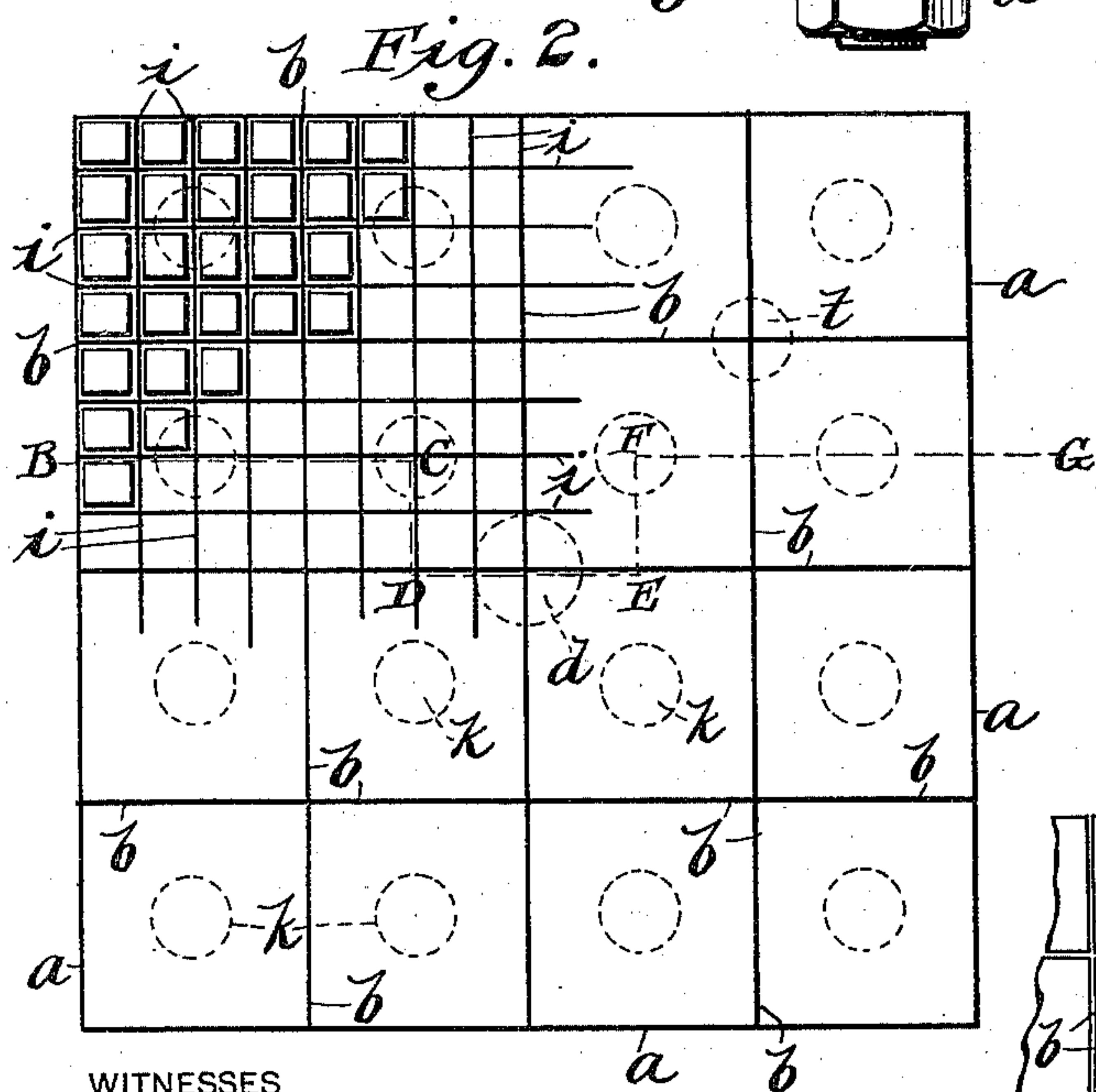


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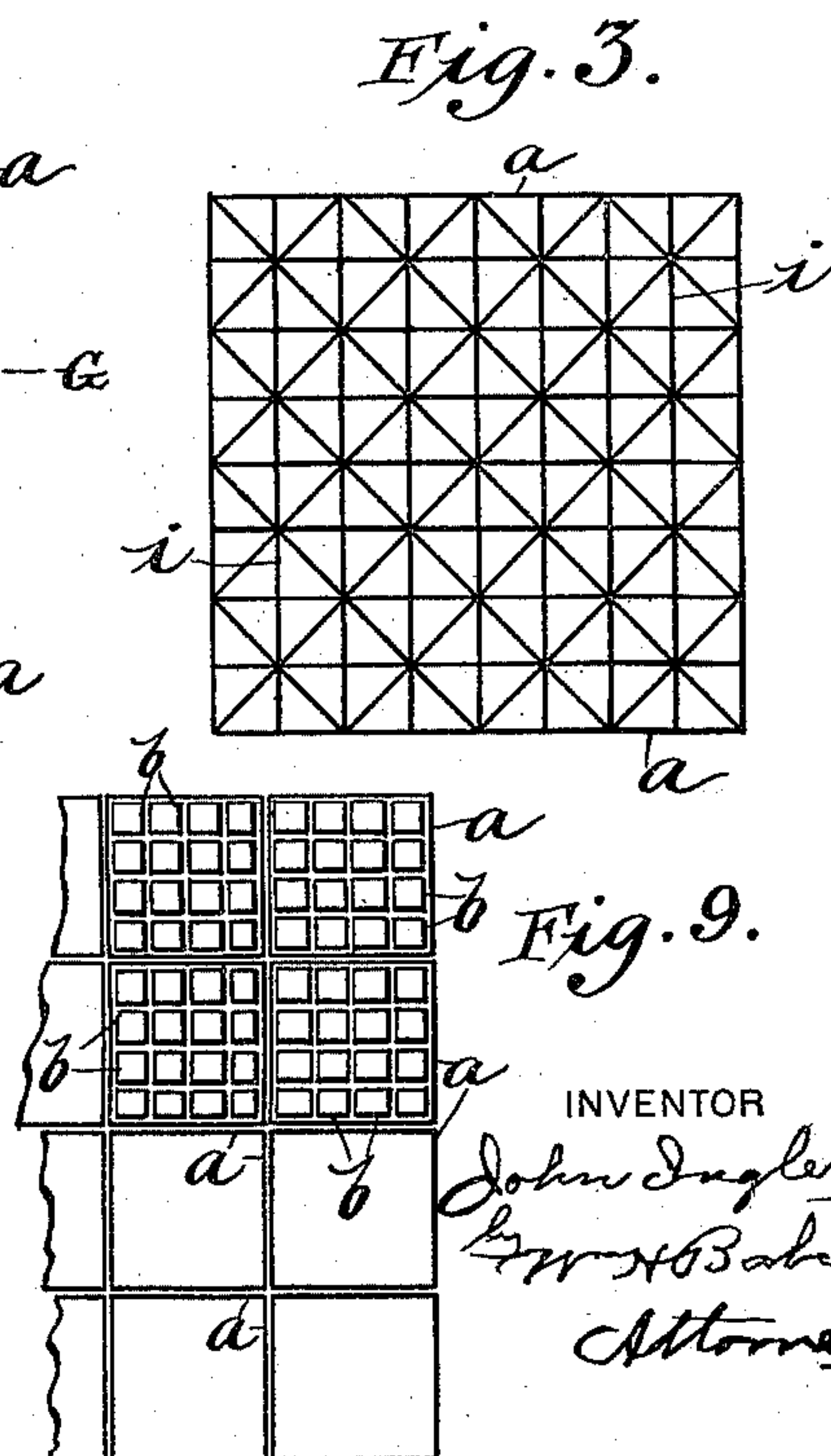
MACHINE FOR MANUFACTURING INLAID LINOLEUM OR LIKE FABRICS.

Patented June 2, 1896.



WITNESSES

Reverence.
 W^m S. Babcock



INVENTOR

John Ingleby
Esq. & B. Babcock
Attorney.

(No Model.)

