

No. 744,030.

PATENTED NOV. 17, 1903.

G. S. BRONSON.

HINGE.

APPLICATION FILED JUNE 17, 1903.

NO MODEL.

Fig. 2.

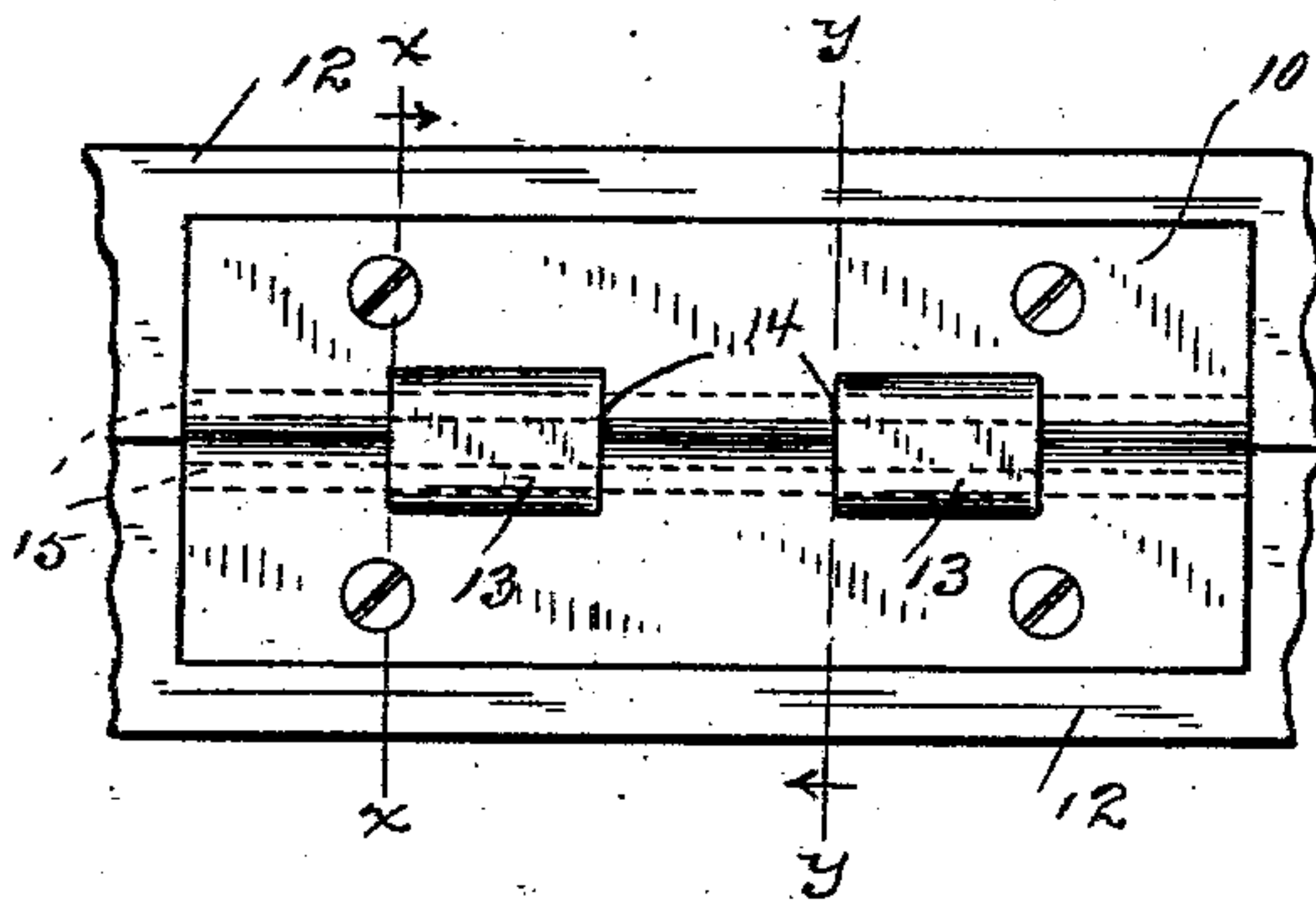


Fig. 1.

