

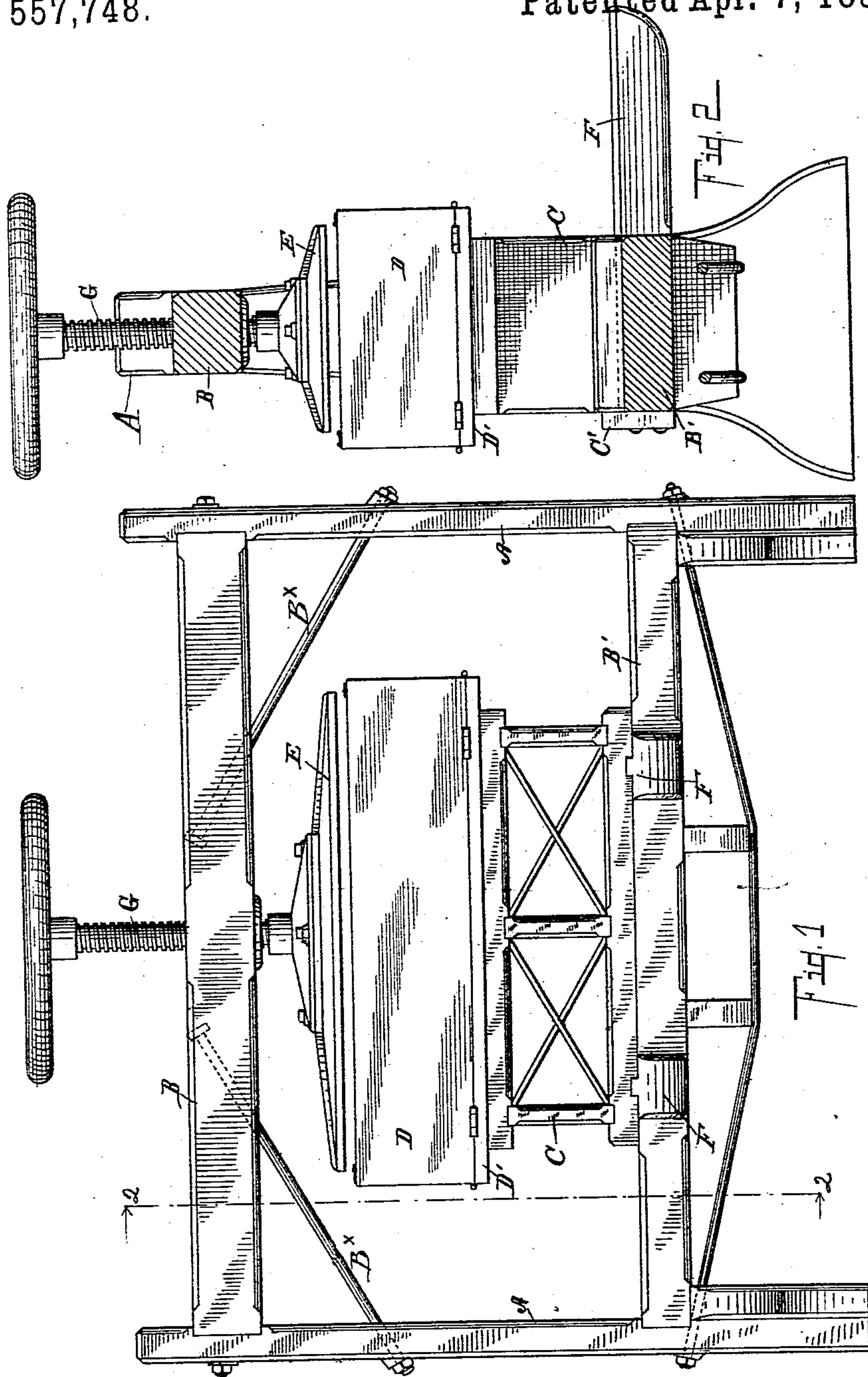
(No Model.)

3 Sheets—Sheet 1.

G. W. YOUNG & A. J. LOCHER.
UPHOLSTERING MACHINE.

No. 557,748.

Patented Apr. 7, 1896.



Witnesses:

Walter S. Stead
V. C. Chappell

Inventors.