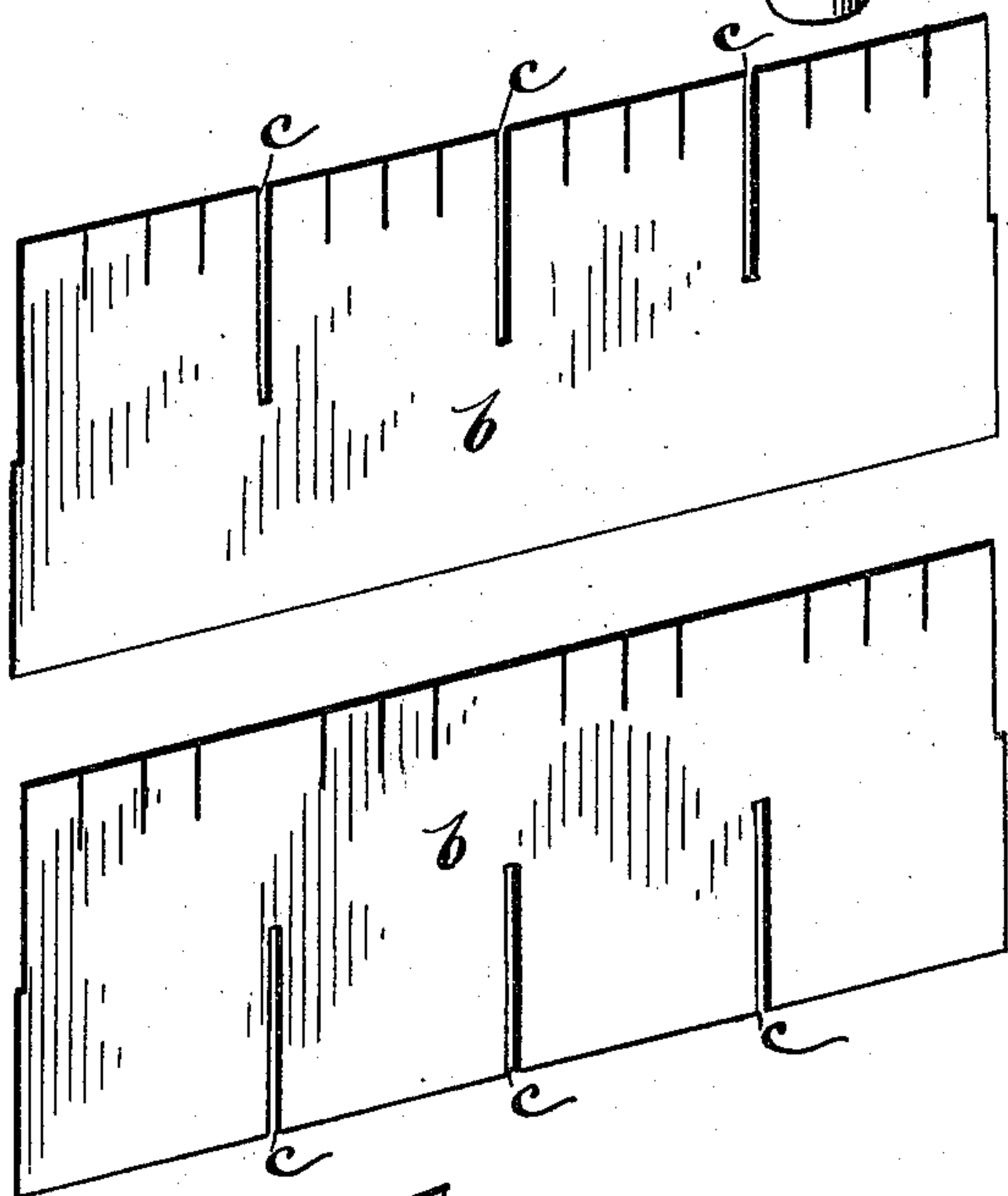
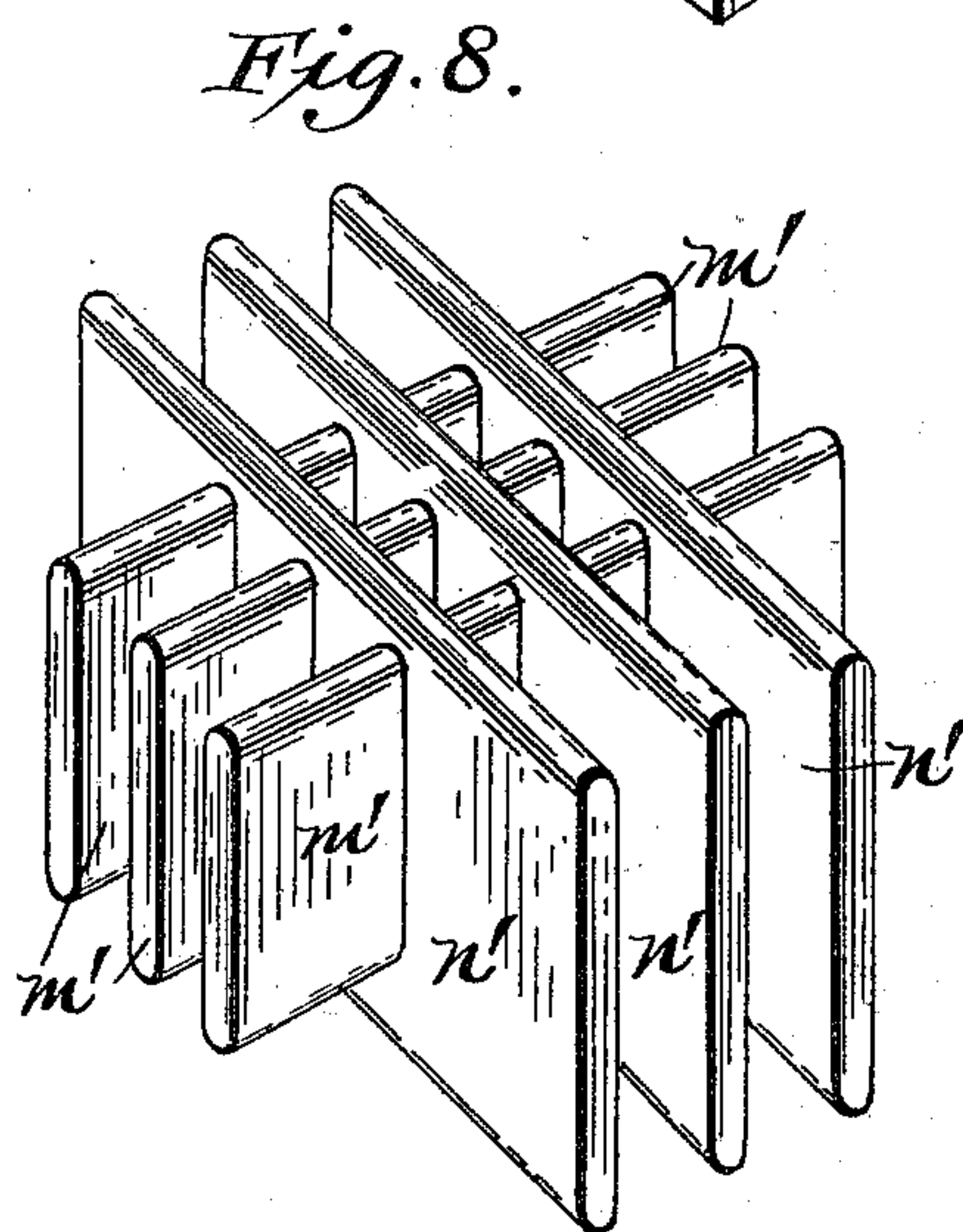
