

No. 864,254.

PATENTED AUG. 27, 1907.

J. L. PERKINS.
PAPER CLIP.

APPLICATION FILED JULY 12, 1906.

2 SHEETS—SHEET 1.

Fig. 1.

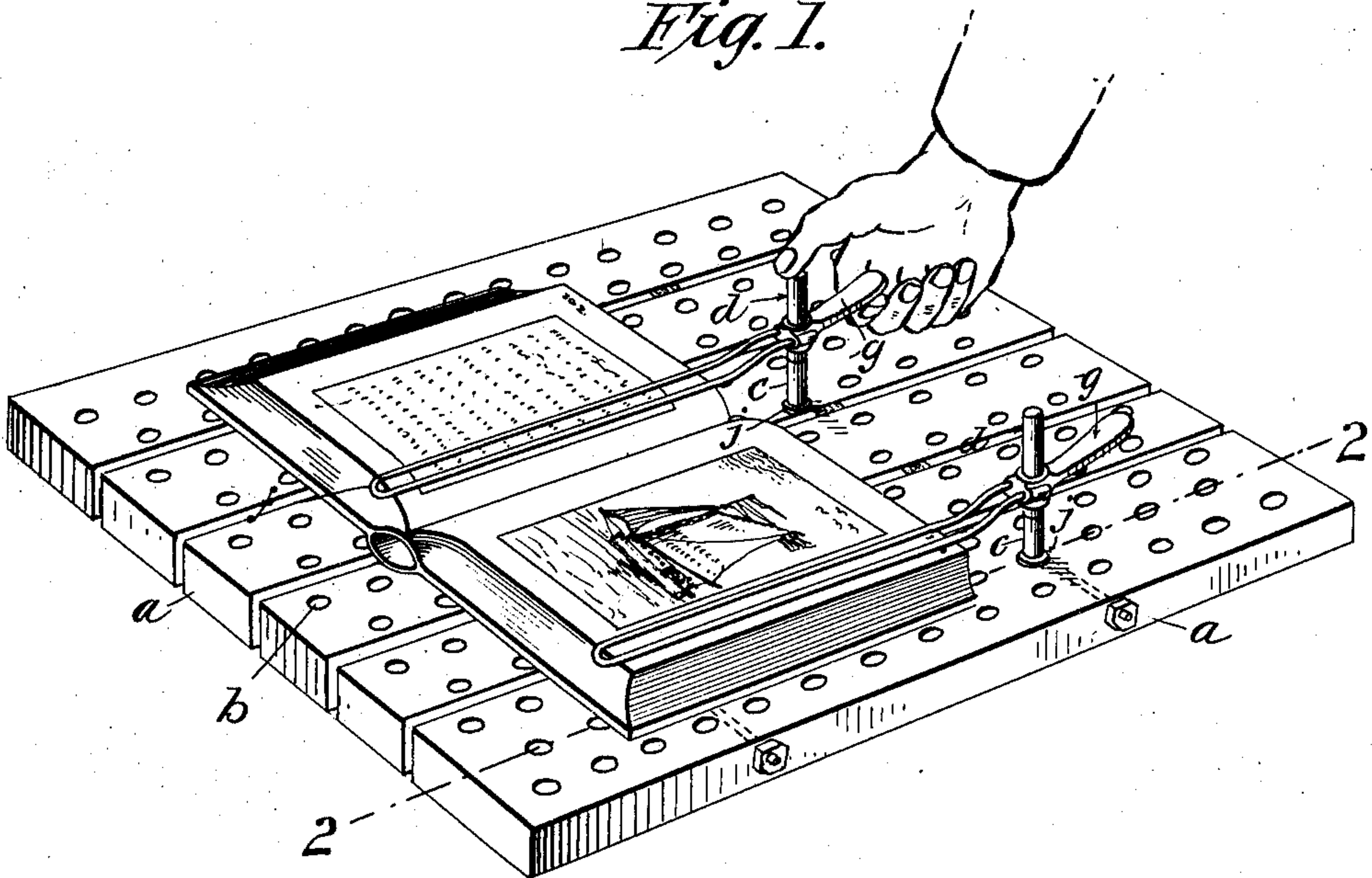


Fig. 2.

