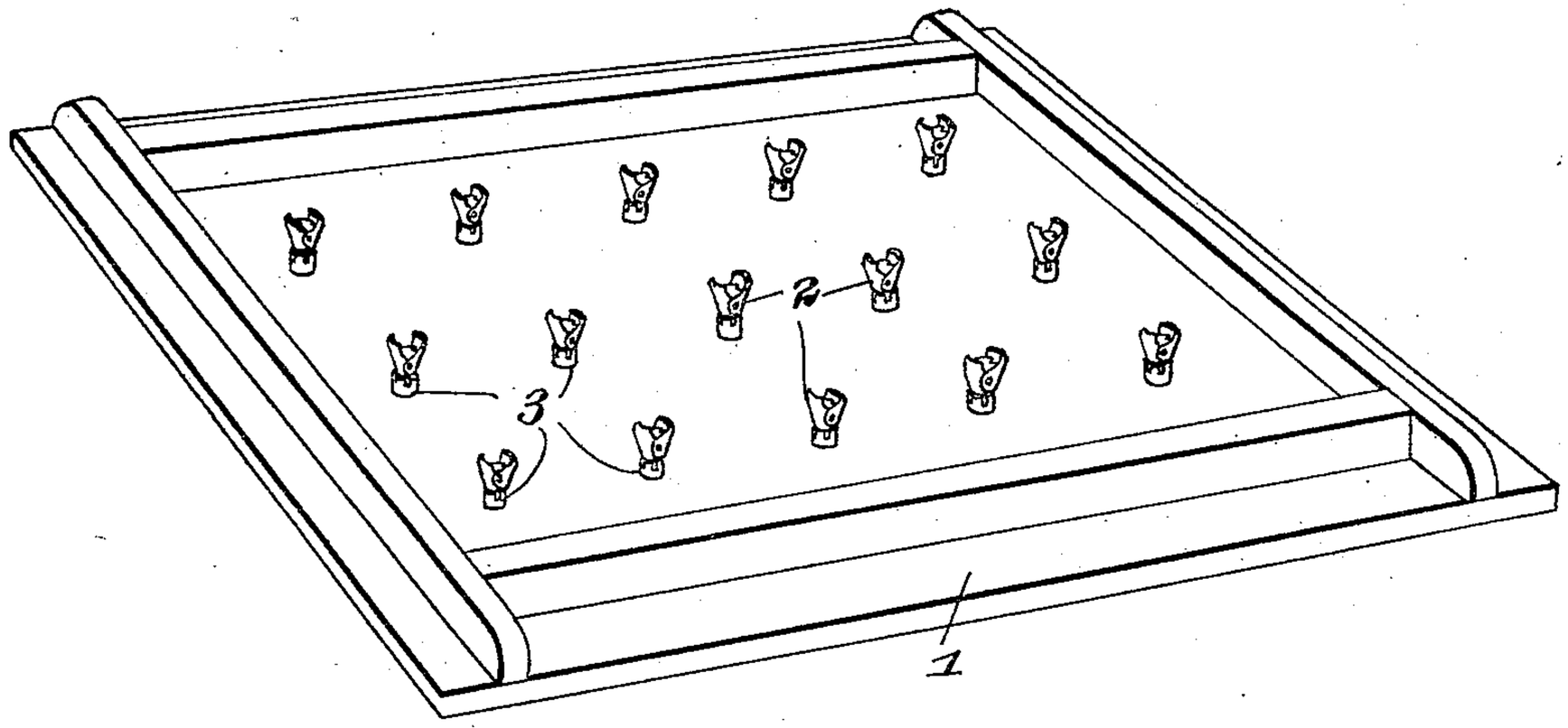


Fig. 2.

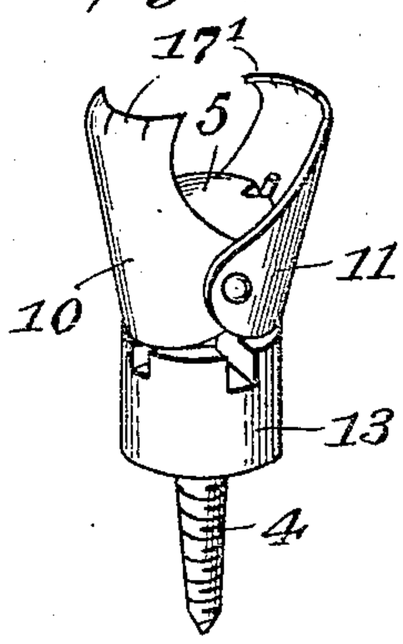


Fig. 3.