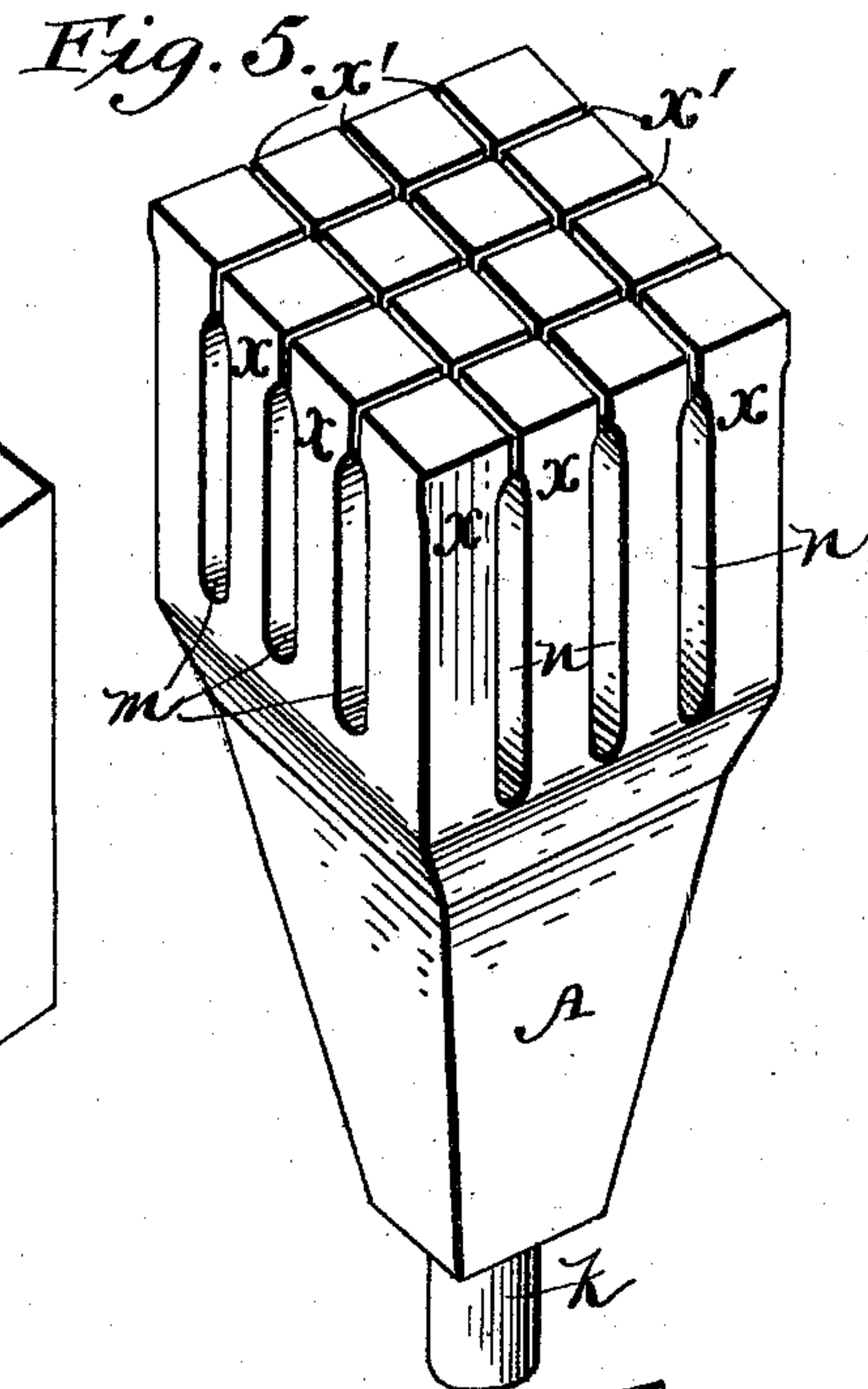
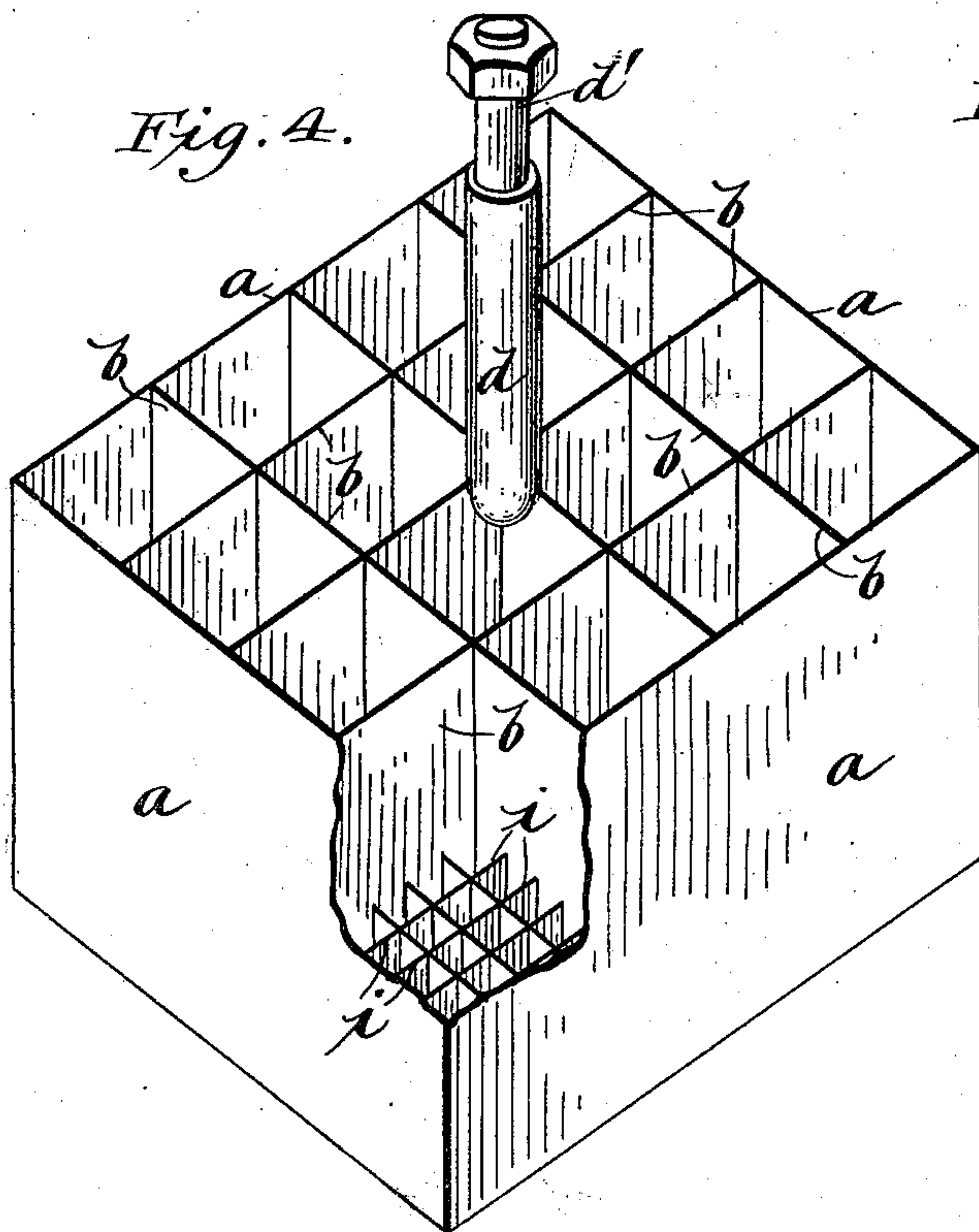
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J. INGLEBY.