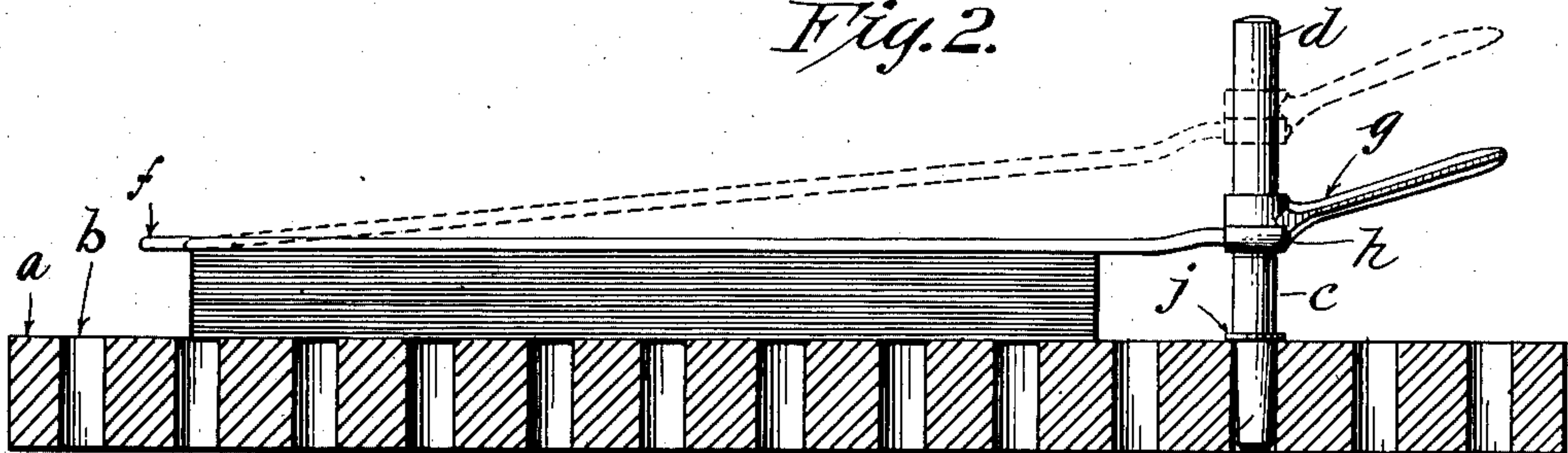
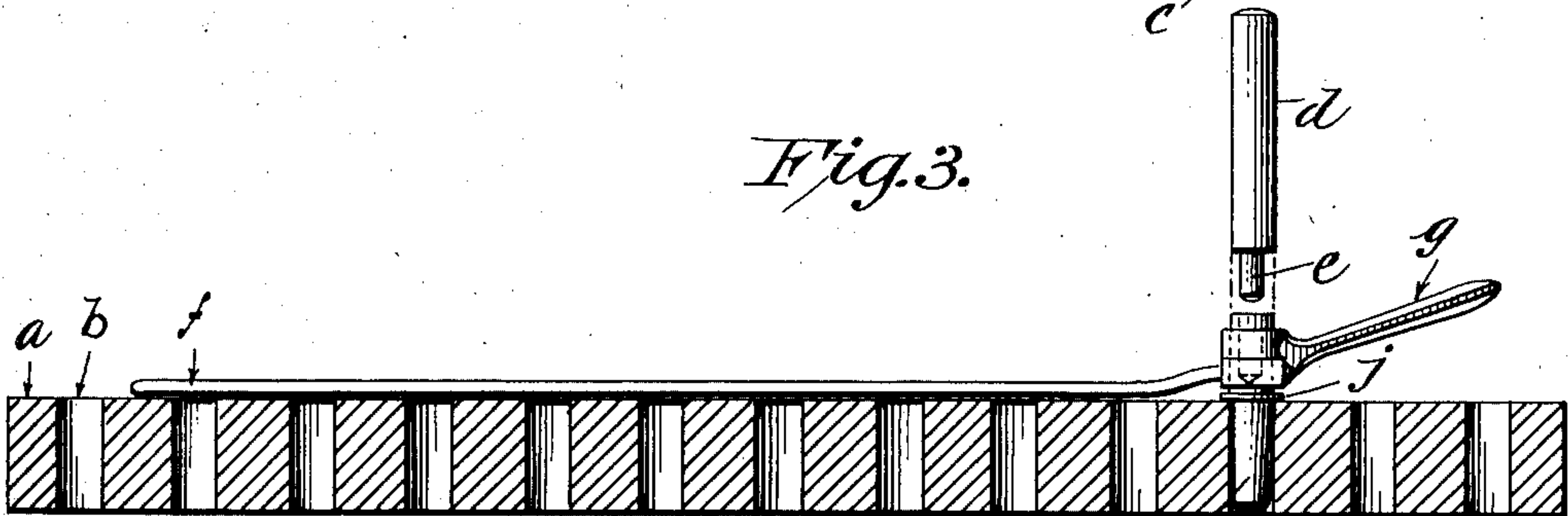


Fig. 3.