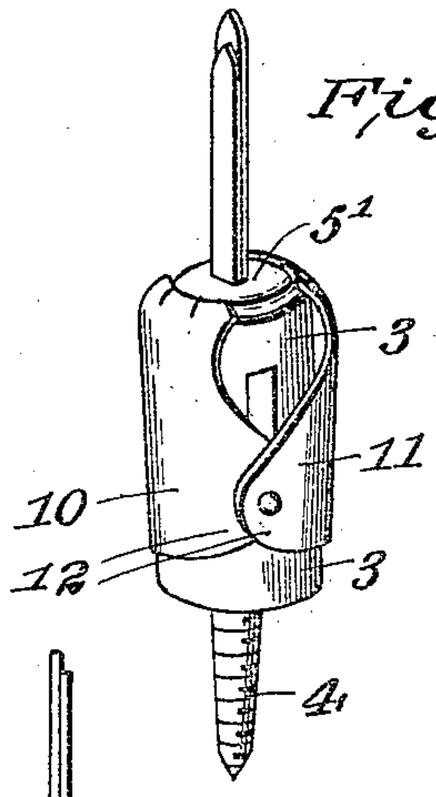


Fig. 4.

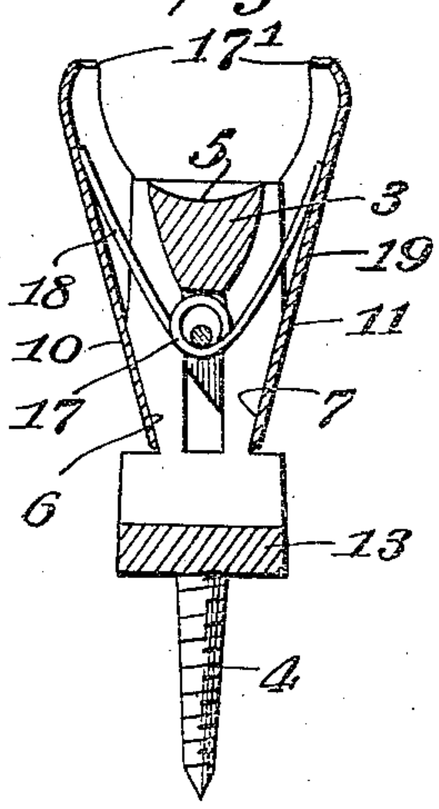
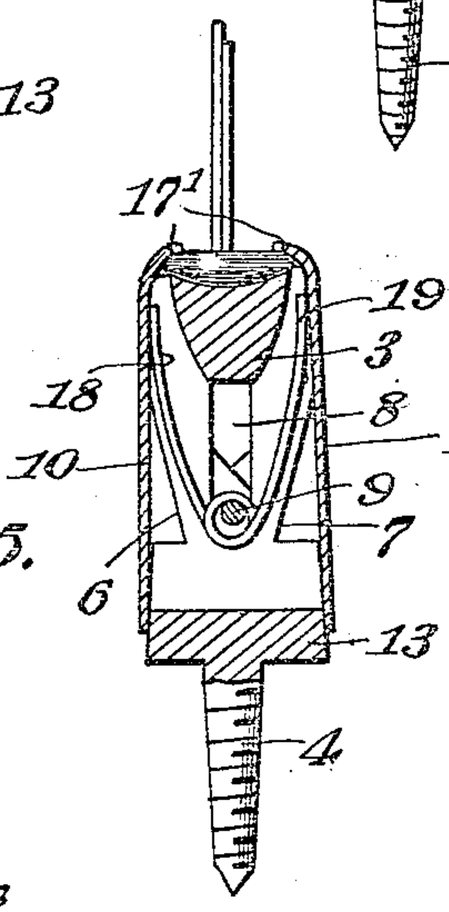


Fig. 5.