MACHINE FOR MANUFACTURING INLAID LINOLEUM OR LIKE FABRICS.

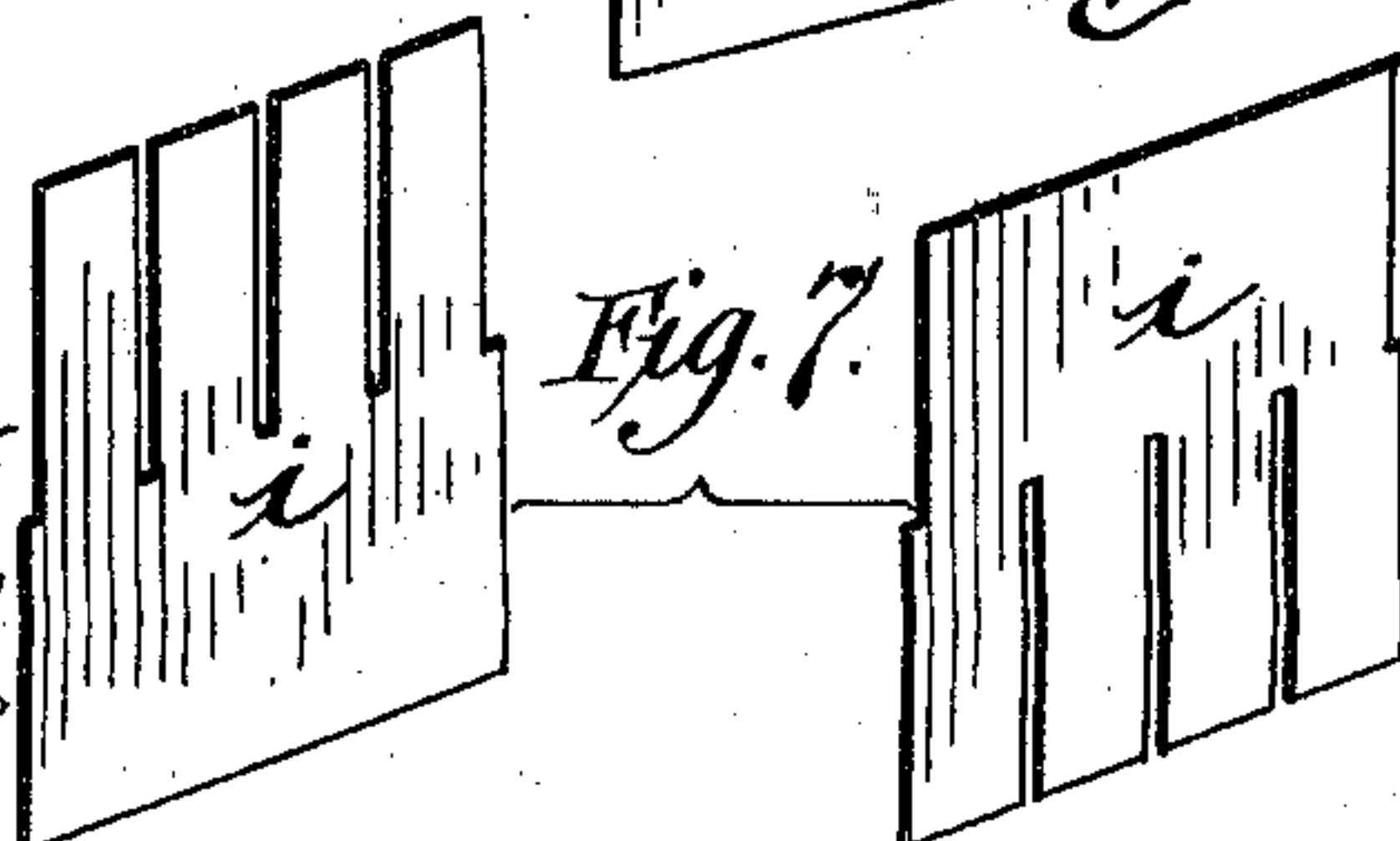
No. 561,400.