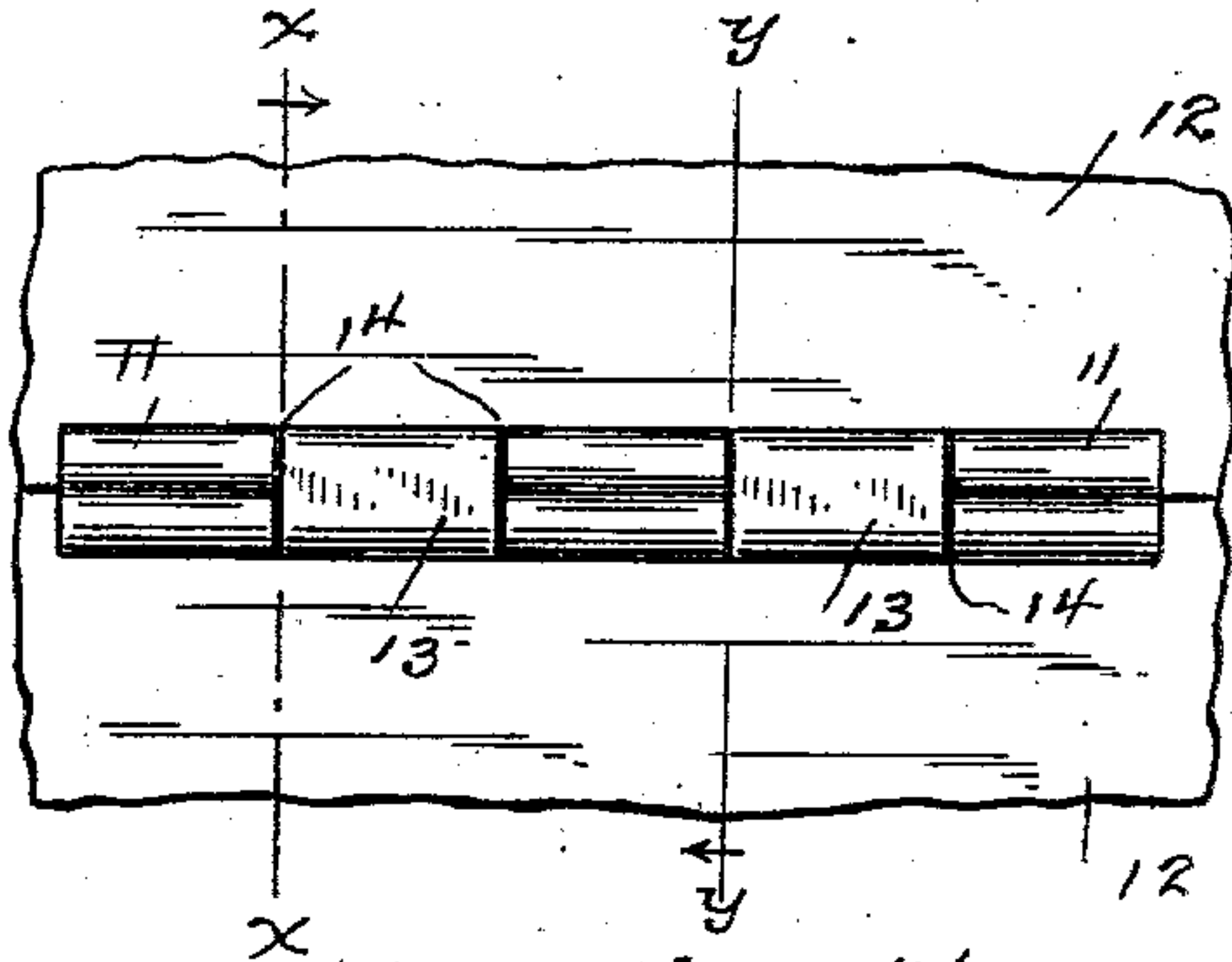


Fig. 6.

