

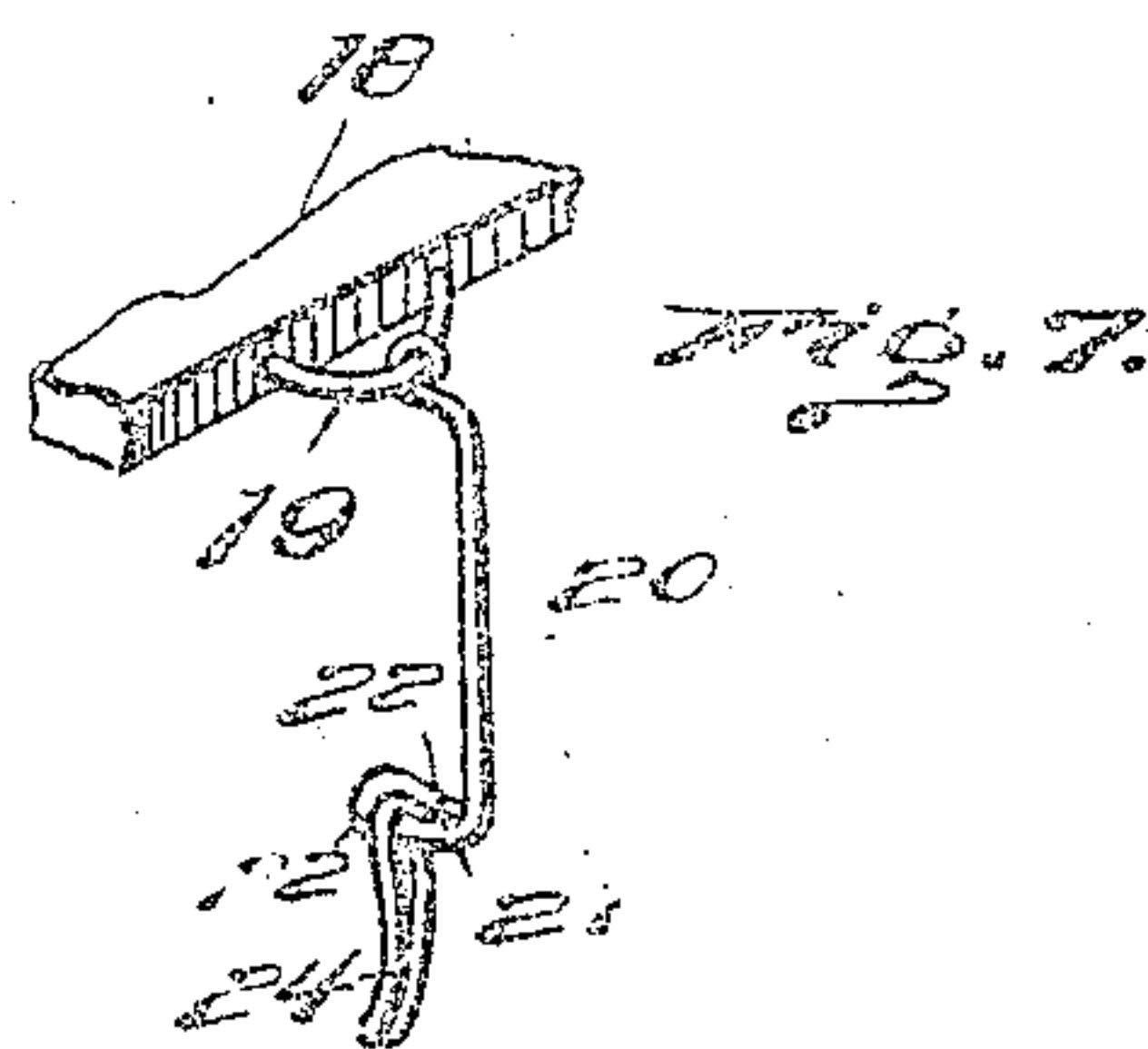
