

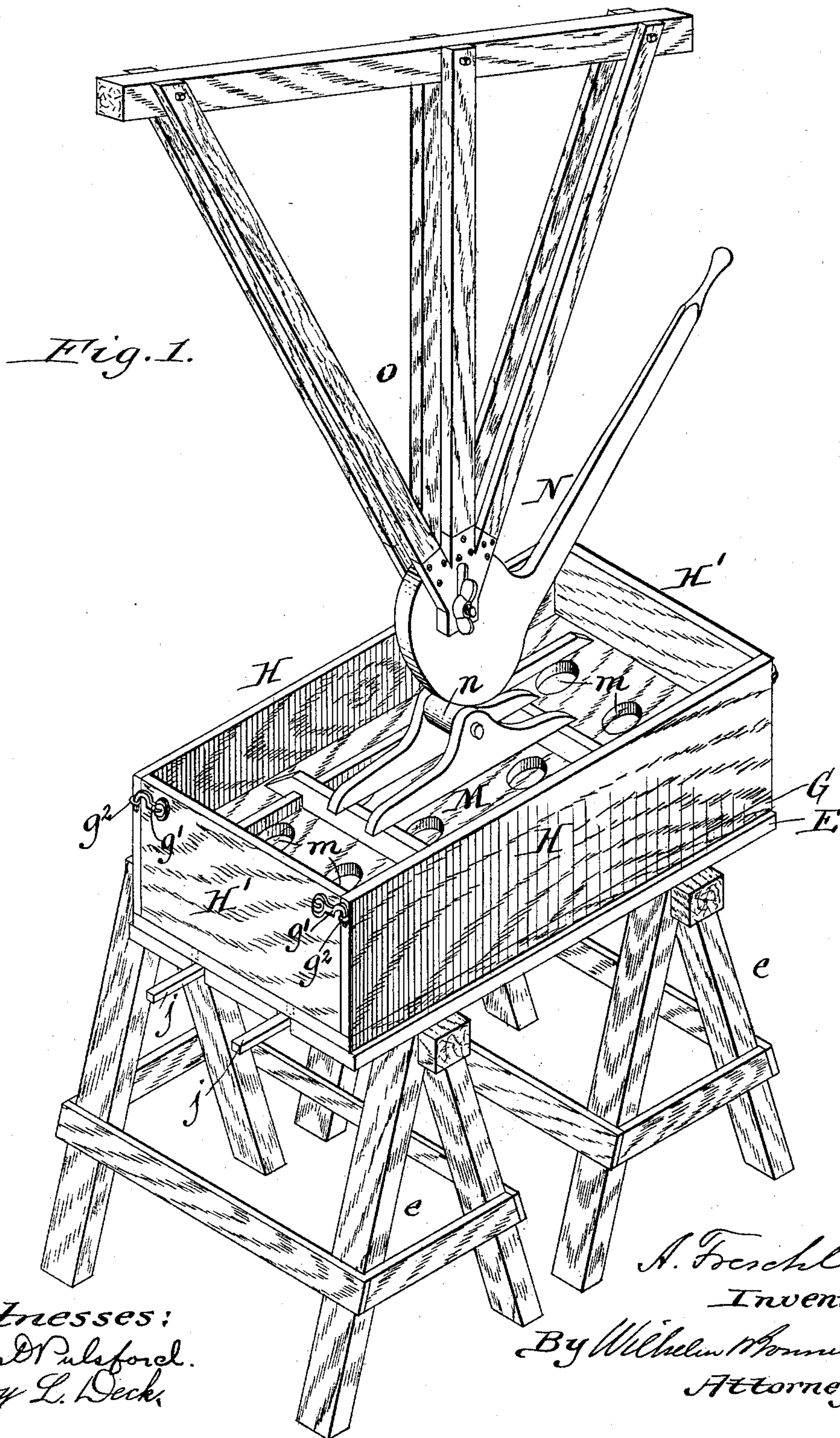
(No Model.)

2 Sheets—Sheet 1.


A. FRESCHL.
UPHOLSTERING APPARATUS.

No. 592,508.

Patented Oct. 26, 1897.



Witnesses:
Emmet Puleford.
Henry L. Deck.