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2 SHEETS—SHEET 2.

Fig. 4.

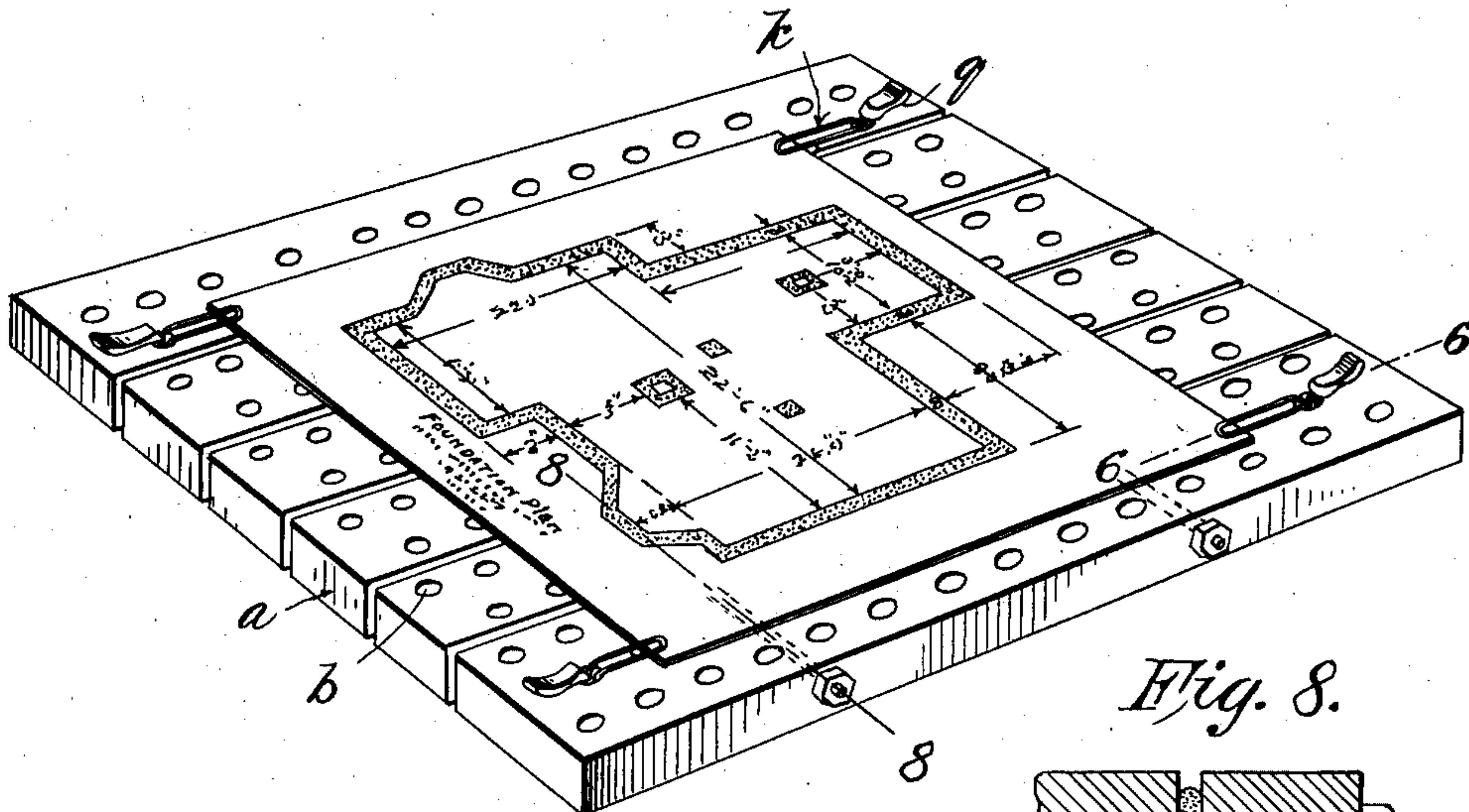


Fig. 8.

