

No. 612,734.

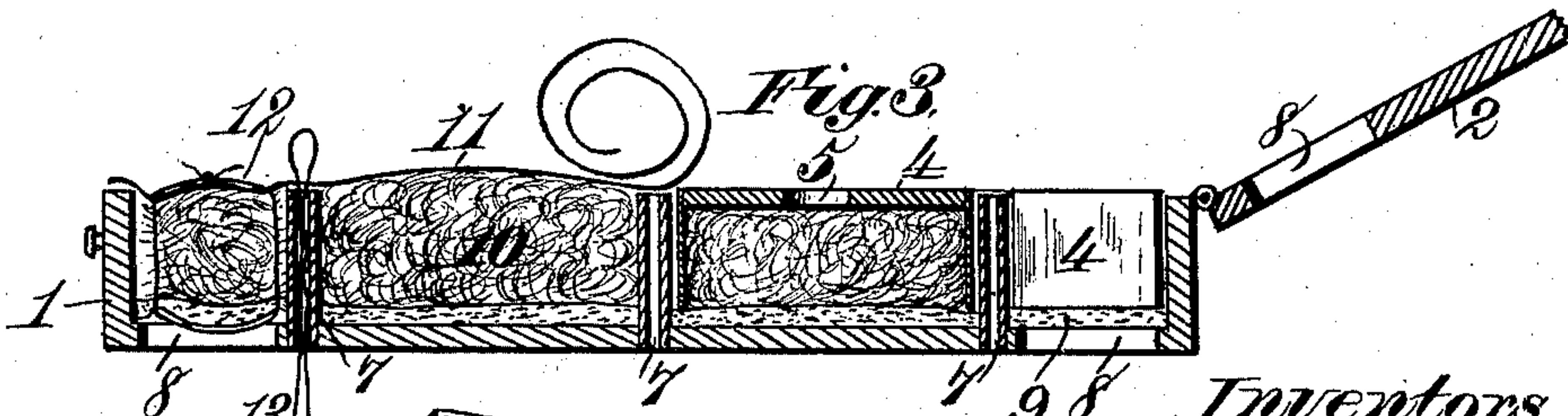
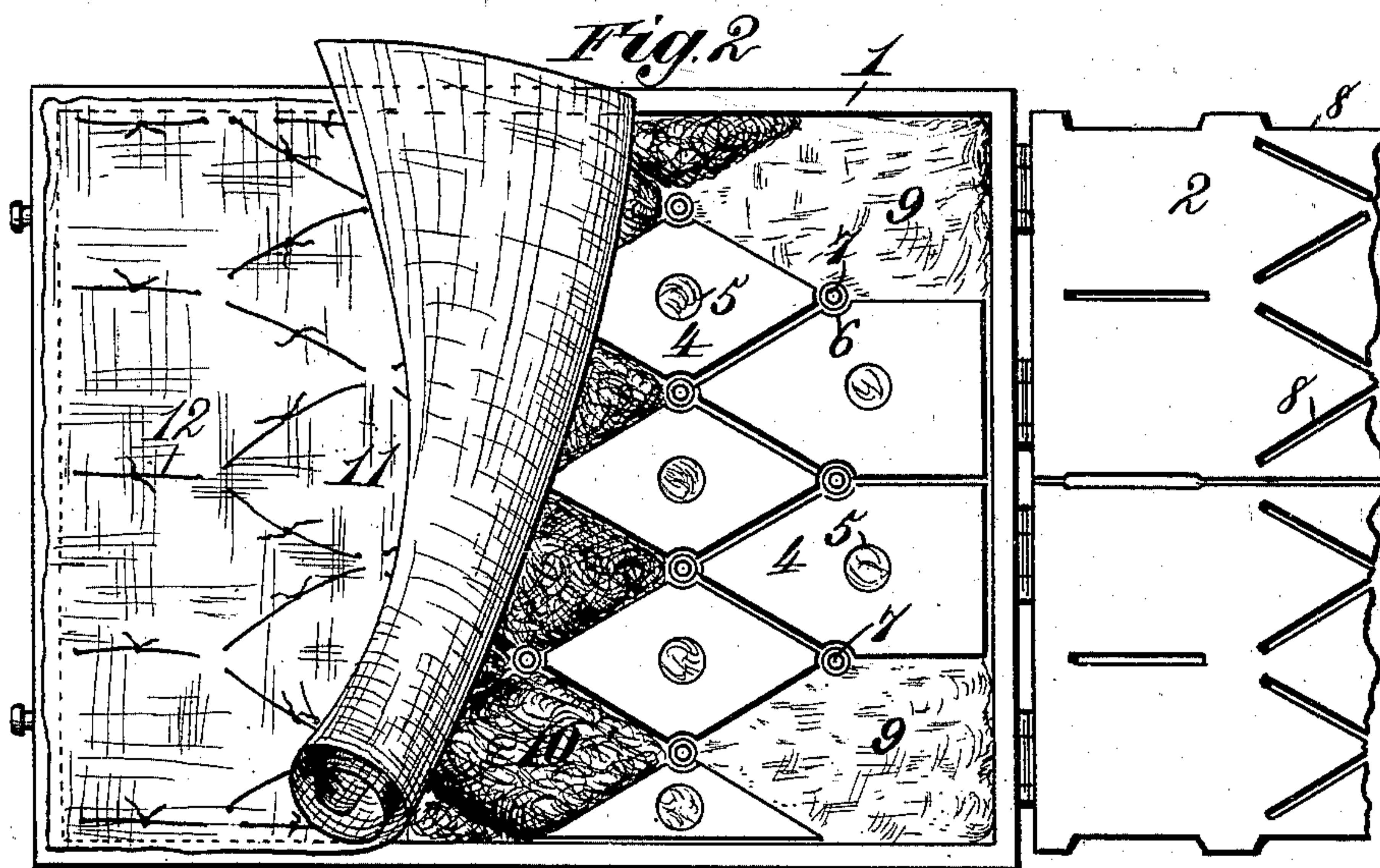
