W. E. BUSER.

TUFTING MACHINE.

APPLICATION FILED SEPT. 28, 1908.

960,073.

Patented May 31, 1910.

2 SHEETS—SHEET 1.

Fig. 1.

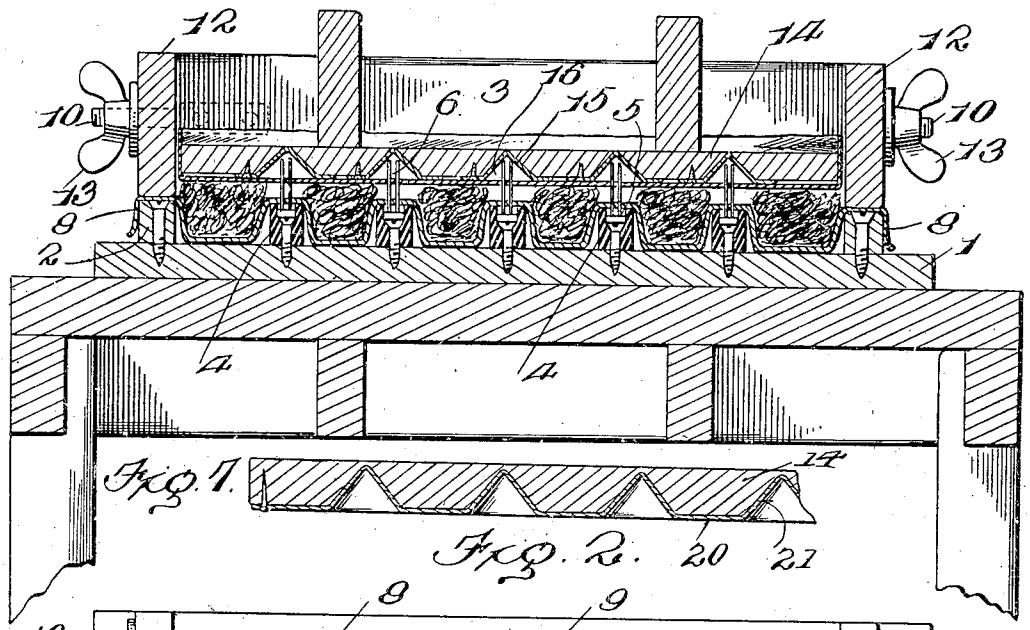
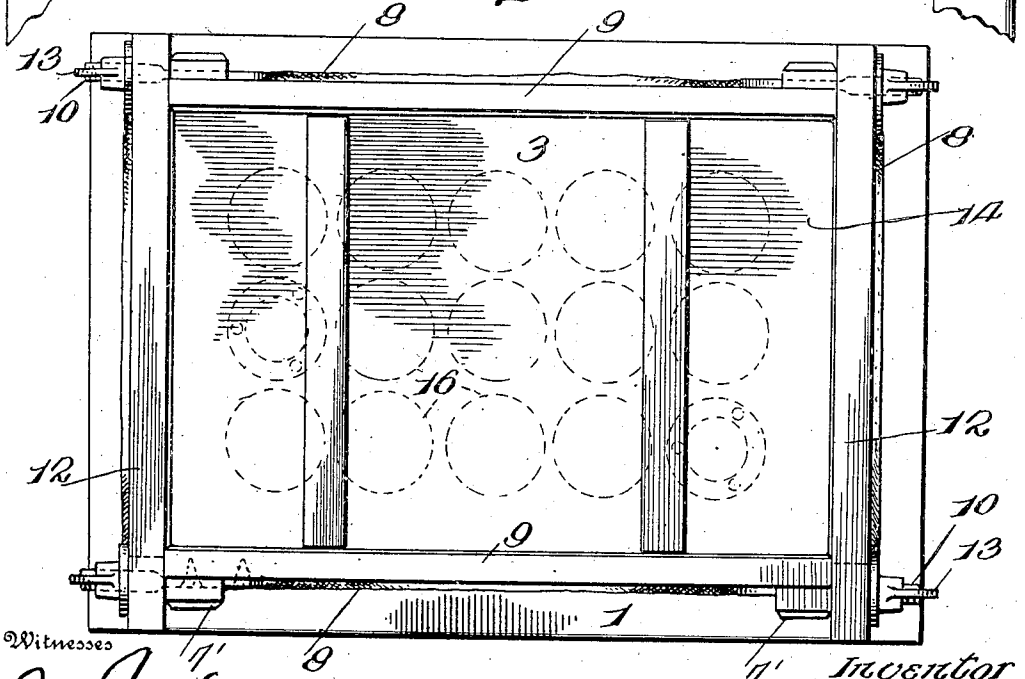


Fig. 1.

Fig. 2.



Witnesses

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2 SHEETS—SHEET 2.