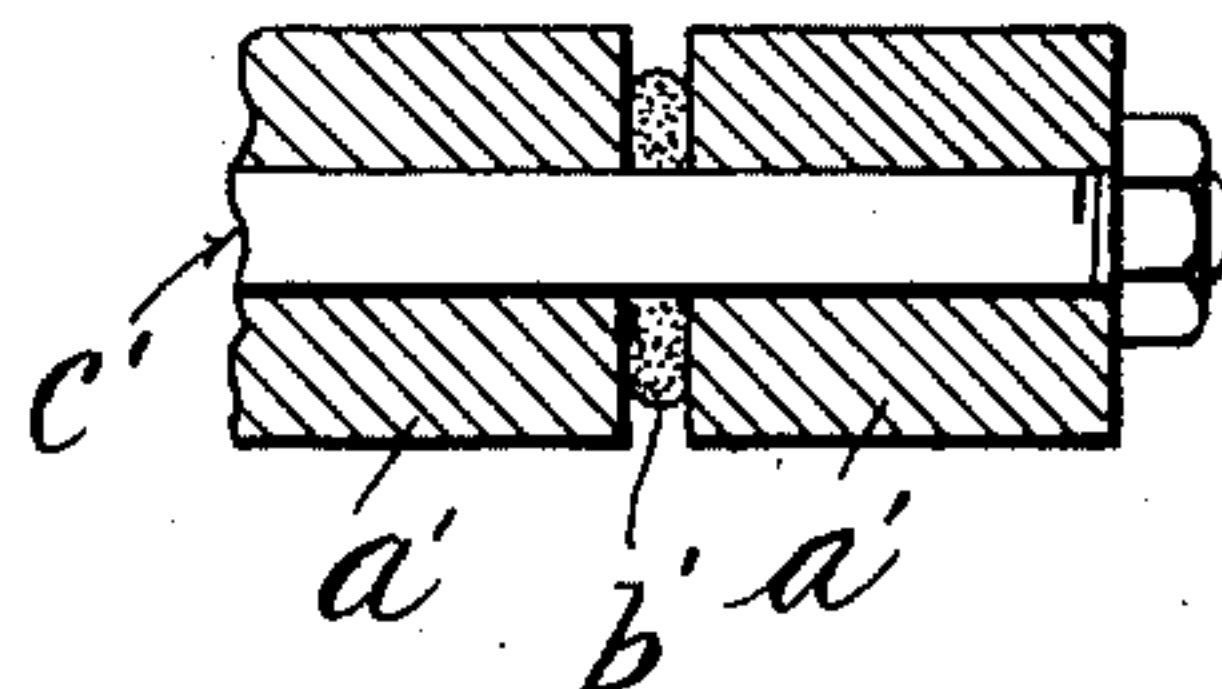


Fig. 5.