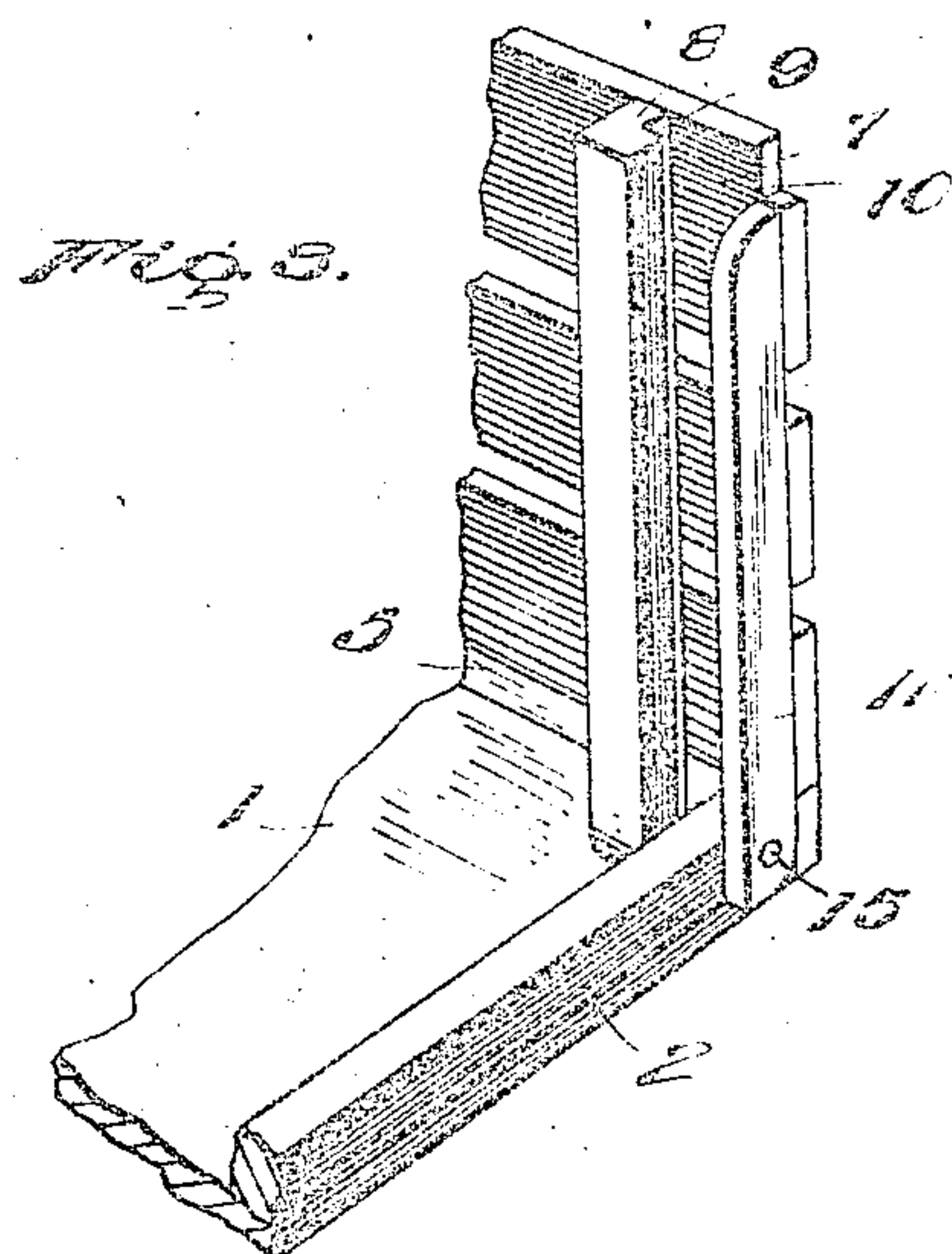
