No. 637,025. Patented Nov. 14, 1899.

C. F. PERCIVAL & E. E. LIDDELL.

BUTTON HOLDER FOR UPHOLSTERING APPARATUS.

(No Model.) (Application filed Sept. 14, 1899.)

Fig. 1.

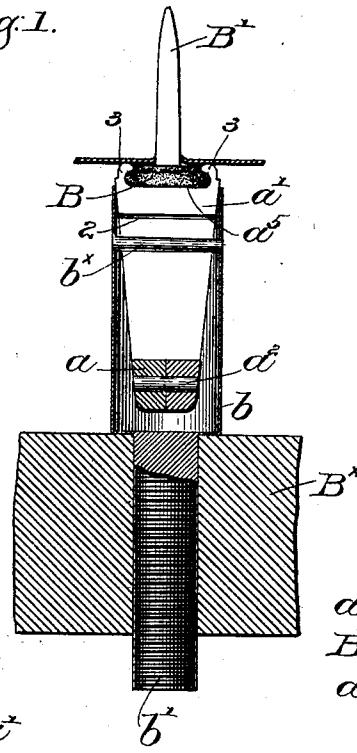


Fig. 2.

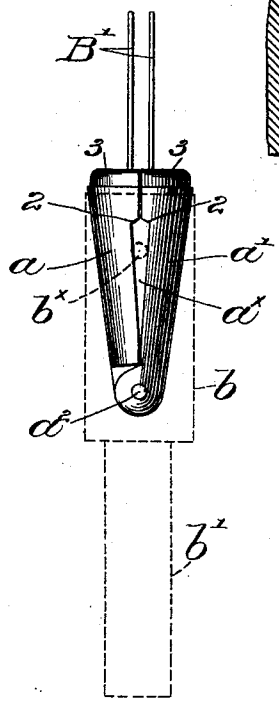


Fig. 3.

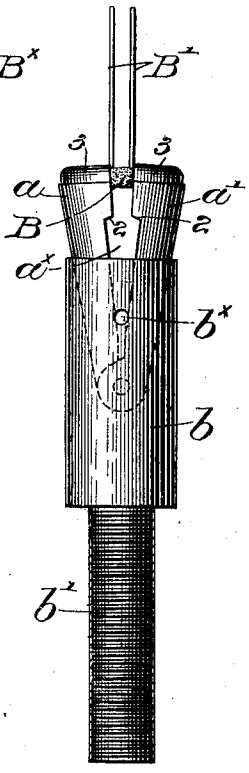
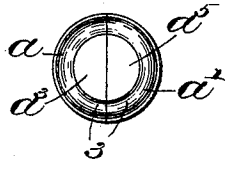


Fig. 4.



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UNITED STATES PATENT OFFICE.

CHARLES F. PERCIVAL AND EDGAR E. LIDDELL, OF BARTON, VERMONT, ASSIGNORS TO THE PERCIVAL FURNITURE COMPANY, OF SAME PLACE.

BUTTON-HOLDER FOR UPHOLSTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 637,025, dated November 14, 1899.

Application filed September 14, 1899. Serial No. 730,520. (No model.)

To all whom it may concern:

Be it known that we, CHARLES F. PERCIVAL and EDGAR E. LIDDELL, of Barton, county of Orleans, State of Vermont, have invented an Improvement in Button-Holders for Upholstering Apparatus, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

Upholstering-machines are provided with a series of devices for holding the buttons with their prong or prongs upturned while the material which is to be upholstered is forced down upon them, the prongs of the buttons entering the material and being bent over to hold the buttons in place. Considerable difficulty has been experienced with these machines owing to the fact that the buttons do not always remain upright, and sometimes they are moved out of position, so that the prongs do not enter the material properly. This causes damage to the material and delay in the work; and it is the object of our present invention to provide a button-holder which will always firmly grasp the button and maintain it in proper position for the prong or prongs to enter the material, means being provided for readily detaching the button after its prong or prongs have been set or bent over.

The various novel features of our invention will be hereinafter described, and particularly pointed out in the following claims.

Figure 1 is a vertical longitudinal section of a button-holder embodying one form of our invention shown as in operative position with a button in place, the prongs of the latter having passed through the material. Fig. 2 is a side elevation of the clamping member closed, the coöperating supporting member being indicated in dotted lines. Fig. 3 is a side elevation of the device, but with the clamping member opened to release the button; and Fig. 4 is an end view of the clamping member, showing the button-seat.

We have herein shown the clamping member as composed of two separable parts or jaws a a', pivotally connected at one end at a^2 by a suitable pin, said jaws being externally tapered from their outer ends toward the pivoted ends, presenting exteriorly a cone-shaped body when the jaws are closed, as shown in Figs. 1 and 2. Semicircular recesses, as a^3 a^5, are made in the outer ends of and transversely to the longitudinal axis of the jaws, having each a curved and overhanging flange 3, so that when the jaws are closed an annular button-seat will be formed, in which the head B of the button is held by the overhanging flange, as shown in Fig. 1, with the shanks or legs B′ upturned and projecting beyond the jaws, the top of the button-head resting on the bottom of the seat and being supported thereby. The opposed faces of the jaws are longitudinally recessed or cut away to form a cam-slot $a^\times$, (see Figs. 2 and 3,) which tapers from the shoulders 2 toward the inner ends of the jaws, for a purpose to be described.