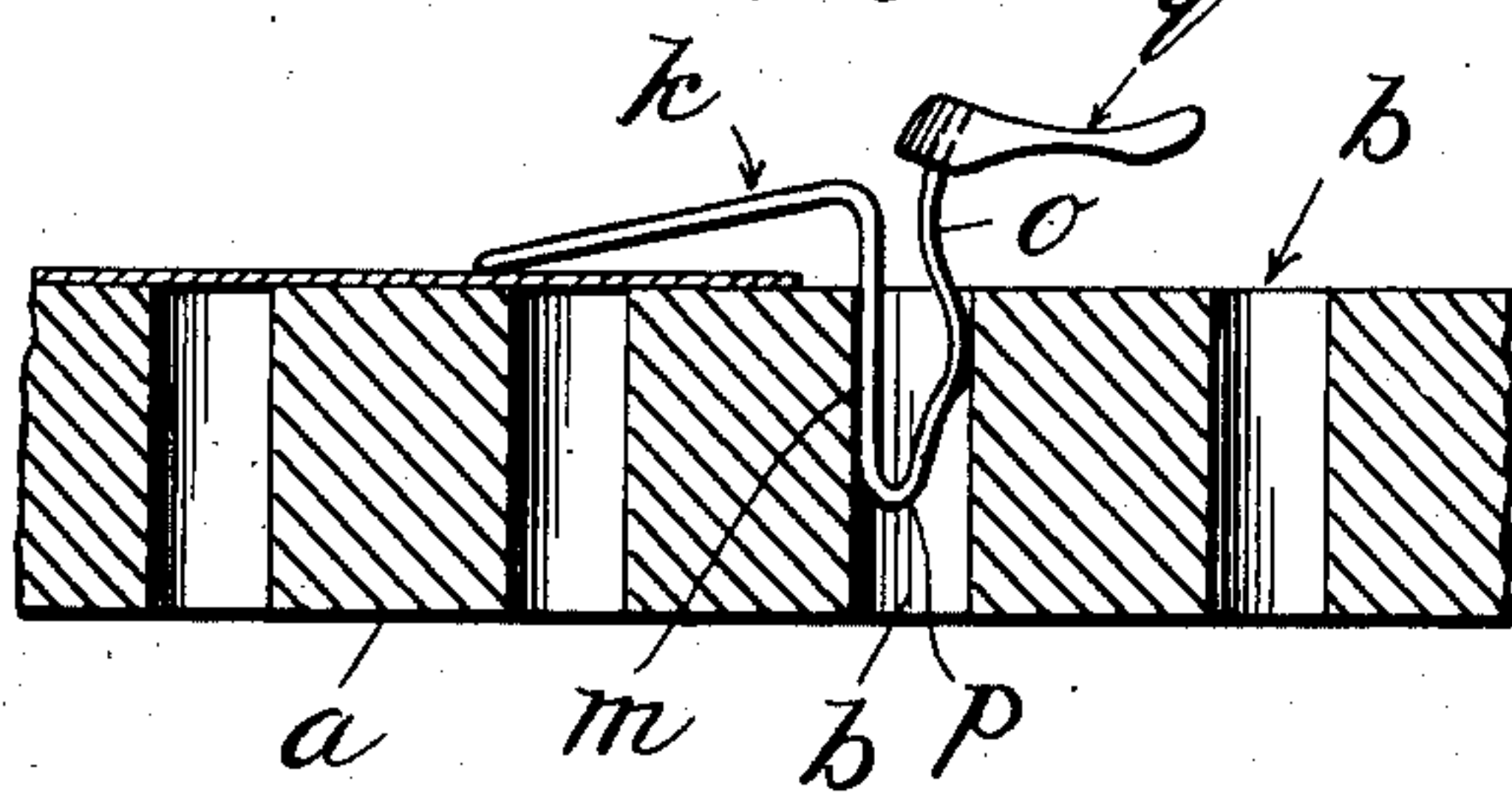


Fig. 6.