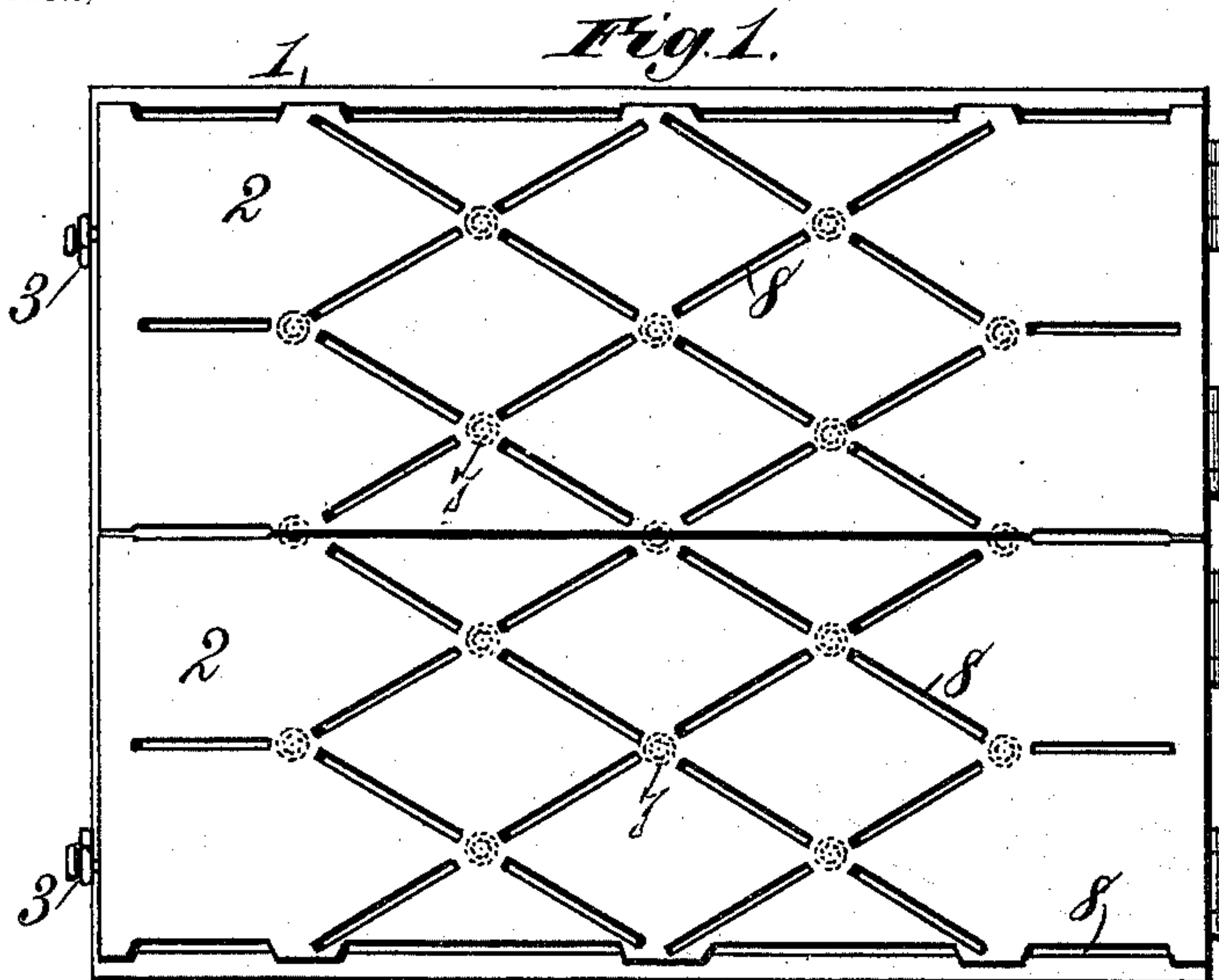
Patented Oct. 18, 1898.