A supporting member to sustain and coöperate with the clamping member is shown as a tubular head b, having a depending shank b' to enter in an upright position a suitable hole or socket in the bed-plate $B^\times$ of the upholstering apparatus, (see Fig. 1,) it being understood that the number of the button-holding devices to be used will correspond to the number of buttons to be applied to the material to be upholstered.

The internal diameter of the tubular portion b is slightly less than the external diameter of the jaws of the clamping member when closed, as shown in Fig. 1, so that longitudinal movement of said clamping member into the supporting member will tightly close and maintain closed the jaws a a', so that a button inserted before closure will be held, as shown in Fig. 1, with its fastening prongs or legs B′ upturned vertically.

Owing to the tapering of the clamping member it will seat itself in the supporting member in accurate position, and any downward pressure will only serve to more firmly seat it and clamp the button, so that the latter cannot twist nor can its prongs deviate from a substantially vertical line.

A pin $b^\times$ is mounted in the head b and extends transversely across it, passing through the cam-slot $a^\times$ between the jaws, the diameter of the pin being slightly less than the

widest part of the cam-slot, so that the jaws can come firmly together when clamped. (See Fig. 2.)

Referring to Fig. 1, the parts are in operative position, and a piece of the fabric to be upholstered is shown as having been penetrated by the button-prongs B'. After the prongs have been spread apart and flattened down to hold the buttons in place the fabric is lifted up, and the buttons, which are still clamped, act to raise the clamping members toward the upper ends of the holders. As the clamping members are so moved the pin $b^{\times}$ of each device engages the narrow end of the corresponding cam-slot $a^{\times}$ and acts as a separator to spread apart and open the jaws, as in Fig. 3, so that the button will be released. In addition to this unclamping action the separator serves to prevent the complete withdrawal of the clamping member from the supporting member.

When it is desired to insert a button in one of the holding devices, the operator lifts the clamping member with his fingers and inserts the button in the recess formed therefor and then releases the clamping member, which by its own weight will drop down into place, the action of the tubular portion of the support on the tapering jaws closing them automatically.

Our invention is not restricted to the precise construction and arrangement herein shown and described, as the same may be modified or rearranged without departing from the spirit and scope of the invention.

Having described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. In a device of the class described, a button-clamping member, having a separable, transversely-bottomed seat in its outer end, a coöperating supporting member, relative movement of said members in one direction clamping the button-head in the seat, and means to release the button upon relative movement of said members in the opposite direction, due to a pull upon the button.

2. In a device of the class described, a separable button-clamping member having a seat in its outer end for the button-head, a coöperating supporting member in which it is freely movable, relative movement of said member closing the clamping member, and independent means to open the latter member when said members are moved relatively in the opposite direction, and to also prevent separation of said members.

3. In a device of the class described, a separable, externally-tapered button-clamping member having a transverse seat in its outer end, a coöperating tubular supporting member in which the clamping member is longitudinally and freely movable, and means to open automatically the clamping member when it is drawn outwardly, to release the button.

4. In a device of the class described, a separable clamping member having a flat-bottomed, two-part recess in its outer end to receive and hold the button-head, a tubular supporting member in which the clamping member is movable longitudinally, and means to automatically open the clamping member when it is drawn outward, to release the button.

5. In a device of the class described, a clamping member comprising two externally smooth and tapered jaws pivotally connected at their inner ends, and having their outer ends cupped or recessed to receive and hold the button-head and support its top, a tubular supporting member into which the clamping member is freely movable, to close the jaws, by sliding contact with their tapered exterior, and means mounted on said supporting member to prevent removal of the clamping member and to also separate the jaws when they are moved outward, to release the button.

6. In a device of the class described, a two-part, separable clamp, the outer end of each part having a semicircular seat with an overhanging curved flange along its edge, to receive and hold the button-head, the top of the head resting on the bottom of the seat, a tubular support into which the clamp is freely movable to close it upon the button-head, and a pin extended between the parts of the clamp and mounted in the support, to open the clamp when it is drawn outward.

7. In a device of the class described, a clamp comprising externally-smooth and gradually-tapered jaws pivotally connected at their inner ends and each having a half-seat at its outer end, to receive and hold the button when the jaws are closed, the top of the button-head resting on the bottom of the seat, the inner faces of the jaws being recessed longitudinally to form a cam-slot, a tubular support for and in which the clamp is freely movable, inward movement of the latter closing the jaws by the action of the support upon their smooth tapered surface, and a transverse pin mounted in the support and extended through the cam-slot between the jaws, to open the latter when moved outward relatively to the support, and serving also as the sole connection between the clamp and the support.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

CHARLES F. PERCIVAL.
EDGAR E. LIDDELL.

Witnesses:
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