Witnesses

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2 SHEETS—SHEET 2.

Fig. 6.

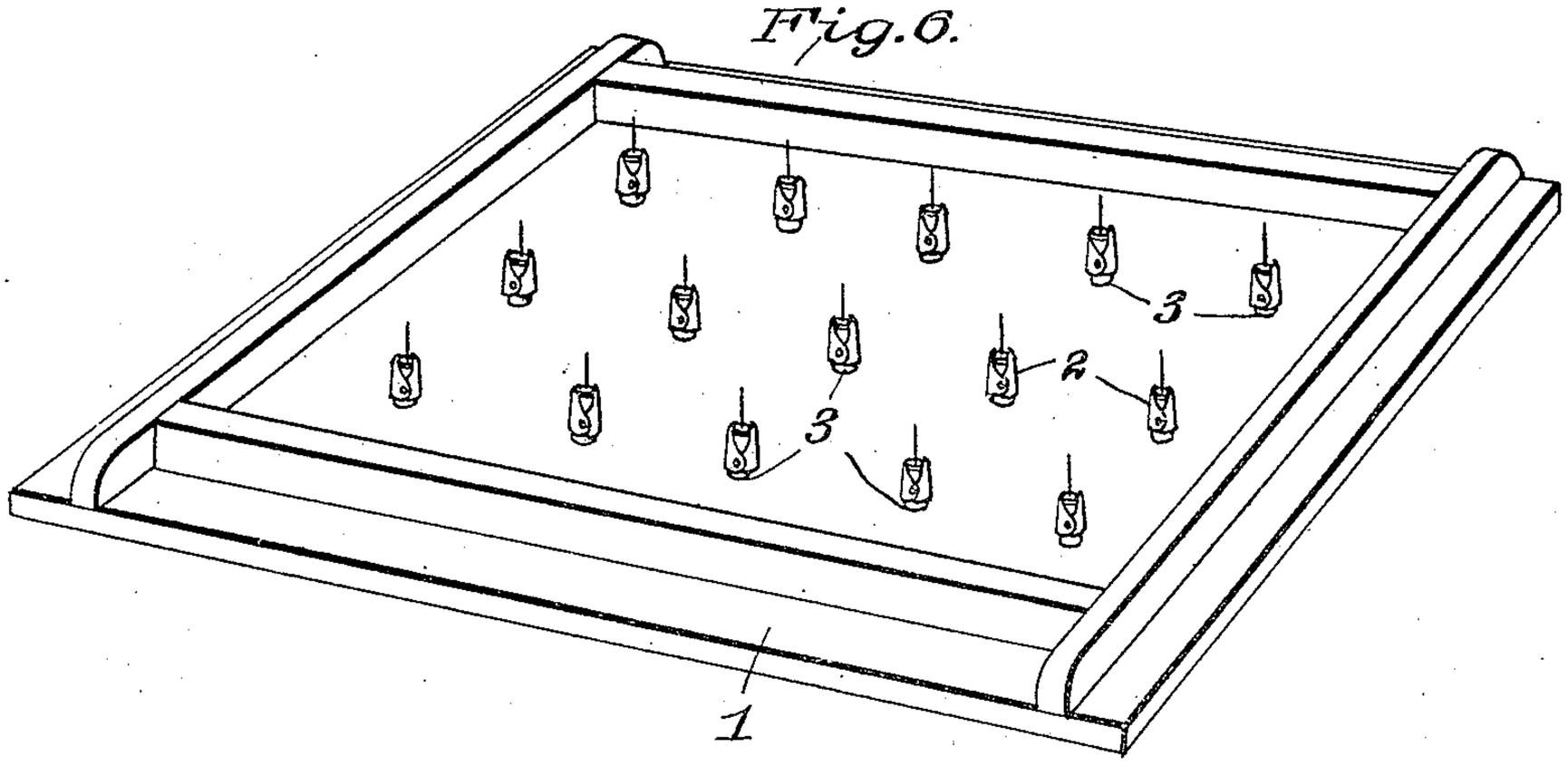

Fig. 7.