W. J., T. F., P. H. & J. A. KELLY.
TUFTING APPARATUS FOR UPHOLSTERERS.

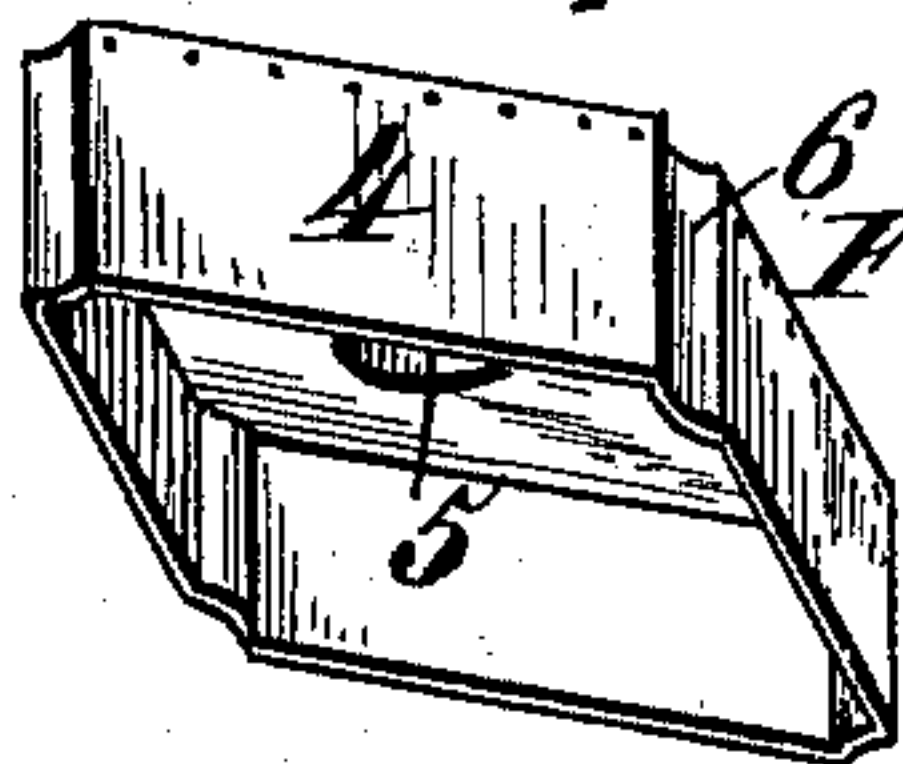
(Application filed June 3, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
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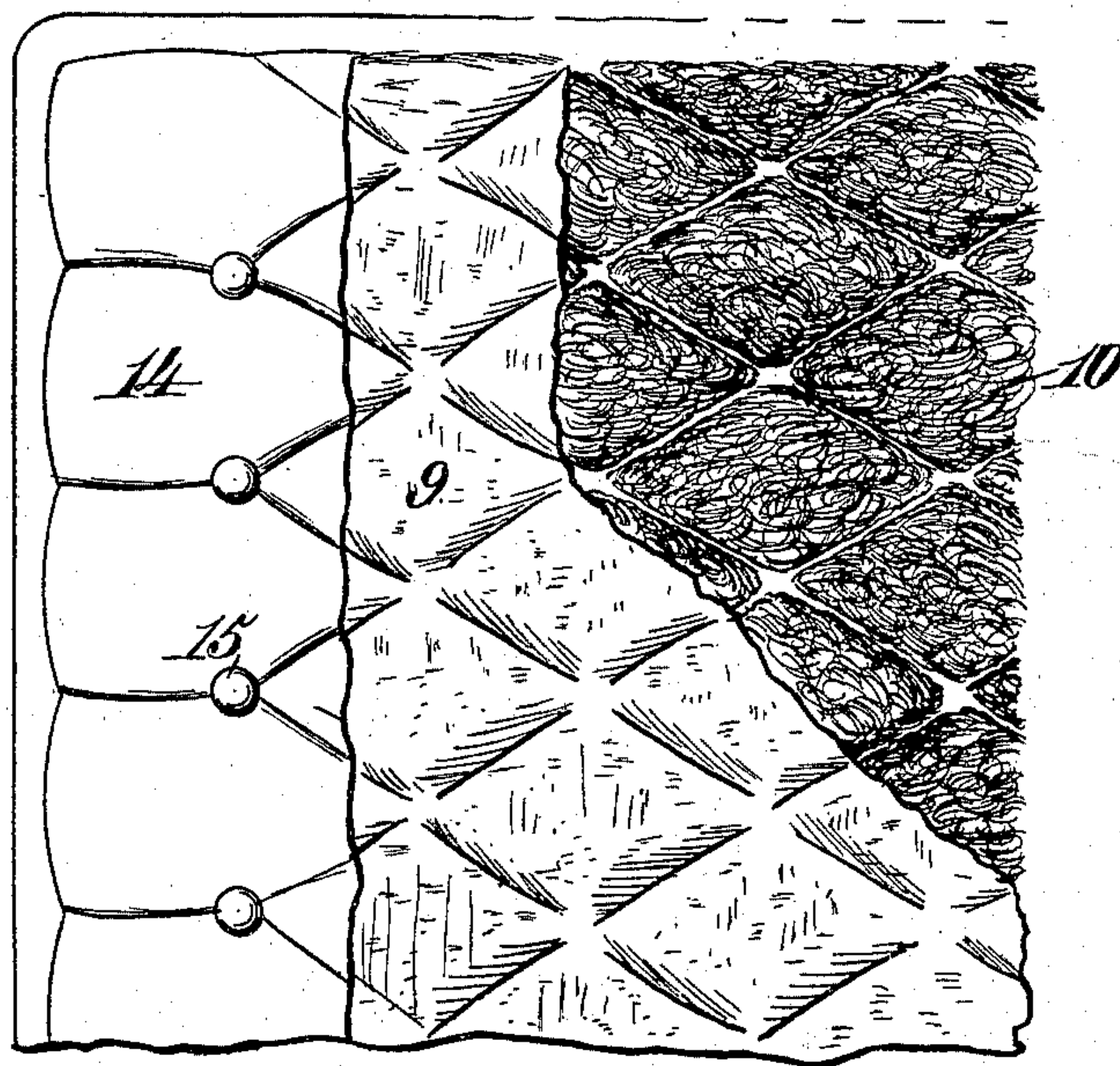
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(No Model.)

2 Sheets—Sheet 2.

Fig. 5.



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UNITED STATES PATENT OFFICE.

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TUFTING APPARATUS FOR UPHOLSTERERS.

SPECIFICATION forming part of Letters Patent No. 612,734, dated October 18, 1898.

Application filed June 3, 1898. Serial No. 682,471. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM J. KELLY, THOMAS F. KELLY, PETER H. KELLY, and JOSEPH A. KELLY, citizens of the United States, residing at Clinton, in the county of Clinton and State of Iowa, have invented new and useful Improvements in Tufting Apparatus for Upholsterers, of which the following is a specification.

Our invention relates to tufting apparatus for upholsterers, and has for its object to provide a novel, convenient, and simple molding mechanism for forming tufts of any desired configuration and size without necessity for employing skilled labor and so that by means of removable or interchangeable cells the shape and dimensions of the tufts can be varied to suit any kind of upholstering cushion-work required for couches, carriage seats and backs, chairs, and other articles of furniture.