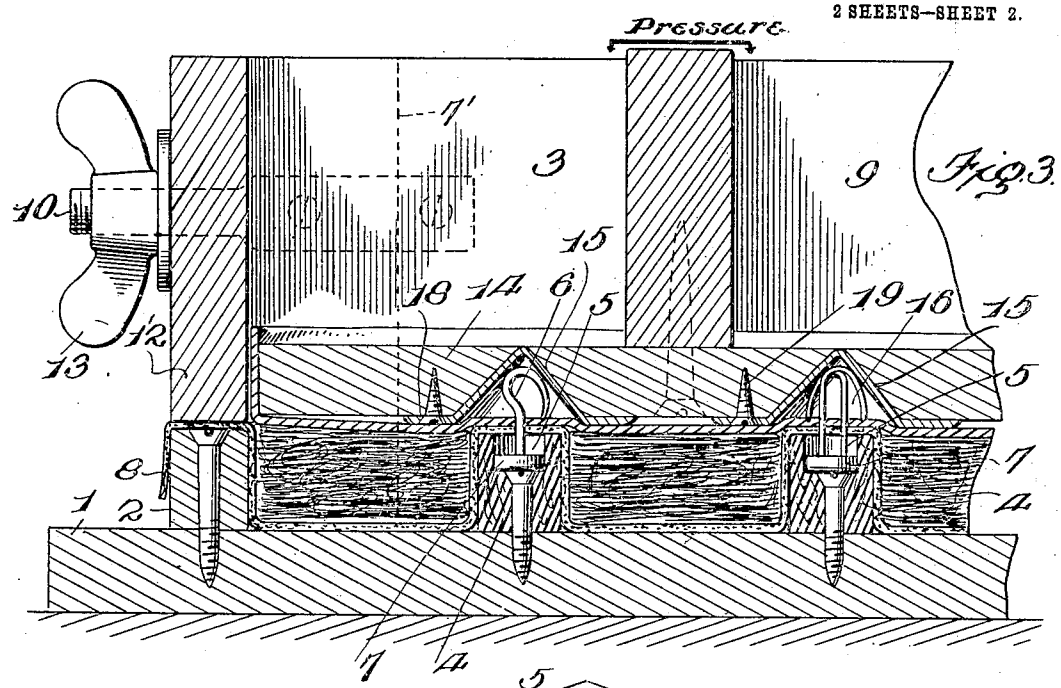

Fig. 3.

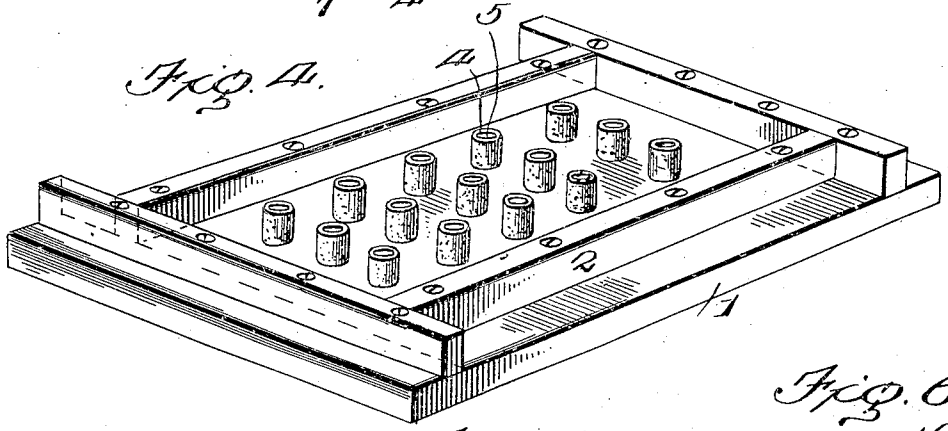

Fig. 4.

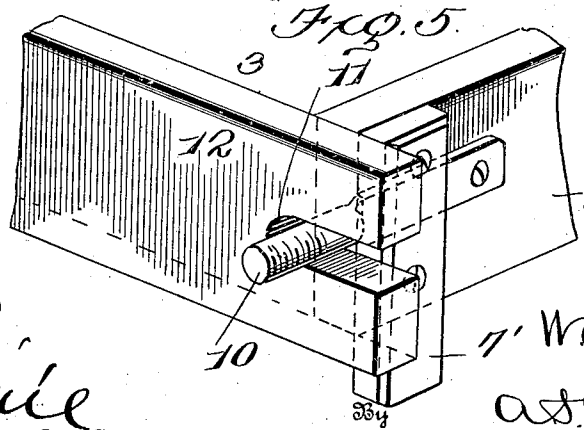

Fig. 5.

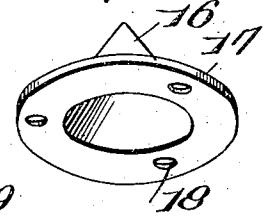

Fig. 6.

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UNITED STATES PATENT OFFICE.

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TUFTING-MACHINE.

960,073. Specification of Letters Patent. Patented May 31, 1910.

Application filed September 28, 1908. Serial No. 454,969.

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 Tufting-Machines, of which the following is a specification, reference being had therein to the accompanying drawing.

My invention relates to improvements in tufting machines, and pertains more particularly to means for clenching the buttons.