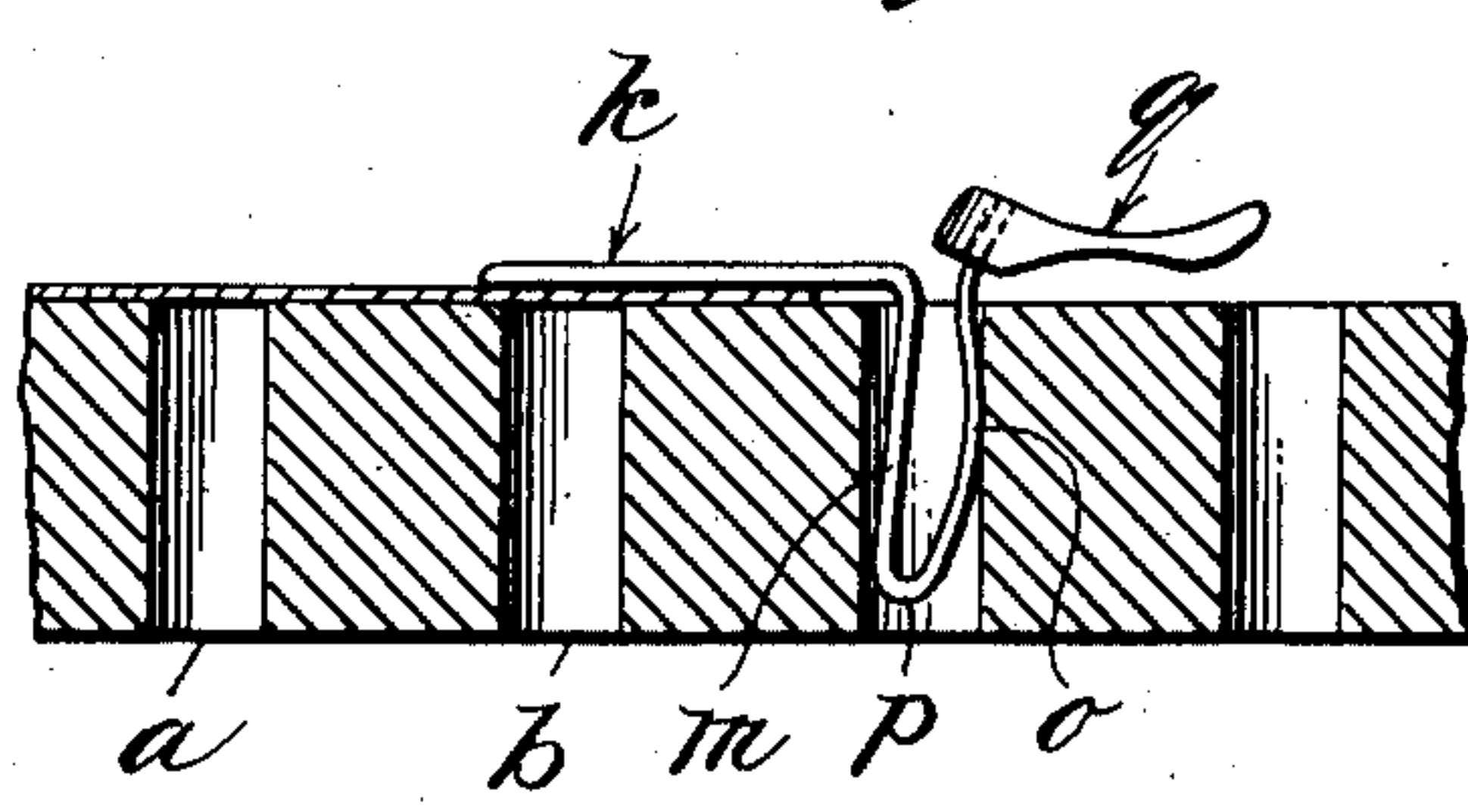
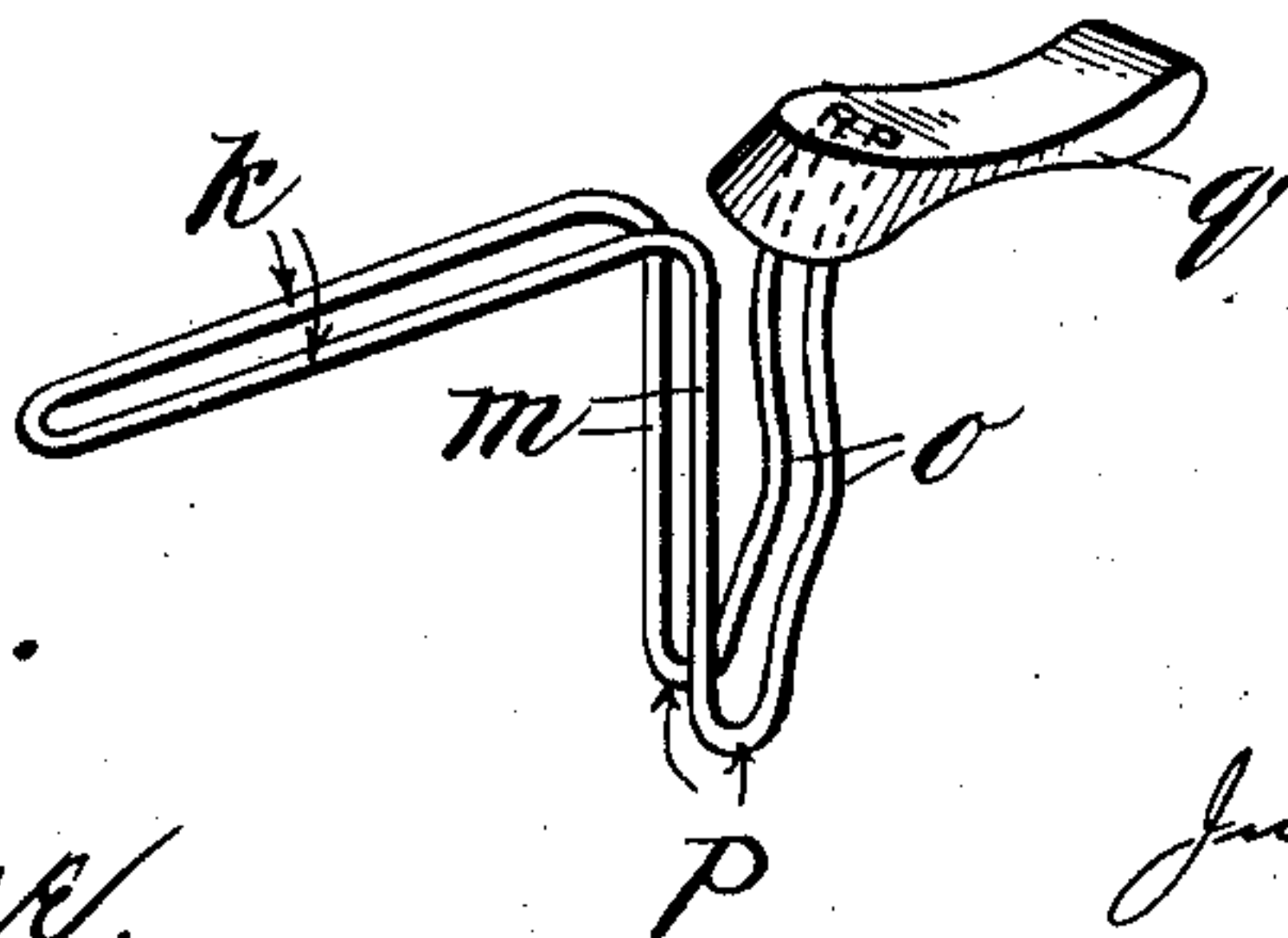