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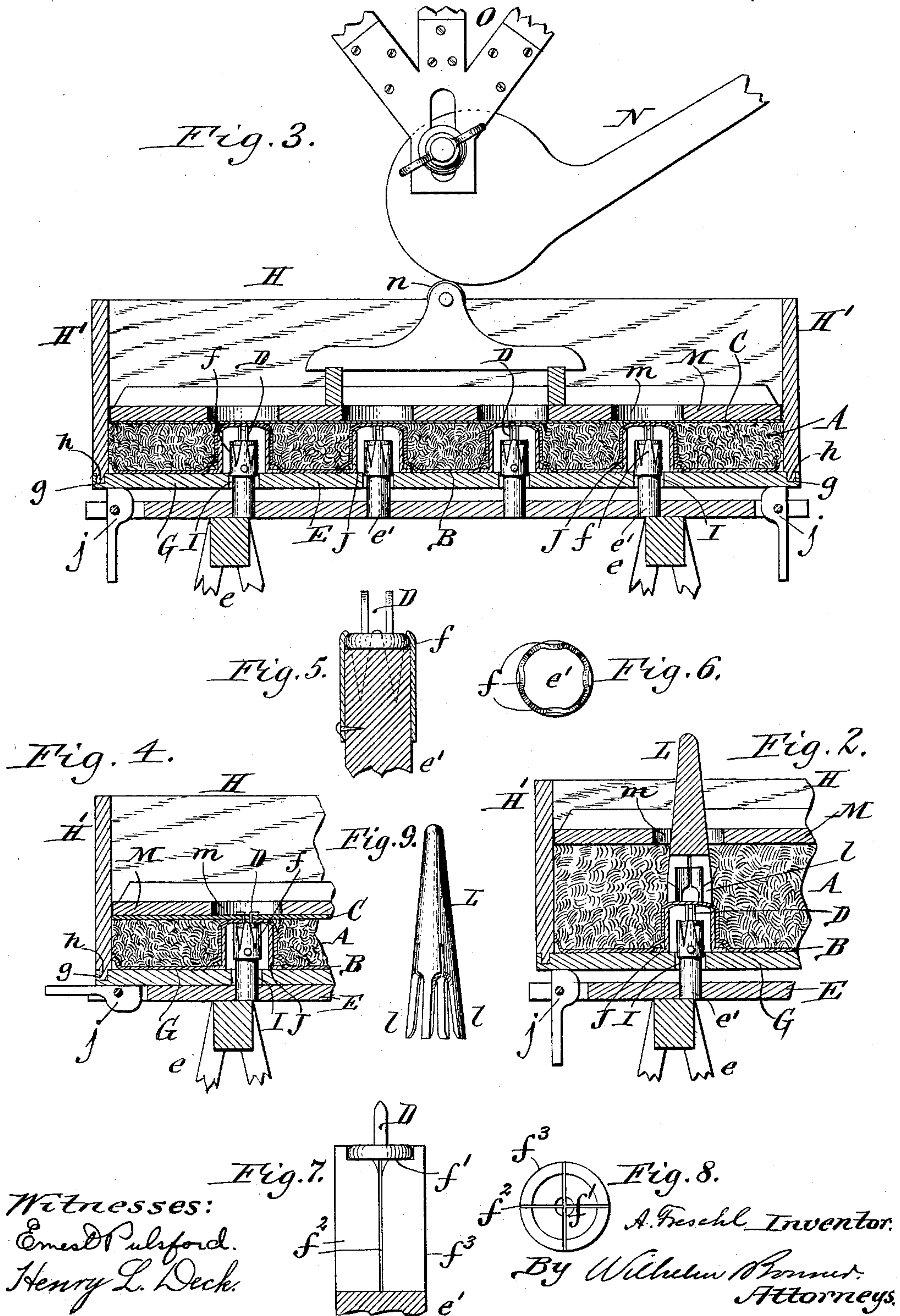
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UNITED STATES PATENT OFFICE.

ALFRED FRESCHL, OF MILWAUKEE, WISCONSIN.

UPHOLSTERING APPARATUS.

SPECIFICATION forming part of Letters Patent No. 592,508, dated October 26, 1897.

Application filed August 10, 1896. Serial No. 602,321. (No model.)

To all whom it may concern:

Be it known that I, ALFRED FRESCHL, a citizen of the United States, residing at Milwaukee, in the county of Milwaukee and State of Wisconsin, have invented a new and useful Improvement in Upholstering Apparatus, of which the following is a specification.

This invention relates to an apparatus or machine which is designed for doing plaited upholstered work—such, for instance, as cushions, seats, and padded backs for carriages, sofas, and the like—and has the object to produce a machine for this purpose which is simple and durable in construction and which enables the work to be done uniformly and expeditiously.