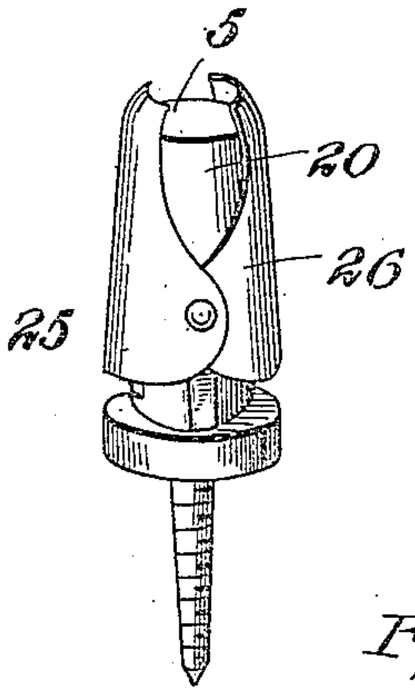

Fig. 8.

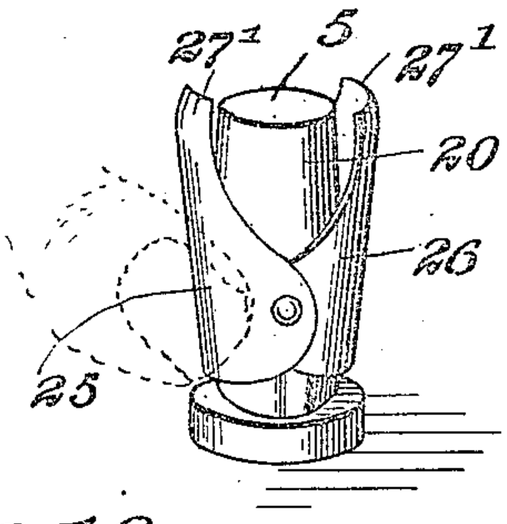

Fig. 9.

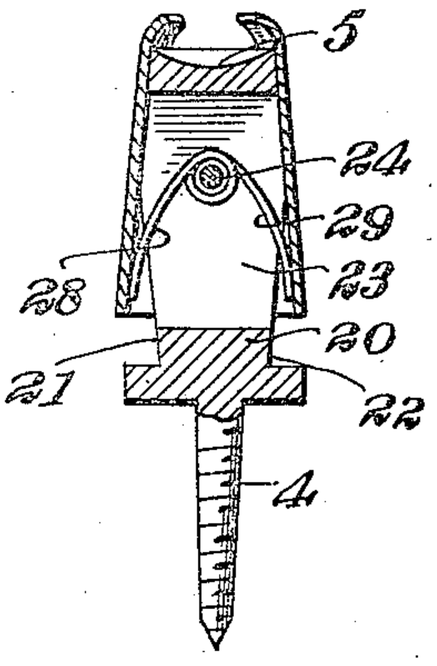

Fig. 10

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UNITED STATES PATENT OFFICE.

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BUTTON-SUPPORT FOR TUFTING-MACHINES.

960,074. Specification of Letters Patent. Patented May 31, 1910.

Application filed March 18, 1909. Serial No. 484,272.

To all whom it may concern:

Be it known that I, WILLIAM E. BUSER, a citizen of the United States, residing at Chillicothe, in the county of Ross and State of Ohio, have invented certain new and useful Improvements in Button-Supports for Tufting-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in button supports for tufting machines.

The object of my invention is to provide a button holder adapted to support and firmly hold buttons of different size, and also providing a holder in which the button can be readily inserted and removed.

Another object of my invention is to provide a button support in which the head of the button rests upon a solid stud, whereby the clamping or holding jaws are not subjected to any strain.

Another object of my invention is to provide a more simple, cheap and effective button holder of this character.

In the accompanying drawings, Figure 1, is a perspective view of an improved tufting board showing my improved button holders thereon and showing all of them open ready to receive the buttons. Fig. 2, is an enlarged, perspective view of one of the button holders, showing the same open ready to receive a button. Fig. 3, is a perspective view of the button holder showing a button held therein. Fig. 4, is a vertical, sectional view of Fig. 2. Fig. 5, is a vertical, sectional view of Fig. 3. Fig. 6, is a perspective view of a mold board showing the button holders clamping the buttons therein. Fig. 7, is an enlarged, perspective view of the modified form of button holder, showing the jaws closed. Fig. 8, is a perspective view of the modification, showing the jaws open. Fig. 9, is a vertical, sectional view of Fig. 7. Fig. 10, is a perspective view of the several parts of the holder separated, embodying the preferred form of holder.