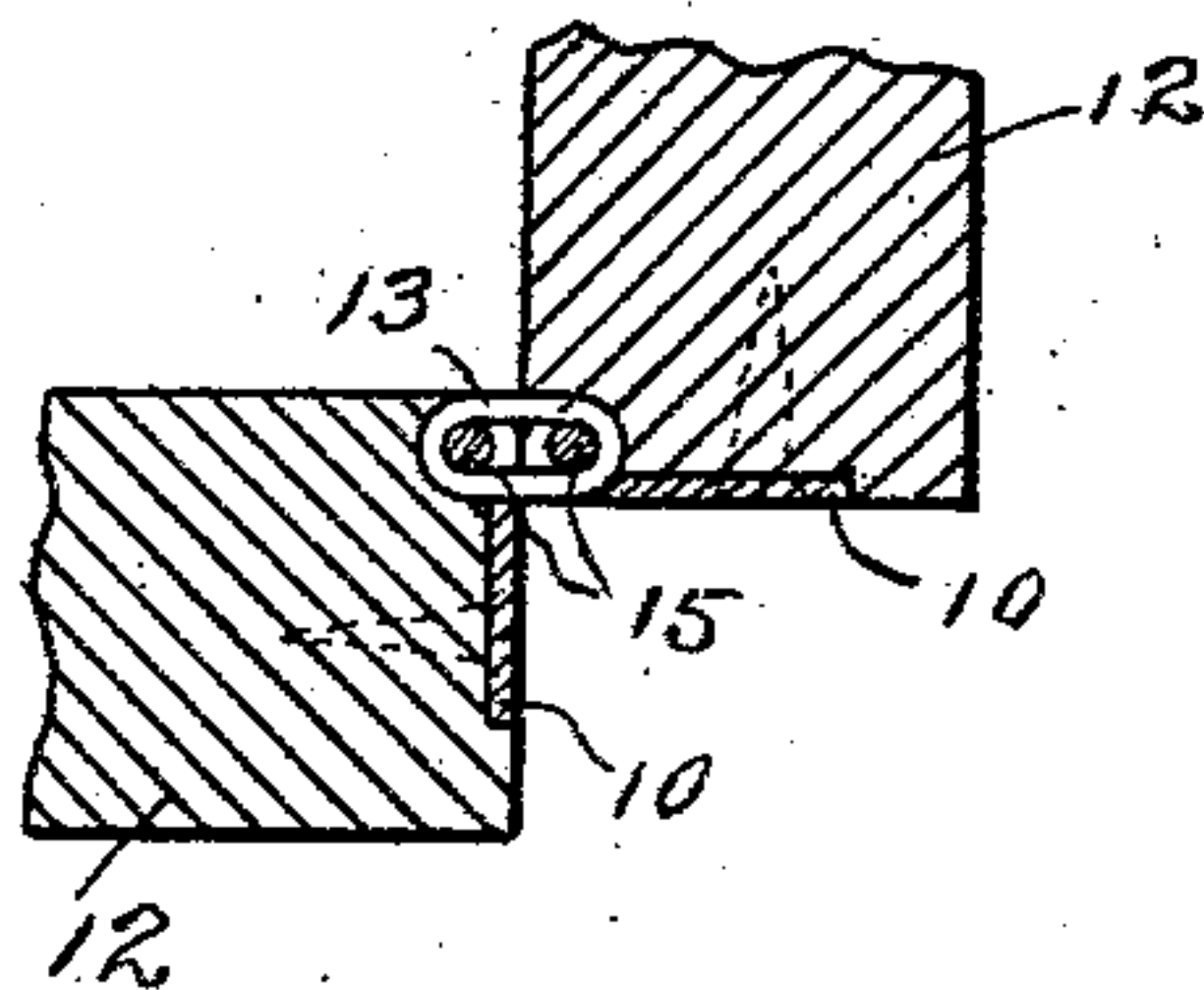


Fig. 5.