In the accompanying drawings, consisting of two sheets, Figure 1 is a perspective view of my improved upholstering-machine. Fig. 2 is a fragmentary longitudinal section of the machine, showing the position of the parts during the operation of tucking the covering and effecting the preliminary packing of the filling. Fig. 3 is a longitudinal section showing the position of the parts after the backing has been applied to the filling and preparatory to fastening the same to the covering. Fig. 4 is a fragmentary longitudinal section showing the position of the parts when the cushion is finished. Fig. 5 is a vertical section, on an enlarged scale, of the upper portion of one of the nail-holding pins, showing the means for holding the nails thereon. Fig. 6 is a top plan view thereof. Fig. 7 is a vertical section, on an enlarged scale, showing a modification of the means for holding the nails on the pins. Fig. 8 is a top plan view thereof. Fig. 9 is a perspective view of one of the tucking fingers or pegs.

Like letters of reference refer to like parts in the several figures.

The cushion, back, or seat which is produced by my improved upholstering-machine consists of a filling A of hair, moss, excelsior, or similar material, a covering B of cloth, leather, or the like, and a bottom or backing C of burlap, cardboard, or other suitable material. The covering is tufted, and the back and covering are secured together by clench-nails D, which pass through those portions of the covering and back which

lie at the bottom of the tufted portions. The edges of the cushion may be finished off in any desired manner according to the use for which it is intended.

E represents a pin-board which is supported on wooden horses e, or by other means, and which is provided with a number of upwardly-projecting pins e', corresponding with the number and location of the tufts in the cushion. The clench-nails are supported upon the ends of these pins, and for the purpose of securely holding the nails the upper end of each supporting-pin is provided with a clamping device, which may be constructed as follows:

f represents a number of upwardly-projecting spring-jaws which are formed on a metallic collar secured to the upper end of the supporting-pin and bent inwardly at their upper ends above the pin, as represented in Figs. 5 and 6. The clench-nail is placed head down upon the upper end of the supporting-pin, between the spring-jaws, with its leg or legs projecting upwardly. The head of the nail can be readily placed in this position, as the spring-jaws yield sufficiently to permit the head to pass below the bent ends thereof. Instead of making the clamping-jaws separate from the supporting-pin the same may be made integrally therewith, as shown in Figs. 7 and 8, in which construction the supporting-pin is provided at its upper end with a cavity f' for the reception of the head of the nail and one or more longitudinal slits f², extending downwardly from the upper end thereof, so as to form integral spring-arms f³, which are slightly spread apart upon placing the head in the seat and hold the nail in place.

G represents the former, which constitutes the bottom board of the box or case wherein the cushion is upholstered, and H H' are the vertical side and end walls or boards, respectively, of this box. The former is arranged above the pin-supporting board and is preferably detachably connected with the vertical boards by means of dowel-pins or tenons h, arranged at the lower ends of the vertical boards and fitting into recesses or mortises g in the marginal portions of the former. The front and side walls of the upholstering-box

are detachably connected by hooks g' , arranged on the end boards and engaging with eyes g^2 on the side boards, as shown in Fig. 1.

I represents a number of openings in the former through which the nail-supporting pins of the pin-board project.

J represents the upwardly-projecting tucking-tubes, of well-known construction, which are secured to the upper side of the former around the openings in the same.

The former, together with the parts resting thereon, is capable of being raised above the pin-board and is rigidly supported in its elevated position—for instance, by cams j , which are pivoted to the pin-board and engage with the under side of said former. When the former is in its elevated position, the tucking-tubes conceal the clench-nails on the pins. Upon releasing the cams said former is free to move down toward the pin-board, and such downward movement of the former and tucking-tubes exposes the clench-nails above the tubes.

The sheet of pliable material which is designed to form the covering of the cushion is placed face side down over the entire top of the former and is pressed down around each tucking-tube by means of a tucking-peg L, of well-known construction. Each of these pegs is preferably of upwardly-tapering form and provided at its lower end with a number of prongs l , corresponding with the corrugations of the tucking-tubes and which press the covering-sheet around the tubes in a well-known manner.

M represents a follower whereby the filling and the backing are successively pressed down against the covering. This follower is provided with openings m , which are in line with the tucking-tubes and through which the tucking-pegs project when in place and in which the fastening-nails are clenched.

Pressure may be applied to the follower by any suitable means, the mechanism for this purpose shown in the drawings being constructed as follows: N represents a cam-lever which engages with a roller n , journaled in bearings on the upper side of the follower, so that upon turning this lever in one or the other direction the follower is either pressed down or permitted to be raised. This cam-lever is pivoted at the lower end of a hanger O, which is suspended from an overhead structure—for instance, the ceiling of the room in which the machine is used.