Referring now to the drawings, 1 represents a mold board which is of the usual form, as this forms no part of my invention, and is shown for the purpose of illustrating the application of my improved button support. The button supports 2 are arranged upon the mold board according to the character and style of work.

It is the main object of my button holder to provide means whereby the buttons may be readily inserted and removed, and at the same time firmly hold the buttons of different size, all of which will be hereinafter described.

My improved button holder consists of a metal stud or base 3 having at its lower end the reduced screw-threaded portion 4 which is adapted to be screwed into the mold-board, and whereby the button supports may be readily secured in the mold board at any place, and the arrangement of the button support can be changed to suit the character and style of work. The stud 3, as shown, is of an elongated cylindrical form, having its upper end concaved, as indicated at 5, and in said concavity rests the head of the button 5′, and from which it will be seen that all of the pressure is on the stud, and not on the clamping arms, as is the case of button supports now in use. The stud 3, a short distance above the lower end is provided with the beveled cut-away portions 6 and 7 on opposite sides, which are adapted to allow the lower end of the pivoted clamping jaws to swing inwardly, as will be hereinafter more fully described. Extending through the stud is a slot 8, and passing through said slot is a pivot pin 9 upon which is mounted the two clamping jaws 10 and 11. These jaws, as shown, are provided with overlapping ears 12 through which the pin 9 passes, and by means of which the arms are opened and closed, as shown in Figs. 2, 3 and 4. The pivot 9 passing through the slot 8, it will be seen that the clamping jaws may be moved up and down upon the stud 3. The stud 3, as shown in Fig. 10, has its lower end 13 cylindrical, and when the jaws are moved downward with their lower ends surrounding the cylindrical portion, the upper ends of the arms are in their inward position, clamping the button as shown in Figs. 3 and 5. Moving the jaws upwardly brings the lower ends thereof opposite the cut-away portions 6 and 7, and allows the lower ends of the jaws to be swung inwardly into said cut-away portions, and the outer ends of the jaws opened so that the button may be inserted.

In order to provide means for automatically opening the jaws when the jaws are raised, I provide the stud with a transverse slot 14. The slot 14 extends at right angles to the slot 8. Communicating with the up-

per ends of the slot on opposite sides of the stud, are grooves 15 and 16 which extend up through the upper end of the stud.

Surrounding the pivot 9 of the clamping jaws within the transverse slot 14, is a spring 17 having the two outwardly-extending ends 18 and 19 which extend into the grooves 15 and 16, and bear outwardly against the clamping jaws, and force the same outwardly. This spring, as will be seen, at all times bears against the upper end of the clamping jaws, and thus when the arms are in their downward position, the lower ends of the jaw are caused to clamp the cylindrical portion 13 and whereby the jaws are held in their adjusted position. When it is desired to insert a button, the jaws are moved upwardly and the ends 18 and 19 of the spring 17 move upwardly with the jaws within the grooves 15 and 16, and when the lower end of the jaws comes opposite the cut-away portions 6 and 7, the upper end of the arms are forced outwardly, so that the button may be inserted. Each and all of the button supports are so adjusted as shown in Fig. 1, and the buttons can be readily inserted with one hand. The cloth stuffing and backing is then applied in the usual manner, and the buttons then clenched. During the clenching operation it will be seen that a downward pressure is exerted upon the button, but the head of the button resting in the concaved upper end of the stud, all the strain is taken off of the clamping jaws. After the clenching operation, to remove the tufted article, all that is necessary is to draw the same upwardly and the heads of the buttons will engage the inwardly turned ends 17′ of the clamping jaws and draw the same upwardly until the lower end of the arms come opposite the cut-away portions 6 and 7 of the studs, when the spring will force the upper ends of the arms outwardly and release the buttons. When a tufted article is removed, it will be seen that each and all of the holders are opened ready for the insertion of another set of buttons, and avoiding the reopening of the holders.