George W. Young
Abel J. Locher

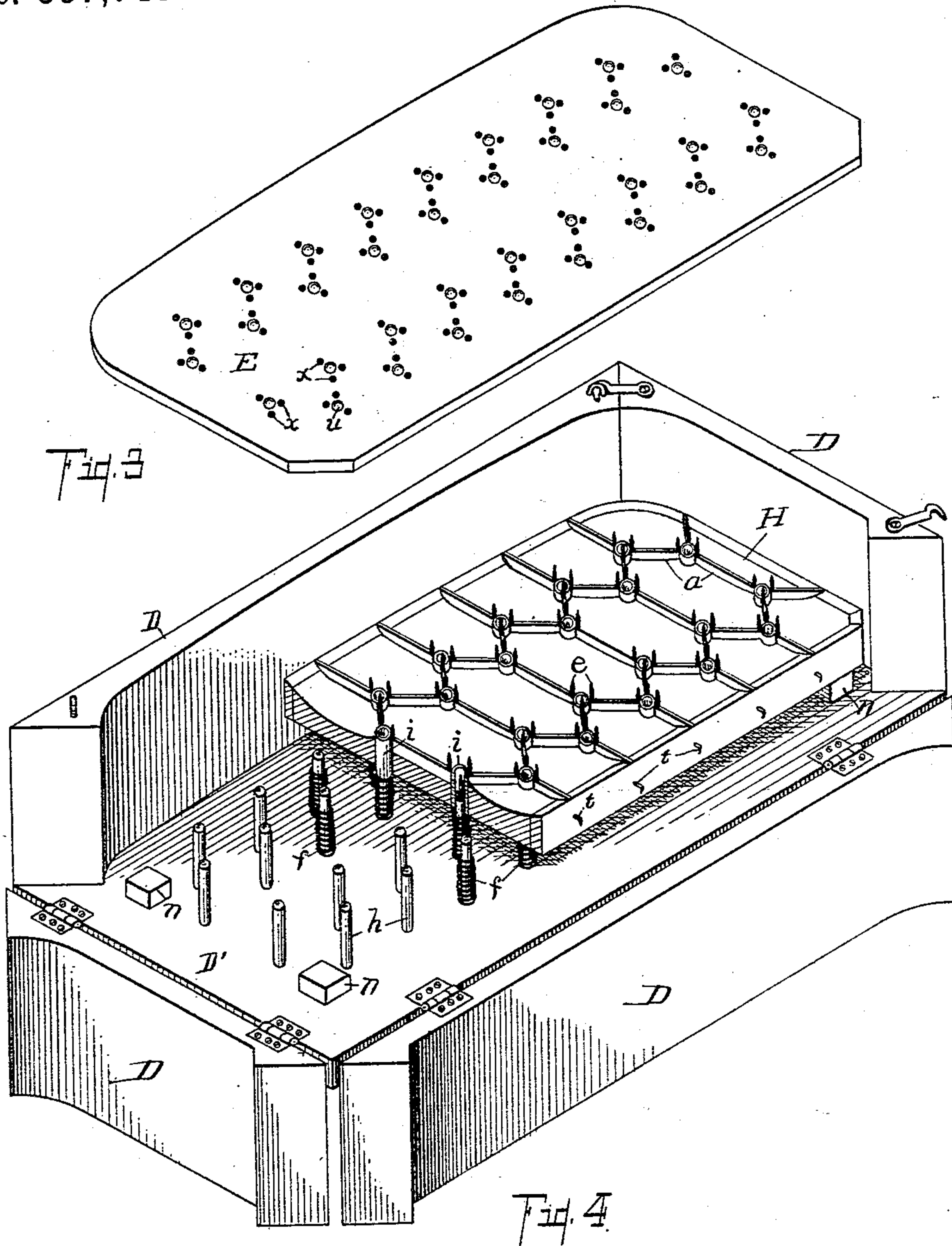
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3 Sheets—Sheet 2.

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(No Model.)