Patented June 2, 1896.



WITNESSES

E. J. Everance.
Wm. S. Babcock.



INVENTOR

John Ingleby
by
Wm. S. Babcock
Attorney

UNITED STATES PATENT OFFICE.

JOHN INGLEBY, OF LEEDS, ENGLAND.

MACHINE FOR MANUFACTURING INLAID LINOLEUM OR LIKE FABRICS.

SPECIFICATION forming part of Letters Patent No. 561,400, dated June 2, 1896.

Application filed March 21, 1896. Serial No. 584,231. (No model.)

To all whom it may concern:

Be it known that I, JOHN INGLEBY, a subject of the Queen of Great Britain and Ireland, residing at Leeds, in the county of York, England, have invented certain Improvements in Machines for Manufacturing Inlaid Linoleum and Like Fabrics, of which the following is a specification.

This invention relates to the construction of molds having retractile webs employed in machines the subject of my invention described in the specification of United States Letters Patent No. 553,342, dated January 21, 1896; and my invention has for its objects to enable any portion of the mold to be withdrawn for repair or renewal, while reducing the cost of constructing such molds.

My invention essentially consists in forming the mold in separate removable sections attached to a common bed-plate and in the special construction of such sections.

My invention is illustrated in the accompanying drawings, in which—

Figure 1 is a vertical section on line B C D E F G of Fig. 2, which is a plan of a mold-section. Fig. 3 is also a plan of a mold-section, illustrating another design for the grid-section. Fig. 4 is an isometric perspective view of the web-grid of a mold-section, and Fig. 5 is a similar view of one of the core-pieces of the same mold-section. Fig. 6 are views of the webs *b*, the one with the slits *c* in the upper half and the other with the slits *c* in the lower half, while Fig. 7 shows corresponding views of the webs *i*. Fig. 8 shows in isometric perspective the arrangement of the core-bars for producing the slits *m* and *n* in the core-piece A. Fig. 9 is a plan corresponding to Fig. 2, in which the grid-section is built up of tubes square in section instead of crossed and interlocked strips of metal.

Similar letters refer to similar parts throughout the several views.

The molds (lettered A in Figs. 1 and 2 of my above-mentioned specification, No. 553,342) are usually six feet wide and three feet long, and the bed-plates *e* (see Fig. 1) on which they are carried are of the same length and corresponding width. This bed-plate I pave with rectangular foundation-plates *g*, for convenience of the following description, say, four inches on the side. The foundation-

plate *g* is secured to the bed-plate *e* by means of a couple of bolts *t*, which are inserted from the under side through the bed-plate *e*.

The holes in the bed-plate *e* for the bolts *t* are arranged in a regular manner, and the corresponding tapped holes in the foundation-plates *g* (whatever may be the arrangement or design of the retractile webs) are always formed in the same position in the foundation-plates, so as to insure interchangeability for the different designs without necessitating a fresh bed-plate. For the same reason the position of the hole or holes for the pusher pin or pins in the foundation-plate remains the same whatever may be the nature of the design. The core-pieces A are secured to the foundation-plates *e* by means of the studs *k*, which are soldered, brazed, riveted, or otherwise secured in position.

The grid-section may be formed of crossed and interlocked strips of metal or built up of tubes of suitable section. The following description refers to the former: Corresponding to the size of the foundation-plates *e* the retractile web-grid is divided into separate square sections four inches on the side. Such a section is shown in isometric perspective in an inverted position to expose the connection of the pusher-pin to the web in Fig. 4. *a* are the four outside webs, of thin sheet metal. Within the square thus formed six webs *b* of the same depth as the webs *a* subdivide this section into sixteen one-inch-square compartments. One of these webs *b* is shown separately in Fig. 6. Each web is provided with slits or saw-cuts *c*, placed one inch apart and extending about half the depth of the web. One half of the webs *b*, those running in one direction, are placed with the slits *c* on the upper side. The other half, running at right angles to the first half, are placed with the slits on the lower side, so that the parts of the one set of webs in line with the slits fit within the slits in the cross-webs, and vice versa, and the webs when thus fitted together are interlocked. The outer webs *a* may have slits formed in their upper or lower portions to receive the upper or lower half of the ends of the webs *b*, which are prolonged at each end on the upper or lower half by the thickness of the outer webs *a*. These interlocking portions of the lower half of the

depth of the webs b and of the webs b and a may be soldered or brazed to make the connection secure and rigid, and in order to allow a very slight freedom to the webs at their upper edges, where the sides of the core-pieces fit close against them, some of them may be left unbrazed or not soldered.