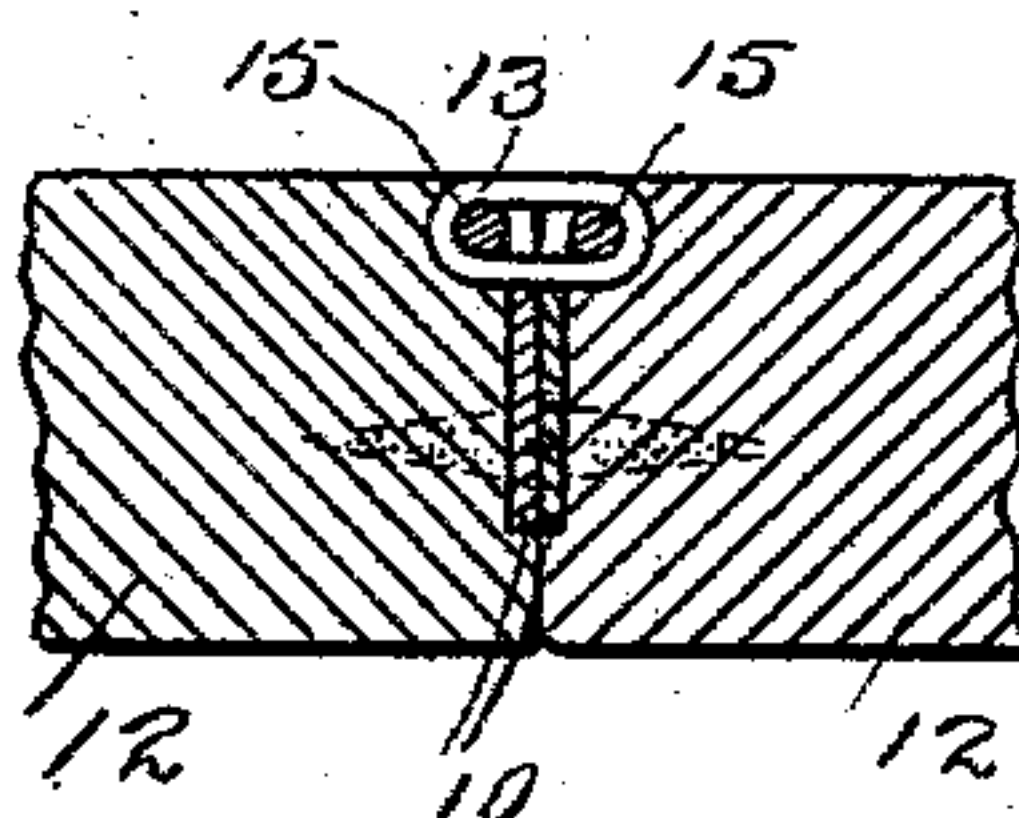


Fig. 7.