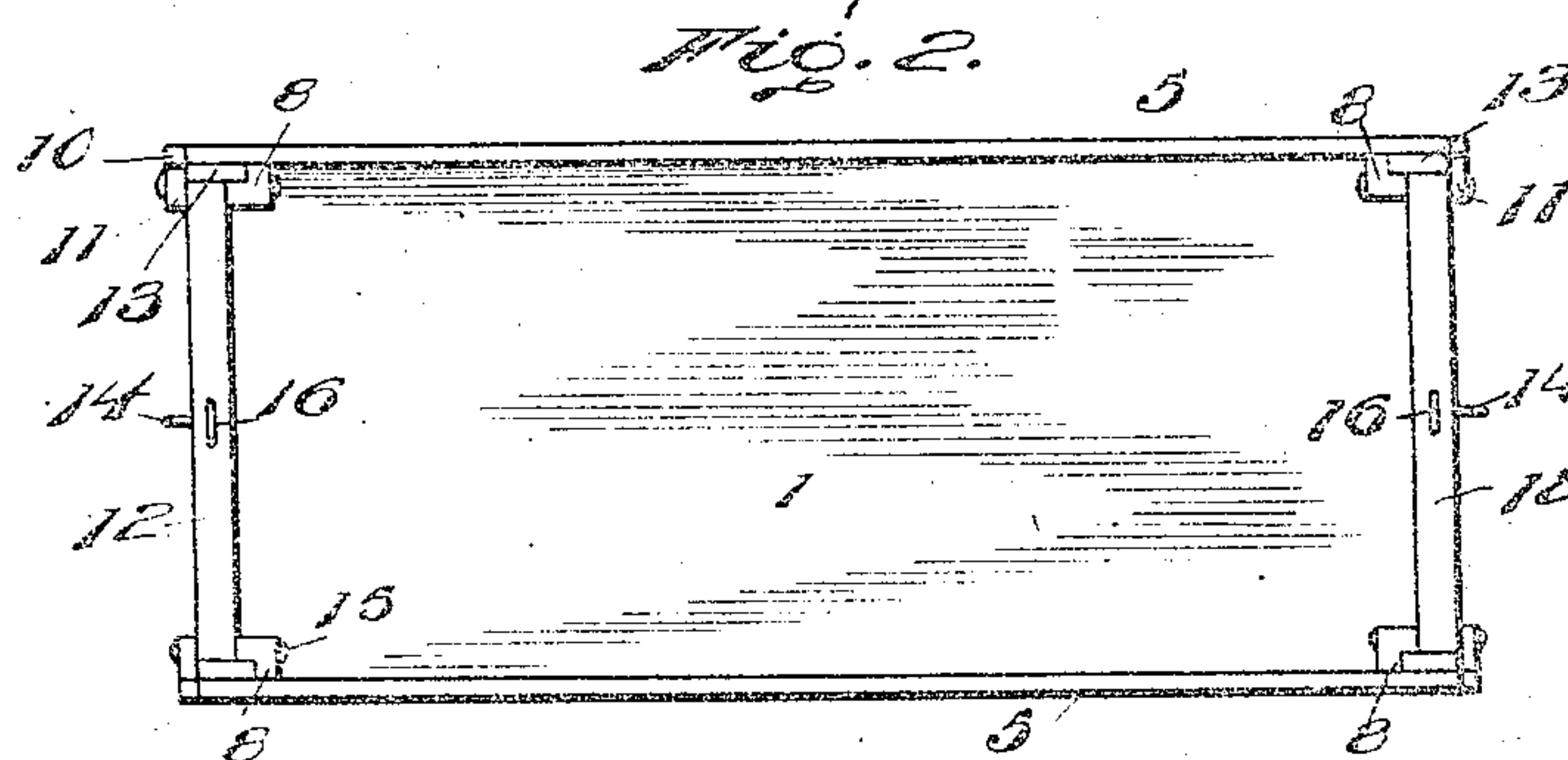