The invention consists in features of construction and novel combinations of parts in upholstery apparatus, as hereinafter described and claimed.

In the annexed drawings, illustrating the invention, Figure 1 is a plan of an upholstery apparatus constructed according to our invention, showing the lids closed. Fig. 2 is a plan of the same with the lids thrown back and showing the operation of forming a tufted cushion or pad. Fig. 3 is a longitudinal section of the same through the mold-box, removable mold-cells, and upholstering material. Fig. 4 is a perspective of a removable mold-cell inverted. Fig. 5 is a broken plan of part of a tufted pad or cushion with its separately-molded tufts.

The apparatus comprises an outer casing or mold-box 1, that may have any form and size suited to the configuration and dimensions of the piece of tufted upholstering work that is to be produced. Thus, although we have shown this mold-box as rectangular, we would have it understood that it may be circular, elliptical, diamond-shaped, square, oblong, or of any other form required. The depth of this box will correspond with the desired thickness of the tufted pad, cushion, or upholstery section, and in length and width it will also conform to the corresponding di-

mensions of the work. The box 1 is preferably made of wood. It is provided with a lid or cover 2, that may be made in sections separately hinged to one side or end of the box, and each lid-section is provided with a suitable fastening 3 for holding it down firmly onto the upholstering material.

For the purpose of forming the tufts of an upholstery cushion or pad in any shape and size desired and to permit variations in the dimensions and form of the tufts we employ in the mold-box 1 a suitable number of removable and interchangeable mold cells or cups 4 of the form and size required by the work to be done. While it is generally preferable to make these cells diamond-shaped or partly so, as shown, it will be obvious that they may have any other suitable form. Those cells that are concerned in the formation of tufts bordering on the straight edge of the cushion will have one wall parallel with the adjacent side of the mold-box or outer casing. Thus some of the cells may be partly rectangular and partly wedge-shaped and others may have the form of diamonds and half-diamonds. The base of each cell is preferably made of wood and the sides are of tin or sheet metal. When placed in the mold-box or outer casing 1, the cells or cups 4 are inverted. In the base of each cell there is a central opening 5, through which the finger or a short stick may be inserted in order to press the molded tufting material out and leave it in the mold-box 1 when the cell is withdrawn.

If desired, the walls of the mold-cells 4 may be provided at suitable points with vertical grooves 6 to afford room for tubular or longitudinally-perforated posts 7, that are attached to the bottom of the outer casing or mold-box. The bottom of the mold-box 1 is provided with openings, into which these posts 7 may be inserted either permanently or removably. These tubular posts 7 are for passage of the cords that are to attach the tufting-buttons; but, if preferred, these posts can be omitted, as it will generally be sufficient to have holes at suitable points in the bottom of the mold-box 1 for passage of the button-attaching cords.

The lids 2 and the mold-box bottom are each provided with slots 8, preferably arranged in directions to correspond with the outlines of the mold-cells. These slots are for passage of the needle and thread when the cushion is to be held together by sewing; but instead of sewing the pad or cushion it can be secured by tying, or metal clasps may be employed as temporary fastenings until the tufted cushion or pad is placed in the article of furniture and about to be covered with the outside or finishing fabric.

In using this upholstery apparatus a layer of cotton-batting 9 is first spread evenly in the bottom of the mold-box 1, being carefully forced down over and around the posts 7 when the latter are employed. A number of properly-shaped mold-cells 4 are then separately filled with curled hair, moss, jute, straw, excelsior, or other filling material 10, which is to be packed with suitable closeness, according to the density of cushion required. The filled mold cells or cups 4 are then inverted, and thus arranged in and across the mold-box 1, beginning at one end of the same and placing one or two rows of cells at a time and closely adjacent to each other. By now inserting the finger or a short stick or dowel into the hole 5 of a cell the molded material can be pressed back and so left in perfectly-molded shape within the box 1 as the emptied cells 4 are successively withdrawn. The mold-cells 4 will be refilled and the operation just described will be repeated as often as necessary until the mold-box 1 is fully supplied with separately-formed tufts of molded material in shapes corresponding with the desired form and dimensions of cushion-tufts. A piece of burlap or other suitable backing 11 is next laid on over the molded shapes of filling material 10, and the lids 2 are then closed down and fastened. If desired, we may employ muslin or any other appropriate fabric instead of cotton-batting and burlap for inclosing the molded filling material. While the molded cushion material is securely held within the closed mold-box 1, the cushion may be sewed by passing a threaded needle through the cushion at first one end of the slots 8 in the top and bottom of the closed mold-box 1 and then back at the other end of a slot back and forth across the two sides of the cushion, or the needle may be used merely to pass the thread 12 through the cushion at suitable points, leaving the ends of the thread to be tied or knotted together on one side of the cushion. Instead of sewing or tying the tufted pad it may be secured temporarily by means of any suitable metal clasps. After the lids 2 are unfastened and raised a needle will be employed to pass a cord 13 from the under side of the mold-box 1 upward through each of the tubular posts 7 and through the burlap or other backing 11 and then back downward through each tubular post to the under side of the mold-box. The two ends of each cord or string 13 are left depending