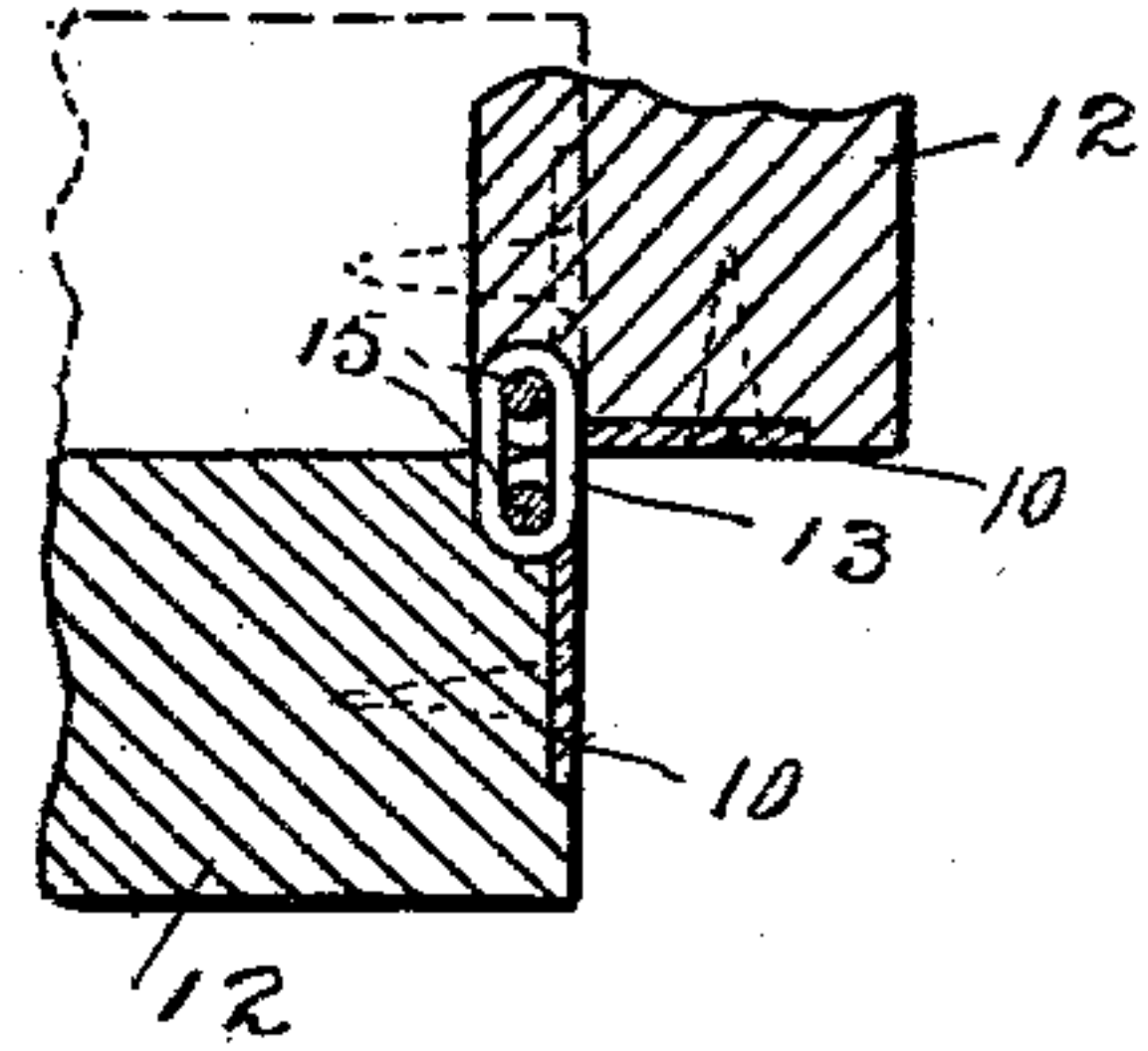


Fig. 4.