The object of my invention is to provide a machine of this character in which the buttons are all simultaneously clenched automatically, and thus saving time and expense in the tufting art.

Another object of my invention is to provide a more simple, cheap and effective clenching means in which the buttons are automatically clenched.

In the accompanying drawings, Figure 1, is a vertical, sectional view of a tufting machine showing my improved follower-board in the act of clenching the several buttons. Fig. 2, is a top, plan view of Fig. 1. Fig. 3, is an enlarged, vertical, sectional view, partly broken away, of the machine, showing the follower-board in the extreme downward position and showing the clenched buttons. Fig. 4, is a perspective view of the bottom mold-board. Fig. 5, is an enlarged, perspective view of a portion of the removable part of the mold-board showing the adjustable connection. Fig. 6, is an enlarged, perspective view of one of the cone-shaped members for bending the prongs of the buttons. Fig. 7, is a vertical sectional view of a modified form of the follower-board.

Referring now to the drawings, 1 represents the mold board which may be of any desired shape or size, according to the character of the article to be tufted, and is provided with the strips 2 by means of which the removable frame is held in its proper position thereon, all of which will be hereinafter more fully described. Mounted upon the mold-board within the strips 2 are the button-holders 4 which are arranged in any form, and of any number, according to the character of work to be done. The button-holders are preferably made of rubber or any other material having the opening 5 in which the heads of the buttons extend and whereby the button is supported with the prongs extending upwardly, all of which is fully understood and fully shown and described in my prior patent.

In operation the buttons 6 are inserted with the heads 7 in the opening, and the prongs extending upwardly. The cloth is then placed over the buttons and the prongs thereof forced through the cloth, and the cloth forced into the space between the button holders to form the pockets.

The cloth extends out beyond the strips 2 and rests upon the upper edge thereof. The frame 3 is then placed upon the strips 2 and firmly clamps the cloth and holds it in its adjusted position. The frame is provided with the downwardly-extending cleats 7′ which extend on the outside of the strips 2 and also the cloth 8 and firmly holds the same. The side pieces 9 of the frame 3 are provided with screw-bolts 10 which extend through slots 11 in the ends 12, and the thumb-nut 13 clamps the frame together so as to allow it to be adjusted for allowing for the different thicknesses of the cloth used, as leather is often used and the cleats 7′ would not go down over the strips 2. In tufting machines of this character, after the cloth is thus inserted, the frame is stuffed and the backing of gunny-sack or other material is placed therein, and the prongs of the button forced upward through the same. The pressure-board is usually then placed within the mold board and forced downwardly by any power compressing the stuffing and the board is provided with openings to allow the prongs to extend through the same, and the prongs are then clenched individually by hand.

In my improved machine, I dispense with the pressure board and employ my improved follower-board 14, which is made any size and shape to fit within the mold-board, but instead of having the openings like the pressure-board, I provide the lower face thereof with the cone-shaped recesses 15. These recesses are arranged to correspond with the button supports, and the recesses are provided with cone-shaped metal cups 16 provided with flanges 17 having openings 18 by means of which the same are rigidly secured within the recesses of the follower-board.

The follower board, as shown in Figs. 1 and 3, may be forced downwardly by any pressure which compresses the stuffing, and the prongs of the buttons pass upward within the metal cone members. The con-

tinued downward movement of the follower-board causes the prongs of the buttons to be turned over by their engagement with the cone members, and thus the buttons are clenched automatically, while the pressure of the follower board is applied. By this arrangement it will be seen that all the prongs of the buttons simultaneously are clenched while the article is under pressure, which more uniformly clenches the prongs of the buttons, and also saves time and labor over the old hand-clenching means.

In Fig. 7, instead of having the recesses provided with cone-shaped cups 16, the entire lower face is provided with a sheet metal plate 20 having the cone-shaped pockets 21 pressed therein, the operation being the same as heretofore set forth.

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

1. A tufting machine comprising a mold-board, supported button supports, and a follower-board having cone-shaped clenching pockets at its lower face.

2. A tufting machine comprising a mold-board, button supports carried thereby, a follower-board having cone-shaped clenching pockets in its lower face, and said pockets having a metallic covering.

3. A tufting machine comprising a mold board, button supports rigidly carried thereby, a follower-board vertically movable in the mold board, and having cone-shaped pockets in its lower face, and a metal covering for the lower face of the follower-board and having cone-shaped pockets fitting in and lining the pockets in the follower-board, and arranged to correspond with the button supports.

4. A tufting machine comprising a mold-board, button supports rigidly carried thereby, a follower vertically movable in the mold-board and composed of a flat wooden member of a size to fit within the mold-board and having cone-shaped pockets in its lower face and the upper end of said pockets extending through the follower-board to the upper face thereof, and a metal covering for the lower face of the follower-board and having cone-shaped pockets of a size to snugly fit in the pockets in the board and arranged to correspond with the button supports of the mold-board, and screws holding the metal covering on the mold clenching board.

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

WILLIAM E. BUSER.

Witnesses:

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