3 Sheets—Sheet 3.

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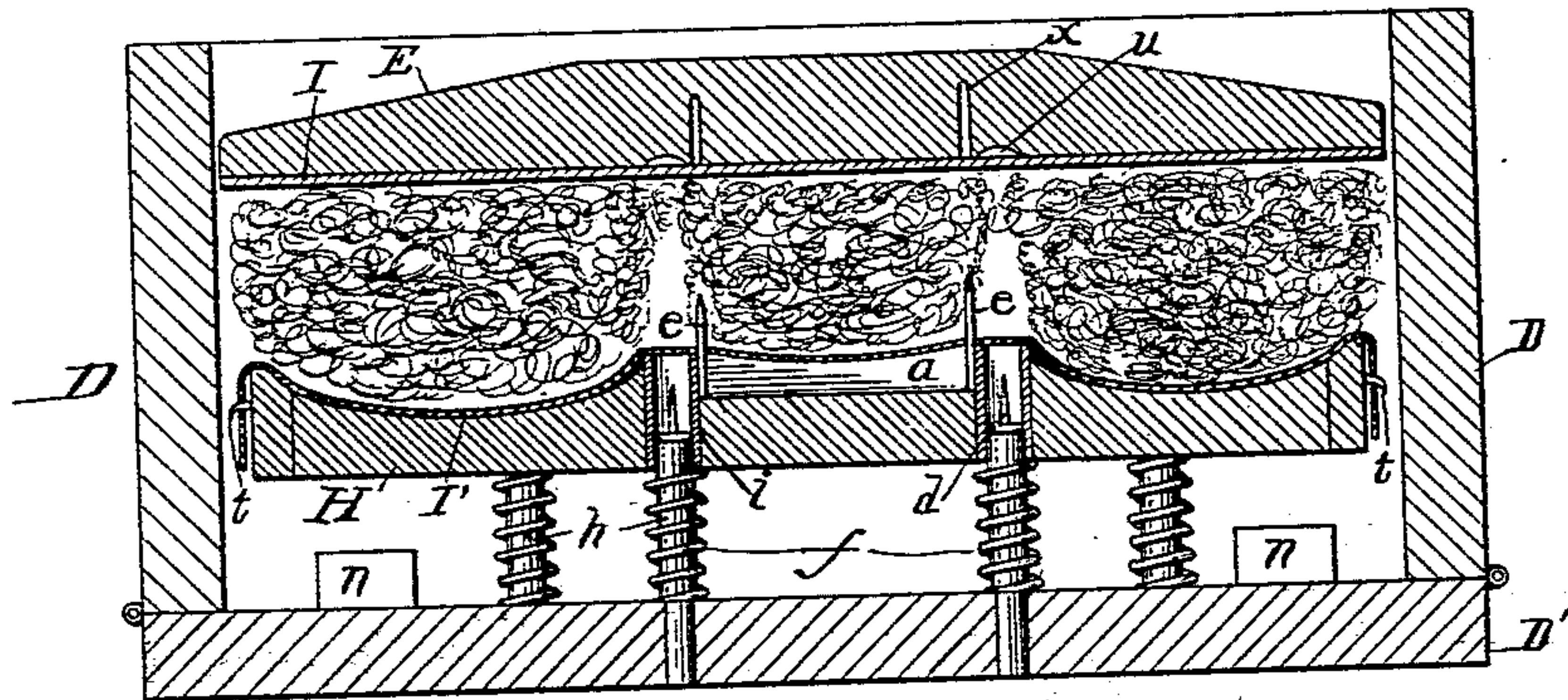