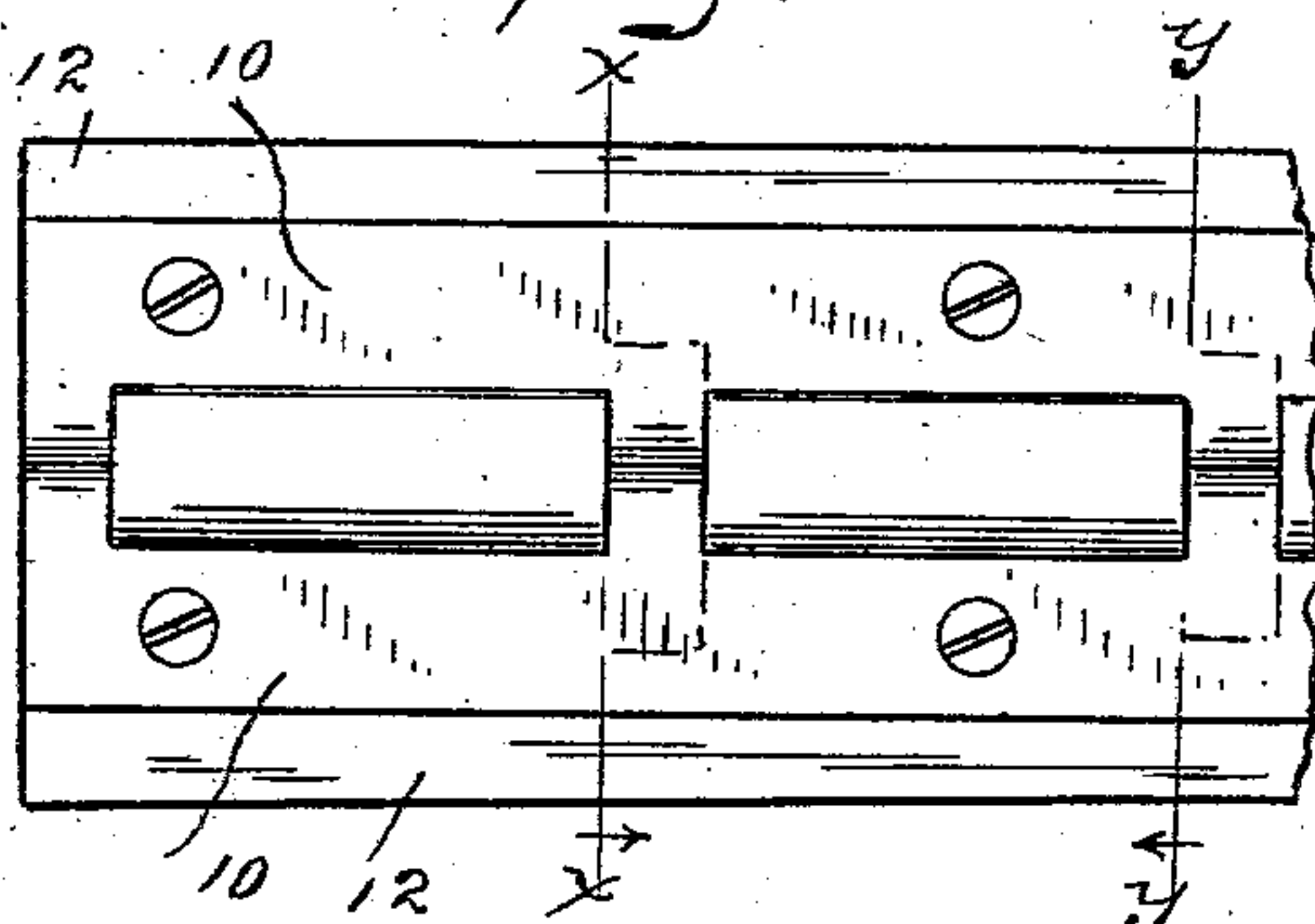


Fig. 3.