The one-inch-square compartments are divided to about half their depth into smaller square compartments—say one-fourth of an inch on the side—by the webs i , as shown in Fig. 4, two of the outer webs a being shown broken away at the corner to expose the webs i . These webs i (shown separately in Fig. 7) are formed with slits c , and connected together and to the inclosing webs b and a in a similar manner to that just described with respect to the webs b .

Instead of forming the grid-section of interlocking strips of metal, I may form the grid of tubes of suitable section cut to length and brazed or soldered together. For instance, in the square design illustrated in Fig. 2 the smallest compartments may be formed of tubes, as shown in Fig. 9, square in section and one-fourth of an inch on the side, soldered together and fitted inside a tube, square in section, one inch on the side, and of about twice the depth of the smaller tubes. Sixteen of these one-inch tubes soldered together would form a complete grid-section.

A pusher-pin (or pins) d , corresponding to the vertical rods d mentioned in my aforesaid specification, No. 553,342, is (or are) connected to the under side of the grid-section by forming two slits or saw cuts at right angles to each other in the end of the pusher-pin and passing these slits over the intersection of the two center (or other two) webs b , as shown in Fig. 4, and soldering or brazing the connection. The lower end d' of the pusher-pin d is made smaller in diameter and screwed at the end, over which is fitted a nut, so as to secure the pusher-pin to the lifting-plate f , (or cross-bar f in my specification No. 553,342,) so that the rise and fall of the plate or cross-bar f raises and lowers the grid-section, Fig. 1.

The core-pieces A , (see Figs. 1 and 5,) which are of cast, type, or other suitable metal, are constructed in the following manner: The upper surface is formed square, so as to exactly fit the one-inch-square compartments of the grid; but from a short distance below the surface the core is recessed or tapered away, so as to avoid contact with the webs a and b (and the pusher-pins) in order to reduce the frictional resistance to the up-and-down movement of the webs. The lower end is formed with a round shank k , fitting in a hole in the foundation-plate e , and is secured therein by riveting, soldering, or other suitable means. Three slits m , one-quarter of an inch apart, are cast in the core-piece and are crossed by three other slits n , likewise one-quarter of an inch apart. These slits m and

n are produced by placing in the mold before casting six core-bars $m' n'$, (see Fig. 8,) of which the three marked n' are formed deeper than those marked m' and have three slits formed in each, through which the core-bars m' are passed. This arrangement permits of the core-bars m' being first knocked out or withdrawn after the core-piece A has been cast and afterward the core-bars n' . Hence the slits n , formed in the core-piece A , extend somewhat above and below the slits m . After being cast the upper surface of the core-piece is sawed through to the slits along the lines x' , the width of the saw cuts being just sufficient to permit of the webs i moving up and down in them without undue frictional resistance, the object aimed at in forming the slits m and n being to avoid contact at these parts with the webs i , and thus to reduce the friction.

I wish it to be understood that my invention is not limited by the square shape of the compartments—as, for example, the compartments may be triangular, as shown in Fig. 3, or of other suitable shape—nor by the size; also, the principle of dividing the mold into removable sections and the construction of the molds as herein set forth may be employed where the retractile webs are made to correspond to the outlines between the different colors and shades of the pattern to be produced, in which case additional webs may be inserted where the grid-section without these would not be sufficiently rigid.

What I claim, and desire to secure by Letters Patent, is—

1. In compartment-molds the grid-section composed of retractile webs, provided with a pusher pin or pins d , the core-pieces A provided with attachment-studs k ; the foundation-plate g provided with studs or screws t and the bed-plate e to which the said plates are attached, substantially as set forth.

2. In molds for linoleum, the combination of a bed-plate with a number of mold-sections fastened thereon each provided with retractile webs, a pusher pin or pins and core-pieces substantially as set forth.

3. The combination of outer webs a , partition-webs b dividing into compartments the spaces inclosed by said outer webs and webs i still further dividing the said compartments, the aforesaid webs being slitted as shown, and a pusher-pin d , with means for supporting and retracting the said webs so as to form a retractile grid-section for the molds of machines employed in the manufacture of in-laid linoleum and the like fabrics, substantially as herein set forth.

4. The core-pieces A having narrow slits x' and wider recesses m and n for the purpose of reducing the friction of the web grid-sections, substantially as set forth.

JOHN INGLEBY.

Witnesses:

J. CLARK JEFFERSON,
JOHN TOWNSEND.