Fig. 5

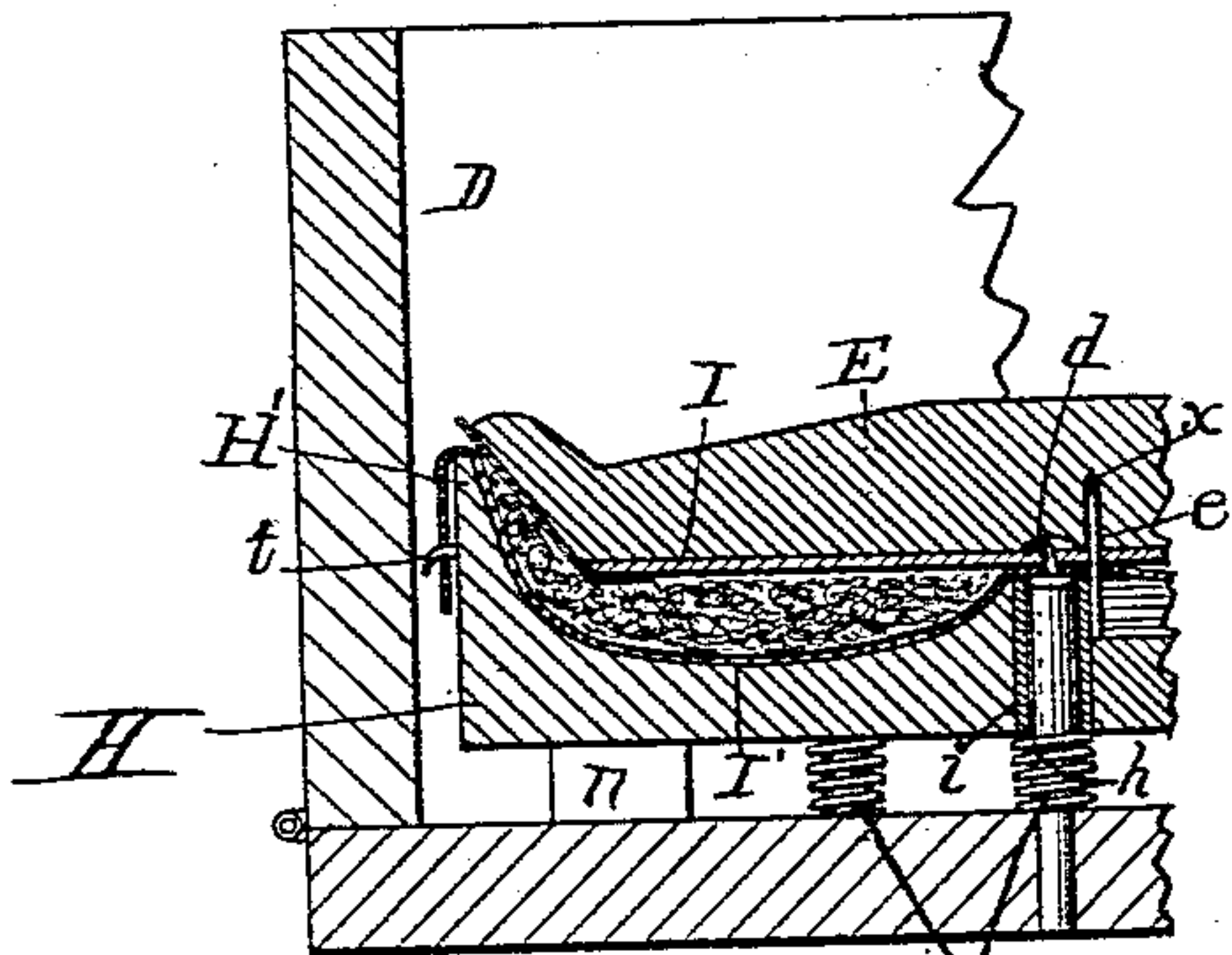


Fig. 6

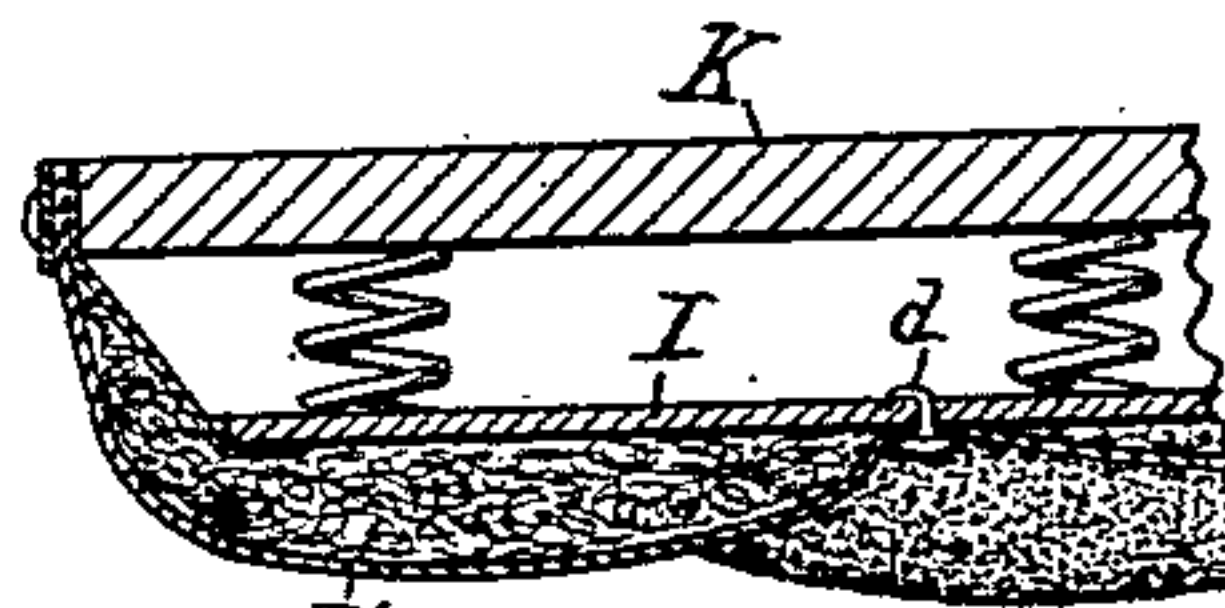


Fig. 7

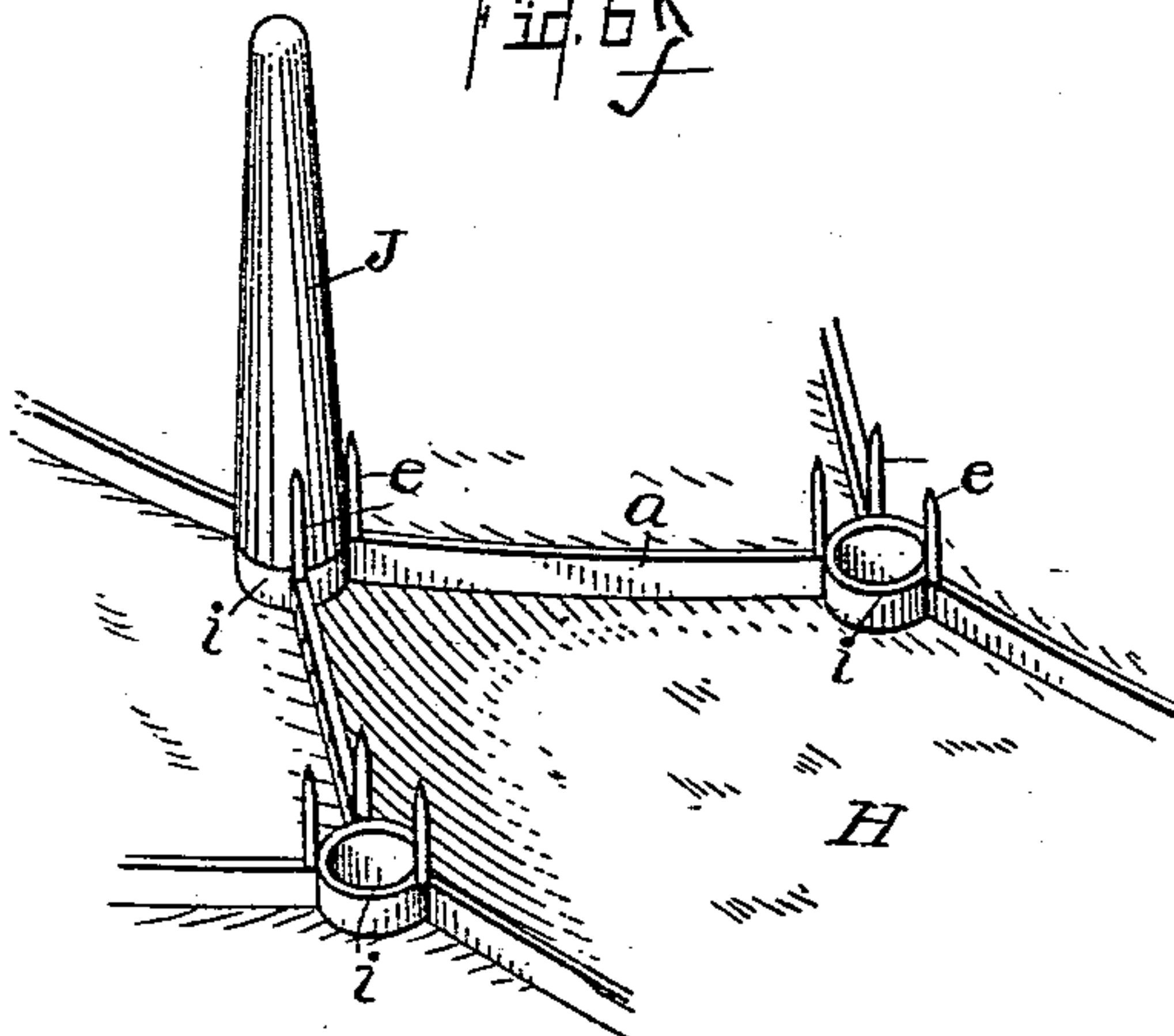


Fig. 8

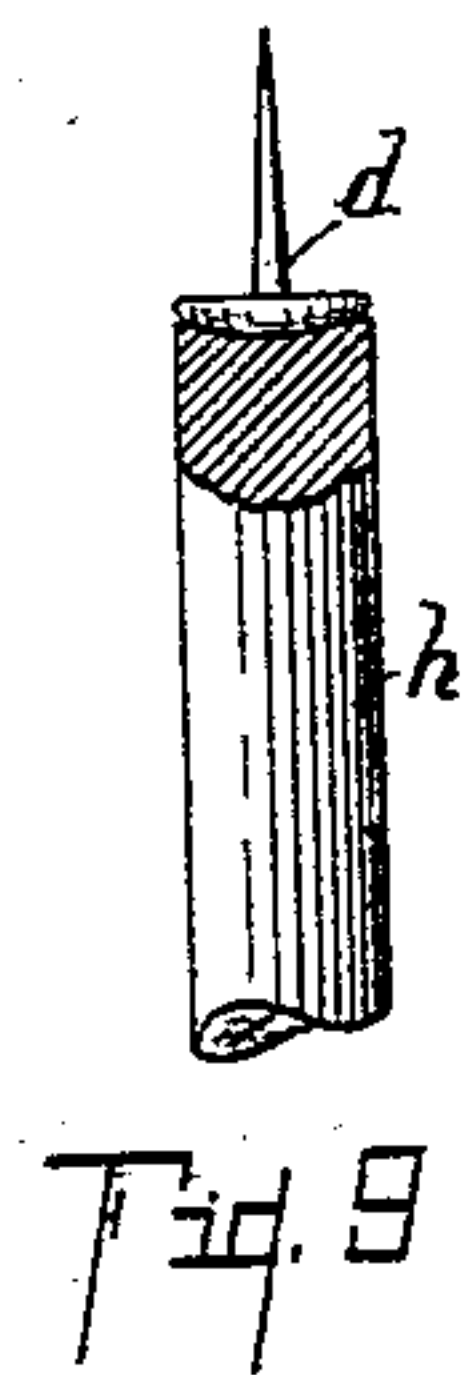


Fig. 9

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UNITED STATES PATENT OFFICE.

GEORGE W. YOUNG AND ADOLPH J. LOCHER, OF KALAMAZOO, MICHIGAN;
SAID LOCHER ASSIGNOR TO SAID YOUNG.

UPHOLSTERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 557,748, dated April 7, 1896.

Application filed December 5, 1895. Serial No. 571,115. (No model.)

To all whom it may concern:

Be it known that we, GEORGE W. YOUNG and ADOLPH J. LOCHER, citizens of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Upholstering-Machines, of which the following is a specification.

Our invention relates to improvements in upholstering machines or apparatus. In some respects it is an improvement upon a machine or device shown in Patent No. 511,649, issued to Henry B. Pitner December 26, 1893, while in many other particulars it is a radical departure therefrom and a far more efficient machine.

The objects of this invention are, first, to provide a machine that will simplify the processes necessary for the production of a cushion; second, to simplify the construction of the machine; third, to provide a machine in which it will not be necessary to remove the cushion from