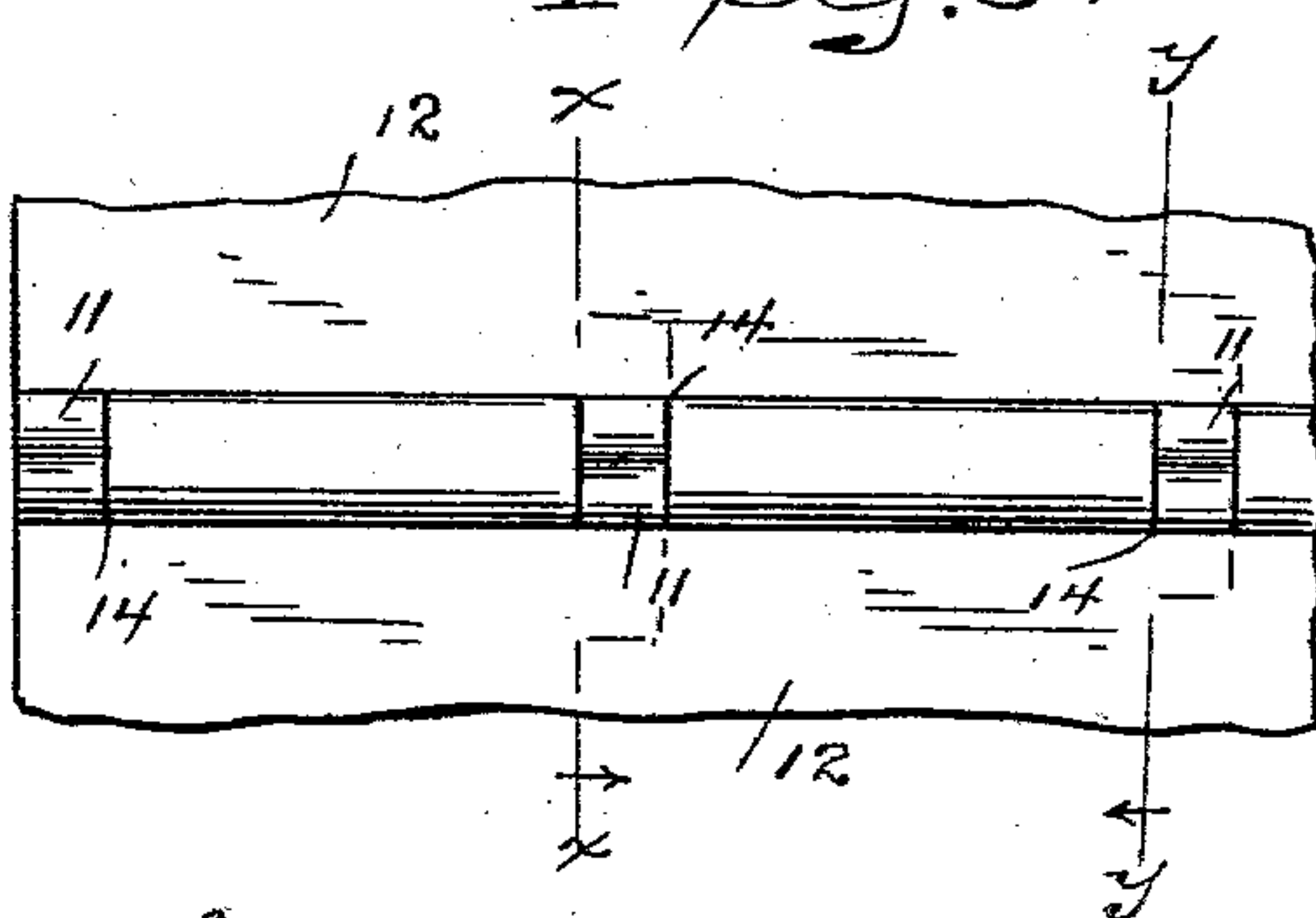
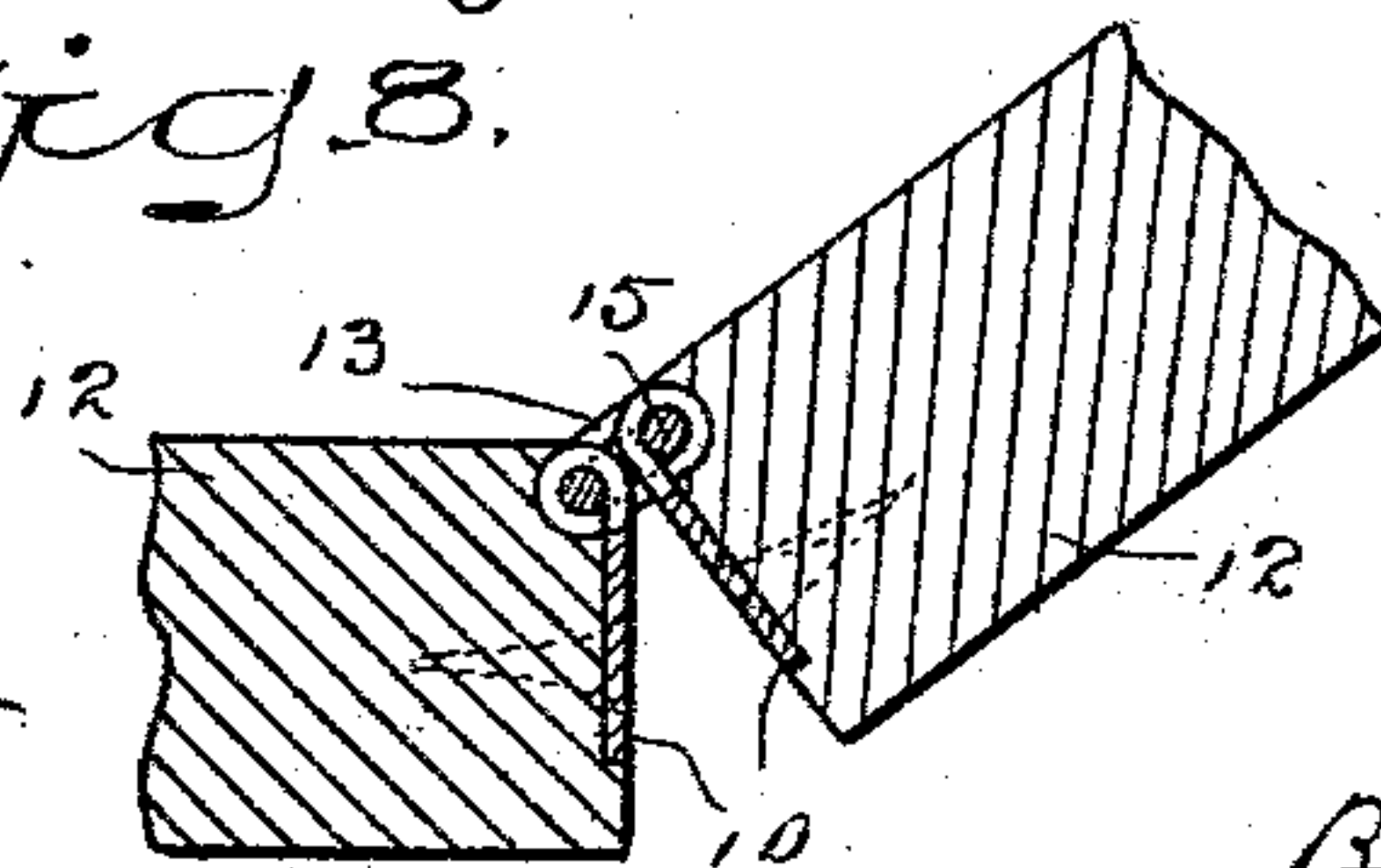