Fig. 7.



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UNITED STATES PATENT OFFICE.

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PAPER-CLIP.

No. 864,254.

Specification of Letters Patent.

Patented Aug. 27, 1907.

Application filed July 12, 1906. Serial No. 325,781.

To all whom it may concern:

Be it known that I, JULIAN L. PERKINS, a citizen of the United States of America, residing at West Springfield, in the county of Hampden and State of Massachusetts, have invented new and useful Improvements in Paper-Clips, of which the following is a specification.

This invention relates to devices for removably securing a sheet of paper or the like to a board to hold it flat thereon, the particular object of the invention being to provide a clip for securing a drawing to a board to hold the same flat for the purpose of photographing it, the invention being particularly adapted for use in the art of photolithographing or kindred reproducing process, and it is equally adapted to hold a single sheet or a book in open position without marring the margin of the object so held, and so constructed as not to cast a shadow on the work.

The invention is clearly illustrated in the accompanying drawings, in which

Figure 1 is a perspective view of a board and book thereon showing the form of construction employed to hold a thicker object than a drawing, flat on the board. Fig. 2 is a sectional elevation on line 2—2, Fig. 1, showing a clip in engaging position with a book on the board, the released position of the clip being indicated in dotted lines. Fig. 3 is a sectional elevation similar to Fig. 2 showing the form of clip in this last named figure in engaging position with a sheet of paper on the board, and showing the construction of the separable post on which the clip is mounted. Fig. 4 is a perspective view of a board on which a drawing is secured by means of the invention. Fig. 5 is an enlarged sectional elevation of a portion of a board showing a modified form of the clip as applied thereto in position to permit the removal of the sheet. Fig. 6 is a view similar to Fig. 5 showing the clip in engaging position with the paper and board. Fig. 7 is a perspective view of a clip adapted for use particularly on single sheets of drawing. Fig. 8 is a detail view on the line 8—8 of Fig. 4 showing the manner of constructing my board so as to prevent warping.

In carrying out the invention whichever form of clip is used the board *a* is the same and it consists in a flat board of suitable dimensions having a number of holes *b* therethrough preferably equi-distant one from the other and at right angles to the face of the board.

The clip construction illustrated in Figs. 1, 2, and 3 will first be described. This consists of a post, preferably, though not necessarily, made in two parts,—one part *c* fitting into the holes *b* and the other part *d* having a turned-down end *e* which fits into a hole drilled into the upper end of the part *c*, the two parts of the post having the same diameter, and the upper constituting an extension of the lower part. The clip proper consists of a long spring-finger *f*, preferably made in the

form of a long loop, as shown in Fig. 1, with its two ends secured in a handle-piece *g* as at *h*, which handle-piece has a sliding fit on the two-part post. The latter may be provided with a collar *j* to determine the extent of the entrance of the part *c* of the post in the holes in the board. The purpose of making the post in two parts is to adapt the clip to be used on books of varying thicknesses and when it is used on a book of such thickness that the handle portion *g* will, as in the position shown in Fig. 3, be located below the line of division between the two posts, the upper part may be removed, as shown in Fig. 3, in order that this part may not cast a shadow over the face of the book or drawing which is to be reproduced.

In practice, the posts are made with the part *c* of varying length and thus a post to receive the clip may always be selected in which the part *c* is adapted to the thickness of the object which the clip is to hold. When the clip is put on the post it is necessary that the upper end thereof should be in the position on the part *c* for the handle-part *g* to slide upon as the finger *f* is pressed down into contact with the object which it is to hold, (for the natural position of this finger is at an angle to the axis of the post,) and when the handle part is pushed down from the dotted position shown in Fig. 2 to the position indicated in full lines, it is the spring of the finger *f* which cants the handle-part *g* in such a way as to cause the latter to bind on the post, which holds the handle-part stationary thereon with the spring-finger *f* flexed as shown. After the clip has been seated, if the handle-part *g* thereof lies above the line of division between the upper and lower end of the post, then the upper part *d* of said post can not be removed; but if the handle-part be located below that line of division the part *d* may be detached if the light is such as to cause it to throw a shadow across the face of the book or drawing. If the post is not made in two parts, it should be long enough to allow the handle part to slide on it far enough to flex the finger *f*, as described.