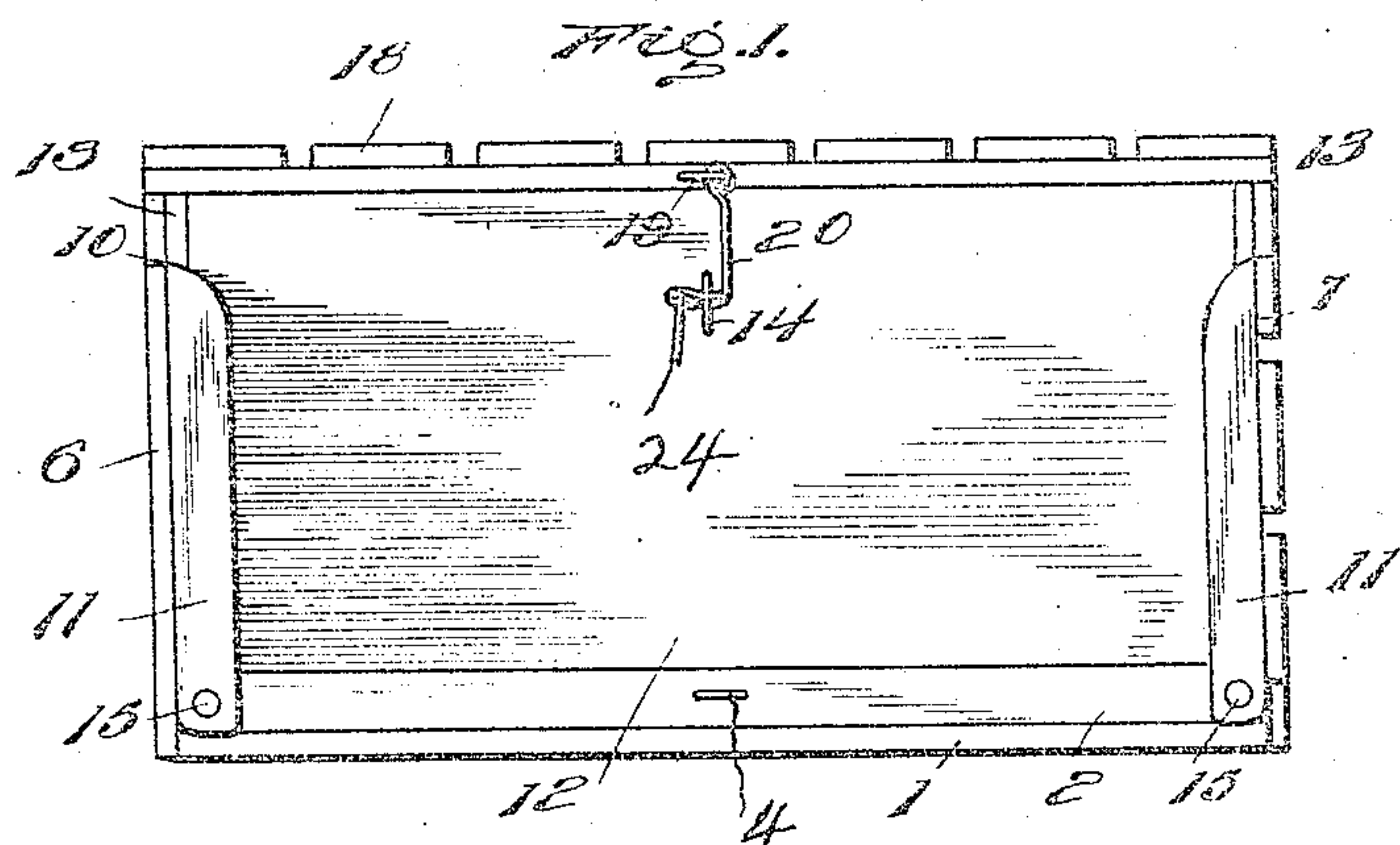
No. 816,164.