the machine until it is complete; fourth, to provide in such a machine improved means of securing the cushion-cover in place; fifth, to provide improved means of forming the sections of the cushion to be upholstered; sixth, to provide improved means of inserting the buttons and of clenching the same; seventh, to provide an improved construction whereby it is easy to insert a full panel-back with springs, and other objects appearing in the detailed description. We accomplish these objects of our invention by the devices and means shown in the accompanying drawings, in which—

Figure 1 is a front elevation of a machine embodying all the features of our invention. Fig. 2 is a sectional view on line 2 2 of Fig. 1, looking in the direction of the little arrows. Fig. 3 is an enlarged detail perspective view of the top form or press-plate E. Fig. 4 is an enlarged detail view of the casing, showing the bottom-form and also the cushion-form, partly broken away. Fig. 5 is an enlarged detail transverse sectional view through the casing and contained forms in position. Fig. 6 shows a detail view of a slight modification adapted for use in making cushions with spring-backs. Fig. 7 is an enlarged detail view of a portion of the cushion with the spring-

back made from the forms as shown in Fig. 6. Fig. 8 is an enlarged detail perspective view showing the partitions between the sections of the cushion-form, the sharp pins *e* for retaining the cloth, and upwardly-projecting pegs for opening a space through the cushioning material for joining the front and back together by the buttons; and Fig. 9 is an enlarged detail view showing the manner of carrying the clench-buttons or saddle-nails which join the front and back of the cushion together.

Similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A A represents side standards of the main frame. B is a top beam connecting the same together, which has suitable braces B^x.

B' is the bottom beam connecting the lower portions of the side pieces A A together, and is supported at its center by a suitable truss-rod. Supported on the lower beam B' is a framework C for carrying the casing. The casing consists of the bottom portion D', supported on the framework C, with sides and ends D D D D, which are suitably hinged to the bottom D' and shut together upwardly and form the box or casing. Suitable hooks and eyes or other means are provided on the various pieces for convenience in joining them together.

In the bottom D' are upwardly-projecting pins *h* in positions corresponding to the positions of the buttons in the cushion to be formed, and the interior outline of the box or casing, formed by the bottom D' and the sides D D D D, forms the outline of the cushion.