To remove the clip, the upper part *d* of the post should be replaced on the part *c* and the thumb rested on the upper end thereof, the fore finger grasping the handle-part *g* as shown in Fig. 1, whereby by throwing the handle-part upward, the hole through it in which the post fits will be brought into substantial alinement with the latter and the reflex action of the spring-finger *f* will slide said handle-part upward, aided more or less of course by the movement of the finger.

The binding effect of the clip, shown in Figs. 4, 5, 6, and 7, is produced in substantially the same manner as by the use of the clip shown in Figs. 1, 2 and 3, and hereinbefore described; but in using this clip, the post is omitted as the clip is only intended for use in holding a single sheet of drawing on the board, its use being clearly illustrated in Fig. 4, wherein it is seen that the drawing or the like may be held flat against the board

without being in any way defaced or punctured, and the clips being practically flush with, or so close to, the face of the board as to cause no inconvenience whatever during the ordinary photographic reproduction process. This clip consists of a spring-finger *k* made in the form of a long loop, the wires at one end being turned down, as shown in Fig. 7, at *m*, to constitute the straight side of a leg adapted to be forced into one of the holes *b* of the board, the other part of the leg portion being bent back on the part *m* and substantially parallel therewith save for a hump *o* bent in each wire substantially midway between its ends, that is to say between the point *p* where the turn is made, to the upper end thereof where the ends of the wire enter the thumb-piece *q* to which they are secured. The leg of the clip thus made constitutes practically a spring pin and normally is too wide transversely to enter the holes *b* in the board without being sprung together, and the spring-finger *k* is normally bent downward, as shown in Fig. 5, to a position less than rectangular relative to the vertically disposed portions *m* of the leg. The result is that when the clip is first inserted in one of the holes in the board its position will be that of Fig. 5, and as it is pushed down to bring the spring-finger *k* parallel with the board, said vertical portion *m* of the leg will be sprung back as shown in Fig. 6, and the points of contact of the leg portion in the holes being the bottom of the leg and the hump or bend *o*, and as the clip is forced downwardly, the spring-finger *k* has a slight movement toward the hole in which the clip is entered thus having a tendency to draw the paper out flat. To remove the clip, it is only necessary to take hold of the thumb-piece and lift it away from the board which compresses the spring-leg still further and permits it to be easily removed, the hump or bend *o* sliding freely on the wall of the hole during the withdrawal of the clip.

In order to prevent the board *a* from warping, I preferably construct the same of comparatively narrow strips *a*¹ as shown. Spacing pieces *b*¹ of leather are

placed between the strips, and passing transversely through all of the strips and spacing pieces are bolts *c*¹ having the usual tightening means on the end thereof. The purpose of the leather spacing pieces is to allow for the expansion and contraction of the strips when affected by atmospheric conditions. The board as thus made is free from warping, thus insuring an even surface at all times.

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

1. A clip of the character described in combination with a sheet of paper or the like, a board, the clip consisting of a thumb-piece and a flexible finger extending therefrom to engage the paper, the thumb-piece having an operative engagement with said board to move in a plane substantially vertical thereto, the angle of the finger relative to the line of movement of the thumb-piece being less than a right angle.

2. The combination with a board having holes therein, of a clip to hold a sheet of paper or the like on the board consisting of a member to enter one of said holes, and a spring-finger to bear on the paper movable toward and from the board, the angle of the finger relative to the axis of the hole in the board being normally less than a right angle.

3. The combination with a board having holes therein, of a clip to hold a sheet of paper or the like on the board, consisting of a leg member to enter one of said holes, and a spring finger associated with said leg member to bear on the paper, said finger and leg being movable toward and from the board, and the angle of the finger relative to the said leg being normally less than a right angle.

4. The combination with a board having holes therein, of a clip to hold a sheet of paper or the like on the board, said clip consisting of a leg portion and a spring-finger made of one piece of wire, said leg portion being bent in the form of a U to fit tightly in the holes of the board, and said spring-finger extending from the upper end of said leg portion at an angle therefrom which is less than a right angle.

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