PATENTED MAR. 27, 1906.

F. J. HIPPIE.
FOLDING CRATE.

APPLICATION FILED MAY 9, 1905.

2 SHEETS--SHEET 1.



Witnesses

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Figure 1

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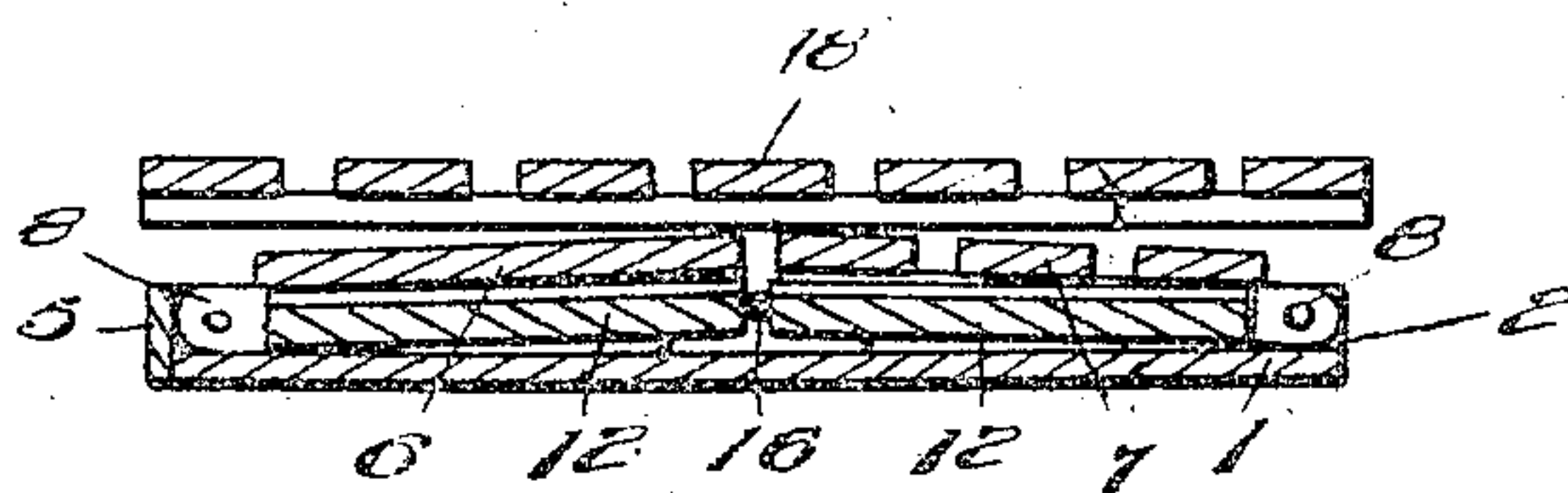
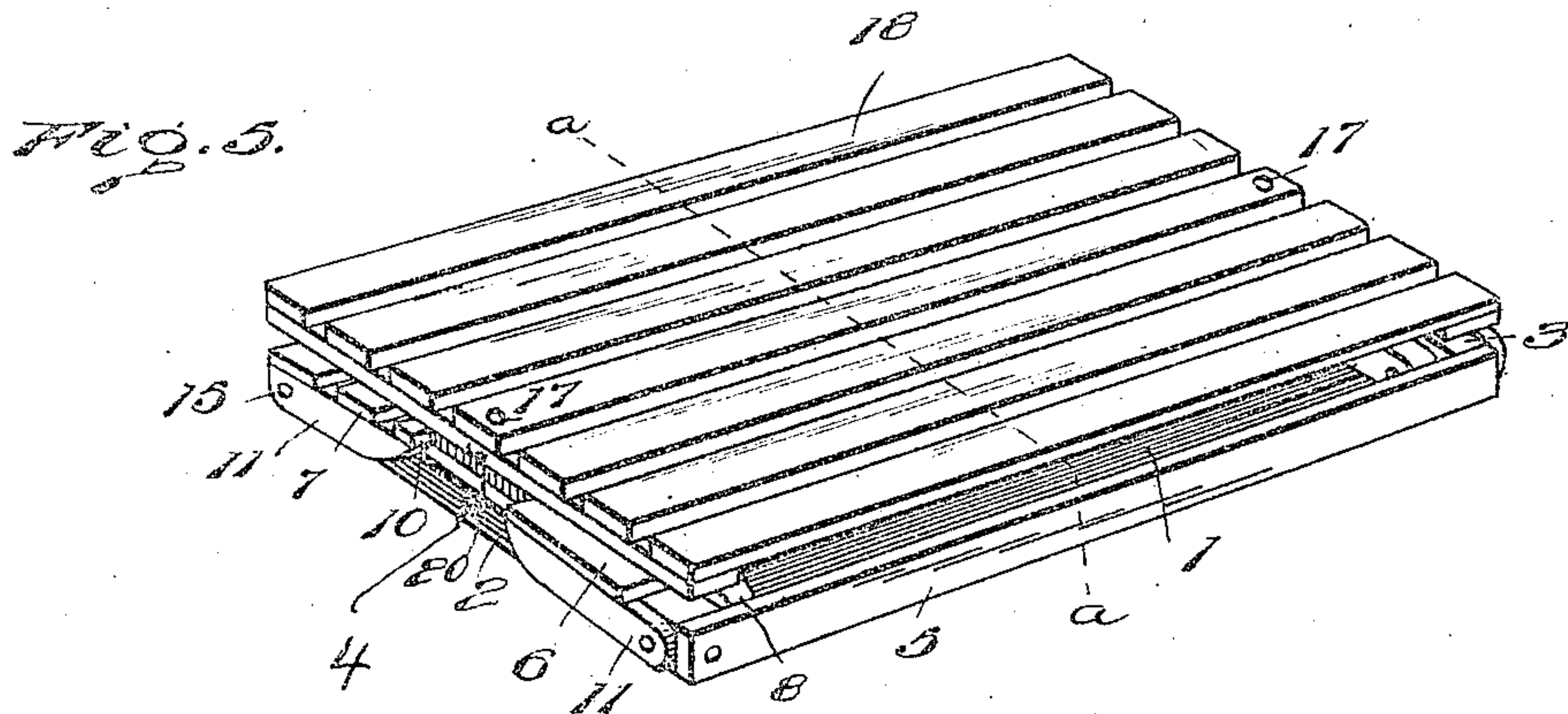
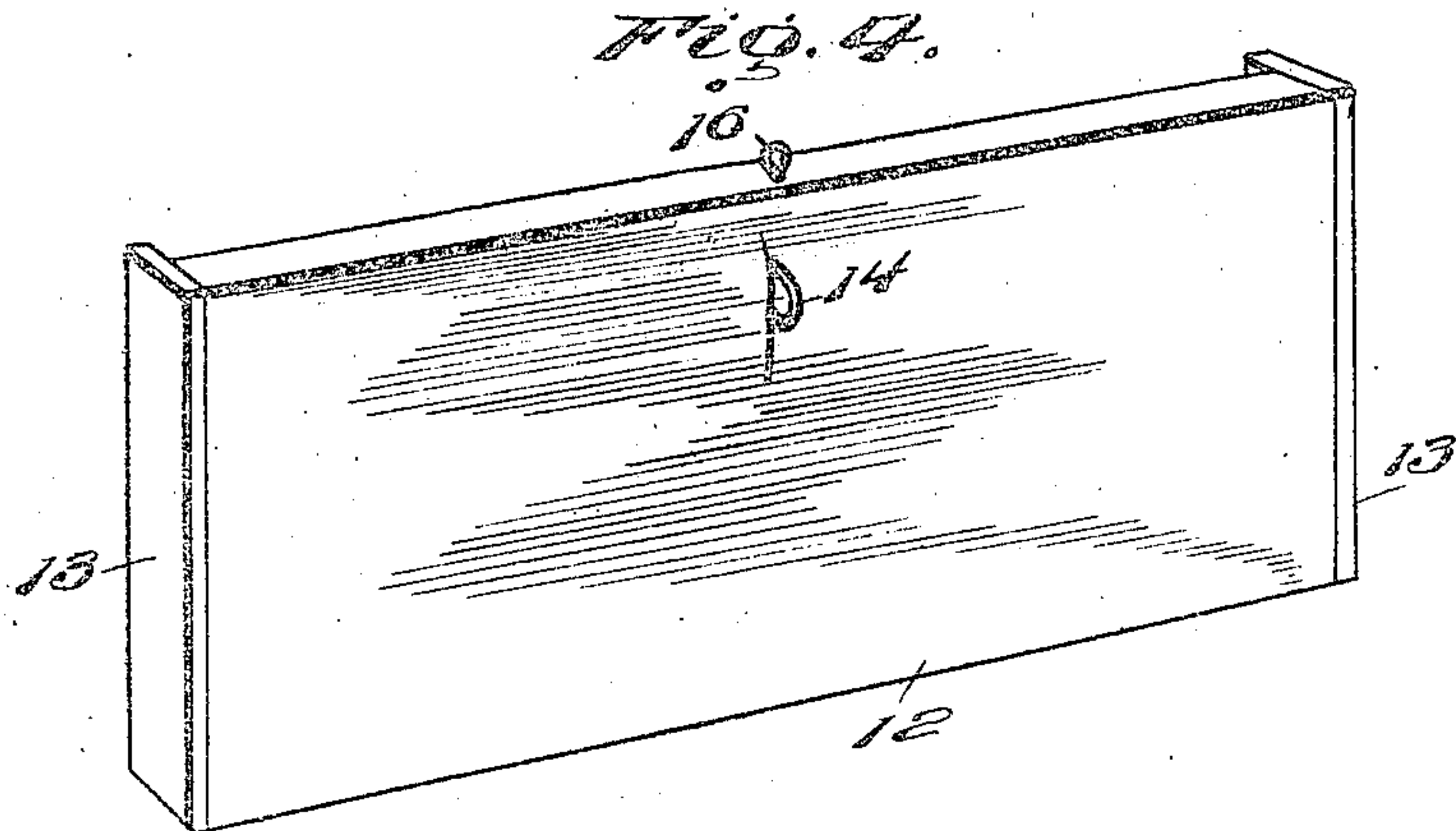