In the modification shown in Figs. 7, 8 and 9, the stud 20 is cut away on opposite sides, as indicated at 21 and 22, and the body portion is also provided with a transverse elongated slot 23. Extending through the body portion, and intersecting said slot, is a pivot 24 on the outer ends of which are mounted the clamping jaws 25 and 26 constructed the same as shown in Figs. 1 to 5 inclusive. Within the slot 23 and surrounding the pivot 24, is a coil spring 27 which has its ends 28 and 29 extending downwardly and out through the slot, and engaging the lower ends of the jaws 25 and 26, whereby the upper ends of the jaws are normally held inwardly. In inserting the buttons, the lower ends of the jaws are forced inwardly within the cut-away portions of the body portion and force the upper ends of the jaws apart. When it is desired to remove the tufted article from the modified holder, the article is pulled upwardly and the head of the button spreads the jaws, and all of the buttons are removed.

From the above description and operation, it will be seen that the stuffing operation causes a pressure to be exerted upon the upper end of the clamping jaws and more firmly clamps the jaws around the head of the button. By this arrangement it will be seen that the engagement of the springs of the button by the filling will not topple over and prevent the prongs of the button coming through the filling and backing off the cushion, but each and all of the buttons will be held in their vertical position and can be readily clenched.

Having thus described my invention, what I claim and desire to secure by Letters Patent, is—

1. A button support, comprising a fixed body-portion, and clamping jaws pivoted thereto on opposite sides and surrounding the same.

2. A button support, comprising a fixed body-portion, clamping jaws pivoted thereto on opposite sides and surrounding the body-portion and extending above the upper end of the body-portion.

3. A button support, comprising a fixed body-portion, and clamping jaws pivoted thereto on opposite sides and surrounding the body-portion and extending over the upper end of the body-portion, and means for holding said jaws in their inward position.

4. A button support, comprising a body portion, clamping jaws pivoted to the body portion and surrounding the same, and a spring normally holding the upper end of the jaws away from the body portion.

5. A button support, comprising a body portion, pivoted clamping jaws surrounding said body portion and having inwardly turned upper ends extending over the upper end of the body portion, and a spring normally holding the upper end of the jaws away from the body portion.

6. A button support, comprising a cylindrical body portion, clamping jaws pivotally carried by the body portion and surrounding the same, and means for normally holding the upper end of the jaws away from the body portion.

7. A button support, comprising a cylindrical body portion, clamping jaws pivotally carried by the body portion and vertically movable thereon, means for normally holding the upper ends of the jaws away from the body portion, and means whereby the upper end of the jaws may be moved inwardly substantially as described.

8. A button support, comprising a fixed cylindrical body portion pivoted and vertically movable clamping jaws carried by the outer face of the body portion and surrounding the same.

9. A button support, comprising a body portion, pivoted and vertically movable clamping jaws carried by the said body-portion, and a spring for normally holding the upper ends of the jaws outwardly.

10. A button support, comprising a cylindrical body portion having a concaved upper end, clamping jaws pivotally surrounding the body portion and having inwardly-turned upper ends, means for normally holding the jaws in an outward position, and means for locking the jaws with their inwardly-turned ends extending over the end of the body portion.

11. A button support, comprising a cylindrical body portion, clamping jaws pivotally and vertically movable upon said body portion, a spring for normally holding the jaws in an outward position when in their upper position, and means for locking the jaws in their inward position when in their lower position.

12. A button support, comprising a cylindrical body portion, clamping jaws pivotally and vertically movable upon said body portion, a spring for normally holding the jaws in an outward position when in their upward position, and the lower end of the jaws engaging the body portion and holding the upper ends of the jaws in an inward position when the jaws are in their downward position.

13. A button support, comprising a body portion having cut-away portions on their opposite sides, clamping jaws pivotally connected to the body portion, and their lower ends adapted to extend into said cut-away portion whereby the upper ends of the same may be opened, substantially as described.

14. A button support, comprising a cylindrical body portion having cut-away portions on opposite sides, said body portion having a slot extending therethrough, a pivot vertically movable in said slot, jaws mounted upon the outer ends of said pivot, a spring for normally holding the upper ends of the jaws apart when the lower ends are opposite the cut-away portion.