The operation of my improved upholstering-machine is as follows: Preparatory to beginning the operation of upholstering a cushion the follower-board is removed, the vertical walls of the box are put in place, and the former is lowered upon the pin-board so that the pins are arranged about flush with the tucking-tubes. The clenching-nails are now inserted, heads down, between the jaws of the supporting-pins, the nails being inserted from the top while the pins are in the tucking-tubes. The former is now raised by the cams

on the pin-board, thereby withdrawing the legs of the nails into the tucking-tubes. The covering-sheet is next placed over the former and is tufted or tucked around the tubes of the former by means of the tufting-pegs, which securely hold the tucked covering in place. The filling is next placed on the covering and around the tufting-pegs, and the filling is somewhat compacted by means of the follower, which is pressed down by hand, as represented in Fig. 2. The follower is then removed, as well as the tufting-pegs, whereby open spaces are left in the filling above the tufting-tubes. The backing is next placed on top of the filling and the latter, together with the backing, is pressed down by the cam acting upon the follower until the filling has been compressed sufficiently to bring the backing against or close to those portions of the covering which extend over the upper ends of the tufting-tubes, as represented in Fig. 3. When this has taken place, the cams on the pin-board are turned so as to release the former, and upon continuing the downward pressure against the follower the latter, together with the former, side walls, and cushion, descend, which causes the fastening-nails to penetrate the covering and the back and project above the latter. While the parts are in this position the upper projecting ends of the nails are bent over or clenched against the outer side of the backing, as represented in Fig. 4, thereby securely fastening the covering and backing together. The side walls of the upholstering-box may now be removed to permit of tucking in any straggling particles of the filling, after which the cushion in its finished state can be easily removed by simply raising the follower. The covering may be perforated for the clench-nails before beginning the operation of forming the cushion in order to facilitate the passage of the nails through the covering and back. The sides of the cushion, back, or seat are finished in any suitable manner, which depends somewhat upon the use for which it is intended.

I claim as my invention—

1. In an upholstering apparatus, the combination with a former adapted to receive the material for forming a cushion and provided with tucking-tubes, of a pin-board provided with pins which enter said tucking-tubes and support the clench-nails within the same when said former is elevated and which have their upper ends provided with clamping-jaws between which the heads of the clench-nails are held, and means for forcing the cushion and former toward the pin-board, whereby the downward movement of the tucking-tubes with said former exposes the clench-nails clamped to the supporting-pins and the nails are driven into the cushion, substantially as set forth.

2. In an upholstering apparatus, the combination with a former adapted to receive the material for forming a cushion and provided with tucking-tubes, of a pin-board provided

with pins which enter said tucking-tubes and support the clench-nails within the same when said former is elevated and which have elastic nail-holding jaws secured to their upper ends, and means for forcing the cushion and former toward the pin-board, substantially as set forth.

3. In an upholstering apparatus, the combination with a former adapted to receive the upholstering material for forming a cushion and provided with tucking-tubes, of a pin-board provided with pins which enter said tucking-tubes and support the clench-buttons within the same when said former is elevated, rigid supporting devices whereby said former can be rigidly supported above said pin-board to resist the pressure while the upholstering material is being compressed and which can be released, and means whereby the cushion and former can be forced toward the pin-board when said supporting devices have been released, substantially as set forth.

4. In an upholstering apparatus, the combination with a former adapted to receive the upholstering material for forming a cushion and provided with tucking-tubes, of a pin-board provided with pins which enter said tucking-tubes and support the clench-buttons

within the same when said former is elevated, pivoted cams which are adapted to support said former rigidly above the pin-board and which can be released to allow said former and the cushion resting thereon to move toward the pin-board, and means whereby said cushion and former can be forced toward the pin-board, substantially as set forth.

5. In an upholstering apparatus, the combination with a former adapted to receive the material for forming a cushion and having tucking-tubes, of upright side and end boards movably attached to the sides and ends of said former, a pin-board provided with pins which enter said tucking-tubes and support the clench-nails within the same when said former is elevated, and means whereby said former with its side and end boards and the cushion confined by the same can be forced toward said pin-board, substantially as set forth.

Witness my hand this 3d day of August, 1896.

ALFRED FRESCHL.

Witnesses:

LOUISE FRESCHL,
EDWIN KATZENSTEIN.