Fig. 6.

Witnesses

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FRANK J. HIPP, OF NEW BRIGHTON, MINNESOTA.

FOLDING CRATE.

No. 816,164.

Specification of Letters Patent.

Patented March 27, 1906.

Application filed May 9, 1905. Serial No. 259,637.

To all whom it may concern:

Be it known that I, FRANK J. HIPP, a citizen of the United States, residing at New Brighton, in the county of Ramsey, State of Minnesota, have invented certain new and useful Improvements in Folding Crates; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to crates, and more particularly to the "folding" variety or type.

One object of the invention is to provide an exceedingly simple, inexpensive, durable, and efficient crate for poultry, vegetables, &c., of such character that it may be readily assembled or folded, the parts of the crate being fastened together either in their set-up or knockdown position.

Another object of the invention resides in the provision of a construction and arrangement wherein the sides are preferably hingedly associated with the bottom and the ends slidably and removably engaged with the sides of the crate.

A still further object of the invention is to provide a peculiarly-formed fastening means for locking the parts of the crate together in their assembled or knockdown positions.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claim, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claim without departing from the spirit or sacrificing any of the advantages of the present invention.

In the drawings, Figure 1 is an end view of one form of crate embodying my invention. Fig. 2 is a top plan view with the top removed. Fig. 3 is a detail perspective view of a portion of the bottom of the crate and one of the side pieces. Fig. 4 is a detail perspective view of one of the end pieces. Fig. 5 is a detail perspective view of the crate in its folded position. Fig. 6 is a transverse sectional view on the line *a a* of Fig. 5. Fig. 7 is an elevation of the fastening means secured to the top of the crate.

Referring now more particularly to the accompanying drawings, the reference character 1 designates the bottom of the crate, which may be made solid or of slats, as may

be desired, the bottom in any event being secured in any suitable manner to the end strips 2 and 3, which latter are provided with staples or other forms of eyes 4 upon their outer surfaces for a purpose presently understood. Secured along one side edge of the bottom 1 and fastened to the corresponding ends of the oppositely-disposed end pieces of the crate 2 and 3 is a strip 5, whose upper edge lies even with the upper faces of the end strips 2 and 3.