about five or six inches below the mold-box. These free ends of the cords 13 are for attachment of tufting-buttons, and the purpose of the tubular posts 7 is to provide accurate guides for passing said cords through the pad or cushion. However, the posts 7 may be dispensed with, as holes located at suitable points in the bottom of the mold-box will answer the required purpose sufficiently well.

The tufted cushion or pad having been sewed or otherwise secured and the button-cords 13 attached, it now only remains to lift the pad out of the mold-box 1 and transfer it to the couch, chair, or other article of furniture where it is to be utilized in the work of upholstery. While securing the tufted pad in position, the covering fabric 14 is simultaneously arranged and attached in any usual or appropriate way, the ends of the cords 13 are run through this cover 14, and the buttons 15 are attached to these cords and drawn down tight. The plaits will readily form themselves over the tufted pad by reason of the filling material being distinctly and wholly separated between the several tufted parts.

This tufting apparatus is of great convenience for the rapid, accurate, and economical manufacture of tufted pads or cushions in every variety of style and with any required dimensions. The removable and interchangeable mold-cells will permit variations in the size and forms of tufts in the same piece of work, if desired, so that the tufting can be readily varied to meet any special or unusual requirements. By changing the form and dimensions of the separately-removable mold-cells and outer mold-box or casing, either both, a great variety of upholstery cushions or tufted pads can be quickly and economically produced.

Although the drawings show the base of each mold-cell as being flat or plane surfaced on its inner side, it is obvious that it may be concaved for the purpose of giving a more rounded contour to the top of the tuft, or the cell-base may be concavo-convex or of any form suited to the desired configuration of cushion-tuft. It will therefore be understood that our invention is not restricted to any particular form of the separately-removable mold-cells.

What we claim as our invention is—

1. In upholstering apparatus, the combination with a mold-box or outer casing, of separate removable and interchangeable cells to be separately packed with tuft-forming cushion-filling material and inverted therewith in the said mold-box or casing, whereby on withdrawal of said cells the molded material will be left in place within said outer casing or mold-box, substantially as described.

2. In upholstering apparatus, the combination with a mold-box or outer casing, of separate removable and interchangeable mold-cells to be separately packed with tuft-forming cushion-filling material and inverted

therewith in the said mold-box or casing, each of said cells being provided with an opening in its base, substantially as described.

5 3. In upholstering apparatus, the combination with a mold-box or outer casing, of separate removable and interchangeable mold-cells to be separately packed with tuft-forming cushion-filling material and inverted therewith in the said mold-box or casing, each
10 of said cells being provided in its sides with vertical grooves, and tubular posts set in the bottom of the mold-box within the vertical grooves of said cells, substantially as described.

15 4. In upholstering apparatus, the combination with a mold-box or outer casing having a perforated and slotted bottom, of separate removable and interchangeable mold-cells to be separately packed with tuft-forming cushion-filling material and inverted therewith in
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the said mold-box or casing, and a lid or lids for said mold-box provided with slots corresponding with the outlines of the mold-cells and with the slots in the bottom of the mold-box, substantially as described.

In testimony whereof we have hereunto set our hands in presence of two subscribing witnesses.

WILLIAM J. KELLY.
THOMAS F. KELLY.
PETER H. KELLY.
JOSEPH A. KELLY.

Witnesses to signatures of William J. Kelly, Thomas F. Kelly, and Joseph A. Kelly:

LEVI RUNSCHAN,
MORRIS M. ELY.

Witnesses to signature of Peter H. Kelly:

JAMES L. NORRIS,
F. B. KEEFER.