Fig. 8.



WITNESSES.

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# UNITED STATES PATENT OFFICE.

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## HINGE.

SPECIFICATION forming part of Letters Patent No. 744,030, dated November 17, 1903.

Application filed June 17, 1903. Serial No. 161,872. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE S. BRONSON, a citizen of the United States, residing at Beacon Falls, county of New Haven, State of Connecticut, have invented a new and useful Hinge, of which the following is a specification.

My invention has for its object to provide a hinge adapted for general use wherever it is desirable to avoid projecting knuckles and have the surface of the hinge flush with the surface of the parts to which it is attached in both the open and closed positions—as, for example, in piano-hinges.

With this end in view I have devised the novel hinge of which the following description, in connection with the accompanying drawings, forming part thereof, is a specification, reference characters being used to indicate the several parts.

Figures 1 and 3 are plan views illustrating the application of slightly variant forms of my novel hinge to parts and showing the position of the knuckles and links when in the closed position. Figs. 2 and 4 are corresponding elevations illustrating the position of the leaves and the links when in the open position. Fig. 5 is a section on the line  $x x$ , the parts being in the closed position, as in Figs. 1 and 3; Fig. 6, a section on the same line illustrating a position of the parts while the leaves are passing from the open to the closed position; Fig. 7, a section on the same line illustrating a position of the parts while the leaves are passing from the closed to the open position and in dotted lines the position in the fully-open position; and Fig. 8 is a section on the line  $y y$ , showing the parts slightly separated, as in the opening or closing movement.

10 denotes the leaves of my novel hinge, which are provided with knuckles 11, and 12 parts to which the leaves are attached. The essential novelty of the hinge lies in links 13, having parallel sides, the lesser diameter of the links being uniform with the diameter of the knuckles. In the assembled position the knuckles lie in alinement and may have a rolling contact with each other, and the links occupy the spaces between the knuckles, which I have indicated by 14. The bottoms

of the recesses in the leaves which form the spaces 14 form edges which coact with the sides of the links, as hereinafter described.

15 denotes pins which extend from end to end of the hinge, one pin passing through the knuckles of one leaf and one end of the links, the other pin passing through the knuckles of the other leaf and through the other end of the links.

The relative length of the knuckles and leaves is of course immaterial, so far as the principle of the invention is concerned. For example, the links and knuckles may be of approximately the same length as in Figs. 1 and 2, or, if preferred, the knuckles may be relatively short and the links relatively long, as in Figs. 3 and 4, this being a style of hinge admirably adapted for use upon pianos or in any place where a long and smooth hinge is desired.

As already stated, the essential feature of novelty lies in the links with parallel sides. The novel function of the two sides of the links in use is that they coact with the edges of the spaces 14 of the leaves to act as stops to properly limit the parts in their open and closed positions, one side of the links engaging the parts to which the hinge is attached in the open position, as in Figs. 2, 4, and 7, and the other side of the links engaging the edges of the recessed portions of the leaves in the closed position, as in Figs. 1, 3, 5, and 6, so that when the movable part to which one leaf is attached reaches the fully-closed position, as in Figs. 1, 3, and 5, the link will lie at right angles to the plane of the leaves, and when the parts are in the fully-open position, as in Figs. 2, 4, and 7, the links will lie parallel with and flush with the surface of the leaves. It will be obvious, therefore, that when the parts are in the closed position, as in Figs. 1, 3, and 5, the engagement of one side of the links with the leaves will make it impossible for the movable part to drop below the fixed part, so that said parts must remain parallel, and the surface of the parts, the links, and the knuckles will lie in the same plane—that is, practically flush—and when the parts are in the open position, as in Figs. 2, 4, and 7, the parts will be su-



perposed and in alinement, and the edges of the parts, the leaves of the hinge, and the links will lie in the same plane, thereby making a perfectly-flush hinge in both the open 5 and closed position, and where the relatively long links are used, as in Figs. 2 and 4, making a practically smooth joint.

Having thus described my invention, I claim—

10 1. A hinge comprising leaves having knuckles with recesses between them, links having parallel sides and a lesser diameter uniform with the knuckles and pins extending through the links at the ends and through 15 the knuckles of the respective leaves, the edges of said recesses coacting with the links to act as stops.

2. The combination with hinge-leaves having knuckles lying in alinement and recesses 20 between the knuckles, of links having parallel sides and of uniform diameter with the knuckles lying in the recesses and pins pass-

ing through the ends of the links and through the knuckles of the respective leaves, said links acting as stops by engagement with the 25 recessed edges of the leaves when the parts are in the closed position to retain the links in a plane at right angles to the plane of the leaves and prevent the movable part from dropping below the plane of the fixed part, 30 the surface of the parts, links and knuckles remaining flush, and as stops by engagement with the parts to which the leaves are attached when the parts are in the open position to retain the leaves and the links in the 35 same plane and the edges of the parts in alinement.

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

GEORGE S. BRONSON.

Witnesses:

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HOMER D. BRONSON.