The reference characters 6 and 7 designate the sides of the crate, which may be made of slats placed closely together, as shown in the side 6, or spaced apart, as shown in the side 7, the slats in any event being secured to the transverse strips 8, arranged close to the ends of the side pieces and adapted to be disposed over the bottom of the crate and in contact with the inner faces of the end strips 2 and 3, each transverse bracing-piece 8 being provided with a groove 9 at the juncture of its outer face and the inner face of the corresponding side, the upper strips of the sides being notched at each end, as at 10, and from which and extending downwardly is an inwardly-turned elongated flange or projection 11, the inner faces of which are designed to contact with the outer faces of the corresponding end strips 2 and 3, forming a guide-way therebetween, and the bracing-strip 8 for the reception of the end pieces 12, which slidably fit therein, each end having a strip 13 secured along each transverse end edge thereof, the side strips at their outer edges lying flush with the outer faces of the ends with their opposite edges extending inwardly beyond the inner faces of the ends to form tongues designed to engage in the groove 9 of the bracing-strips 8, firmly locking the ends with respect to the sides and bottom of the crate. The ends have their lower edge resting upon the upper edge or face of the end strips 2 and 3, as shown in the accompanying drawings. The outer surfaces of each end are provided with staples or eyes 14 for a purpose presently explained. It will thus be understood that the ends are slidably engaged between the sides and by reason of the tongue-and-groove engagement therebetween are locked against lateral displacement with respect to the sides, which latter are pivotally connected along the longitudinal edges of the bottom by means of a pivot-pin 15 piercing the inwardly-turned flanges or projections 11, the corresponding end strips 2 and 3, and the bracing-strips 8, as clearly

shown in the drawings, the lower ends of the bracing-pieces 8, which rest upon the bottom of the crate within the end strips 2 and 3, being curved transversely to permit of their free and easy turning thereupon when the sides are thrown downwardly to fold the box, the sides in their downward position having their braces and inwardly-turned flanges or projections still embracing the end pieces 1 and 2, the end pieces 12 when they have been removed from their vertical position to fold the box being placed upon the bottom of the crate, upon which they are held between the end strips and the downwardly-turned sides.

The upper edges of the ends have an eye 16 arranged centrally thereof and projecting upwardly therefrom, over which fit openings 17 of the top 18, preventing lateral or longitudinal displacement of the top with reference to the crate when the top is not locked positively in engagement with the crate. In order to positively lock the top 18 upon the crate, the outer edges of opposite ends thereof are provided with a staple 19, to which are pivotally connected short arms 20, each having their ends turned at an extreme angle to the body portion 20 thereof, as at 21, the extreme of the bent portions 21 terminating in eyes 22, which receive the bight portion 23 of the spring fastening means 24, which latter are designed to be sprung into engagement with the hooks or staples 14 upon the outer faces of the ends of the crate. When the spring-fastenings 24 are engaged in the hooks or staples 14, the top of the crate is positively locked in engagement with the upper portion of the crate, the springs being of such character as to permit their easy withdrawal from their engaging hooks or staples to permit access to the interior of the crate, as well understood.

When the ends of the crate have been withdrawn from their position at the ends of the crate and placed upon the bottom thereof and the sides of the crate have been folded down upon the ends disposed upon the bottom of the crate, the top 18 is then placed

over the folded sides, and the fastening means, hereinbefore described, has its spring element engaged in the aforesaid staples 4, arranged upon the outer surfaces of the end strips 2 and 3, it thus being understood that the one fastening means is provided for locking the top to the crate in its set-up position and also in its folded position. It will be understood, too, that the notches 10 of the sides of the crate alining with respect to adjacent ends of the sides when folded form what might be termed an "elongated" notch to permit of the arm portion 20 of the fastening means and its connections to readily engage the staples or hooks 4, arranged upon the outer surfaces of the end strips 2 and 3.

It will be apparent that the top, bottom, sides, and ends of the crate may be formed of spaced slats, or all of these elements may be composed of solid pieces, if desired.

It will be observed that the locking means of the crates are of a spring nature, whereby the spring ends of the fastening means may be sprung into engagement with its corresponding eye or hook.

What is claimed is—

In a folding crate, a bottom having a strip at each end and a strip along one longitudinal side thereof, sides having notches at each end of their upper strips, bracing-strips at each end of the sides, each strip being provided with a groove, a flange spaced from the bracing-strip, end pieces adapted to be received between the said bracing-strips and the flange, bracing-strips disposed upon the end faces of the said end pieces and adapted to be received by the grooves in the first-named bracing-strips, a top, and a fastening means secured to the top for engagement with the crate.

In testimony whereof I affix my signature in presence of two witnesses.

FRANK J. HIPPE

Witnesses:

GEORGE J. CANNON,
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