15. A button support, comprising a cylindrical body portion having cut-away portions on opposite sides, said body portion having intersecting transverse slots, a pivot extending through one of said slots, jaws pivoted upon the ends of the pivot on the outside of the body portion, a spring surrounding the pivot and extending out through the other slot in the body and engaging the upper end of the jaws, and normally holding the same outwardly.

16. A button support, comprising a cylindrical body portion having cut-away portions adjacent its lower end on opposite sides, said body portion having intersecting transverse slots, a pivot extending through one of said slots, jaws pivotally mounted upon the pivot on the outside of the body portion, a spring surrounding the pivot and extending outwardly through the other slot in the body and engaging the upper end of the jaws and normally holding the same outwardly when the jaws are in their upward position, and the lower end of the jaws engaging the body portion and holding the upper ends of the jaws inwardly when in its position.

17. A button support, comprising a cylindrical body portion having cut-away portions adjacent its lower end on opposite sides, said body portion having intersecting transverse elongated slots, a pivot extending through one of said slots, jaws pivotally mounted upon the pivot on the outside of the body portion and having inwardly-turned upper ends extending over the upper end of the body portion, a spring surrounding the pivot and having its ends extending through the slot and entering grooves in the body portion and engaging the upper ends of the jaws, whereby the jaws are forced outwardly when in their upward position, and the lower ends forced into said cut-away portion, and when said jaws are forced downwardly the lower ends engage the body and hold the upper end inwardly, substantially as described.

18. A button support, comprising a cylindrical body portion, a vertical slot therein, a pivot extending through said slot, jaws pivoted on said pivot on the outside of the body portion, a spring surrounding the pivot within the slot and having its ends engaging the upper ends of the jaws, and forcing the same outwardly, and said body portion cut away to allow the lower ends of the jaws to be forced inwardly.

19. A button support, comprising a body portion, and vertically movable pivoted clamping jaws surrounding the body portion and a spring for normally holding the upper end of the jaws in an outward position.

20. A button support, comprising a body portion, clamping jaws pivotally and vertically movable upon said body portion, means for normally holding the upper ends of the jaws in an outward position and means for locking the jaws in their inward position when in their lower position.

21. A button-support, comprising a body portion, clamping jaws pivotally and vertically movable upon said body portion, means for normally holding the jaws in an outward position when in their upward position, and the lower end of the jaws engaging the body portion and holding the upper ends of the

jaws in an inward position when the jaws are in their inward position.

22. A button support, comprising a body portion having cut-away portions on opposite sides, said body portion having a slot extending therethrough, a pivot vertically movable in said slot, and clamping jaws mounted upon the outer ends of said pivot.

23. A button support, comprising a body portion having cut-away portions on opposite sides, said body portion having a slot extending therethrough, a pivot vertically movable in said slot, clamping jaws mounted upon the outer ends of said pivot, and means for normally holding the upper ends of the jaws apart when the lower ends are opposite the cut-away portion.

24. A button support, comprising a fixed body-portion having a slot therein, jaws pivoted to said body-portion at right angles to the slot and surrounding the body-portion, and a spring within said slot and engaging the pivoted jaws.

25. A button support, comprising a fixed body-portion having a slot therein, a pivot extending through the body-portion and intersecting the slot, jaws mounted on said pivot on opposite sides of the body-portion and surrounding the same, and a spring mounted on the pivot within the slot and having its ends engaging said jaws.

26. A button support, comprising a fixed body-portion having a slot therein, a pivot extending through the body portion and intersecting the slot, jaws mounted on said pivot on opposite sides of the body-portion and surrounding the same, and having inwardly turned upper ends extending over the upper end of the body-portion, and a spring mounted on the pivot within the slot having its free ends engaging said jaws.

27. A button support, comprising a fixed body-portion, and vertically movable clamping jaws carried by the outer face of the body-portion and surrounding the same.

28. A button support, comprising a fixed body-portion, and vertically movable clamping jaws carried by the outer face of the body-portion and surrounding the same and having inwardly turned ends extending over the upper ends of the body-portion.

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

WILLIAM E. BUSER.

Witnesses:
J. M. HUGHEY,
E. A. TINKER.