Adapted to reciprocate up and down on the pegs *h* is a form H, containing suitable openings or tubes, as *i*, fitting closely to the pins *h*. On the pins *h* are placed springs *f*, which rest against the bottom D' and against the under side of the form H and sustain it in position. Little blocks *n n* are placed on the top of the bottom D' for supporting the form H and properly limiting its downward motion and also preventing too much pressure on the springs *f* below. The tubes *i* project a little distance above the top of the form H, and extending between them in the direction of the plaiting of the cushion are little partitions *a*,

of any suitable thin material. At the end of each partition and close to the tubes *i* are upwardly-projecting sharp-pointed pins *e*, which are adapted to pass through the fabric and retain it fixedly in position. Large pins or pegs *J* are adapted to be placed upon the upper ends of the tubes *i* between the pins *e*.

The form *E* is secured to the screw *G*, operated by a hand-wheel above, in position to be pressed down into the casing formed by the bottom *D'* and the sides *D D D D*. Apertures *x* are formed therein to receive the points of the pins *e* on the form *H* below. The whole form *E* can be made of iron or it can be plated with iron wherever it may be necessary. Little cavities *u* are formed opposite the tops of the tubes *i* for clenching the clench-buttons or saddle-nails *d*.

To use our improved invention, the form *H* is placed in position upon the pins *h*. The clench-buttons or saddle-nails *d* are then placed in all of the tubes *i*, heads downward. The cushion-covering is placed upon the same and folded down over the outer edges of it and secured to the hooks *t t* on its outer edge. The sides *D* of the casing are then shut up and fastened by the hooks in place. The pins or pegs *J* are then inserted between the upwardly-projecting pins *e*, surrounding the tubes *i*. The filling or cushioning material is then evenly distributed over the cushion-cover *I'*, inside of the casing. The pins *J* are then removed. The back of the cushion *I* is then placed within the casing and the press-board or form *E* is screwed down upon it and presses the cushion-covering *I'* down, so that the partitions *a* form each plait perfectly. The pins *e* enter the apertures *x*, formed in the plate *E*. The downward pressure carries the form *H* down, which has the effect of driving the cushion cover and back down over the clench-buttons or saddle-nails *d*, and the little cavities *u*, formed opposite them, clench them securely together, as clearly indicated in Fig. 6. The sides *D* of the casing are then unfastened and turned down. The edge of the cushion is finished in the machine, or the forms *H* and *E* can be clamped together and removed from the machine and the edge of the cushion then finished, the form *E* being made removable for the purpose. The forms are then unclamped and the cushion is complete, ready for use.

Where it is desired to form a cushion with a panel spring-back, the form or press-plate *E*, instead of being formed flat, is beveled at its outer edges on the under side, and the outer edge of the form *H* is extended up over the same at *H'*. A flexible edge is placed upon the back *I* of the cushion and extends around the outer edge of the form *E*, and the flexible portion and cover of the cushion are nailed together to the back *K*, which is put in place under the press-plate *E* after the main body of the cushion is formed, and the edges of the cushion are then tacked thereto.

Having thus described our improved ma-

chine, we desire to state that it can be considerably varied in its details without departing from our invention. Other forms of casing than the one we have shown might be substituted, though the one shown is very convenient and permits of an entire finishing of the cushion in the machine itself. The pegs *J*, while they serve a very useful purpose, might be dispensed with, especially if the pins *e* are further extended. The pins *e* secure the cloth covering *I'* very perfectly in position; but other means might be provided of securing the same and be very useful and operative in connection with our improved means for guiding and inserting the clench-buttons or saddle-nails. The little hooks *t*, to the outside of form *H*, serve a very useful purpose; but tacking would be quite effective in that way. The springs *f* could be dispensed with and one large spring be employed instead, and other changes will no doubt suggest themselves to those skilled in the art to which our invention pertains. Our machine is adapted to produce cushions of all descriptions for carriage seats and backs, for chairs and couches, for mattresses, or any similar articles.

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

1. In an upholstering-machine, the combination of the side pieces, *A, A*; the cross-beam, *B*, above; and the cross-beam, *B'*, below; the frame, *C*, supported on the beam, *B'*; a casing consisting of the bottom board, *D'*, and side pieces, *D, D, D, D*, hinged thereto and adapted to fold upwardly with means for securing them in position; pins, *h*, on the bottom board, *D'*; corresponding in position to the buttons of the cushion to be formed; coiled springs, *f*, on said pins; blocks, *n*, on said bottom board; a form, *H*, with tubes, *i*, therethrough corresponding to the pins, *h*; thin partitions, *a*, extending between the tubes in the position of the plaiting on the cushion to be formed; upwardly-projecting pins, *e, e*, at the ends of said partitions close to said tubes, *i*; pins, *J*, for insertion between the pins, *e, e*, to form spaces in the cushioning material; a plate, *E*, above with apertures, *x*, to receive the pins, *e*, and depressions, *u*, opposite the tubes, *i*, for clenching the buttons or saddle-nails; and a suitable screw, *G*, for actuating said plate, *E*, to compress the whole together, all coacting together substantially as described for the purpose specified.

2. In an upholstering-machine, the combination of a suitable casing; upwardly-projecting pins, *h*, corresponding to the buttons of the cushion to be formed, in the bottom thereof; a form, *H*, with tubes, *i*, therethrough corresponding to the pins, *h*; partitions, *a*, between the tubes, *i*, corresponding to the plaits of the cushion to be formed; upwardly-projecting pins, *e*, at the ends of the partitions, *a*, and next to the tubes, *i*; pegs, *J*, for

insertion between the pins, *e*; form, *E*, above with the apertures, *x*, to receive the pins *e*, and depression, *u*, to clench the buttons; and a suitable press for compressing the forms together, as specified.

3. In an upholstering-machine, the combination of a suitable casing; upwardly-projecting pins, *h*, corresponding to the buttons of the cushion to be formed, in the bottom thereof; a form, *H*, with tubes, *i*, therethrough corresponding to the pins, *h*, to be placed upon said pins, *h*, and adapted to receive clench buttons or nails through their ends; springs beneath said form, *H*; suitable means of securing the covering to the cushion on the form, *H*; a plate above said form; and a suitable press for compressing the same together to drive the clench-nails through the cushion and back and clench them, for the purpose specified.

4. In an upholstering-machine, the combination of a suitable casing; upwardly-projecting pins in the bottom thereof corresponding to the buttons of the cushion to be formed; a form, *H*, with apertures therethrough corresponding to the said upwardly-projecting pins, the apertures of which are adapted to receive clench-buttons or saddle-nails, heads downward; suitable means of securing the cushion-covering to said form; a form above; and a press for compressing the forms together and carrying them down over the pegs to force the clench buttons or nails through the cushion and clench them at the back, for the purpose specified.

5. In an upholstering-machine, the combination of a cushion-form with a tubular opening therethrough; a pin *h*, within said opening with its end conformed to the head of the clench-button to be used; suitable means of compressing the cushion at the top of the form to drive the form over the pin to insert the clench-button from the tube as specified.

6. In an upholstering-machine, the combination of a form with apertures therethrough corresponding to the position of the buttons on the cushion to be formed; partitions, *a*, extending between the apertures in the position of plaits to be formed; and pins, *e*, projecting upwardly from said partitions to retain the cushion-covering thereon with a suitable

press for compressing the back and cover together for the insertion of clench nails or buttons, as specified.

7. In an upholstering-machine, the combination of a form, with upwardly-projecting edges, with apertures therethrough corresponding to the position of buttons on the cushion to be formed; suitable means of securing the cushion-cover to said form; a form above with beveled edges for insertion into said lower form; suitable means of inserting clench-nails through the apertures against said upper form to form a cushion with downwardly-projecting edges from the face thereof to accommodate a panel spring-back to the cushion, for the purpose specified.

8. In an upholstering-machine, the combination with suitable forms containing button or clench nail inserting devices, of a casing, consisting of the bottom, *D'*, and sides and ends, *D*, *D*, *D*, *D*, hinged thereto to shut up around the forms during the insertion of the buttons and opened out to permit the edges of the cushion to be finished on the cushion in the machine, for the purpose specified.

9. In an upholstering-machine, the combination of a cushion-form with a tubular opening therethrough; a pin *h*, within said opening; suitable means of compressing the cushion on the top of the form to drive the form over the pin to insert the clench-button from the tube as specified.

10. In an upholstering-machine, the combination of a form with apertures therethrough corresponding to the position of the buttons on the cushion to be formed; pins *e*, located on said form and projecting upwardly therefrom to retain the cushion-covering in proper position thereon, and a suitable press for compressing the back and cover of said cushion together to permit the insertion of the clench-buttons or retaining devices as specified.

In witness whereof we have hereunto set our hands and seals in the presence of two witnesses.

GEORGE W. YOUNG. [L. S.]
ADOLPH J. LOCHER. [L. S.]

In presence of—

WALTER S. WOOD,
J. E. BIDWELL.