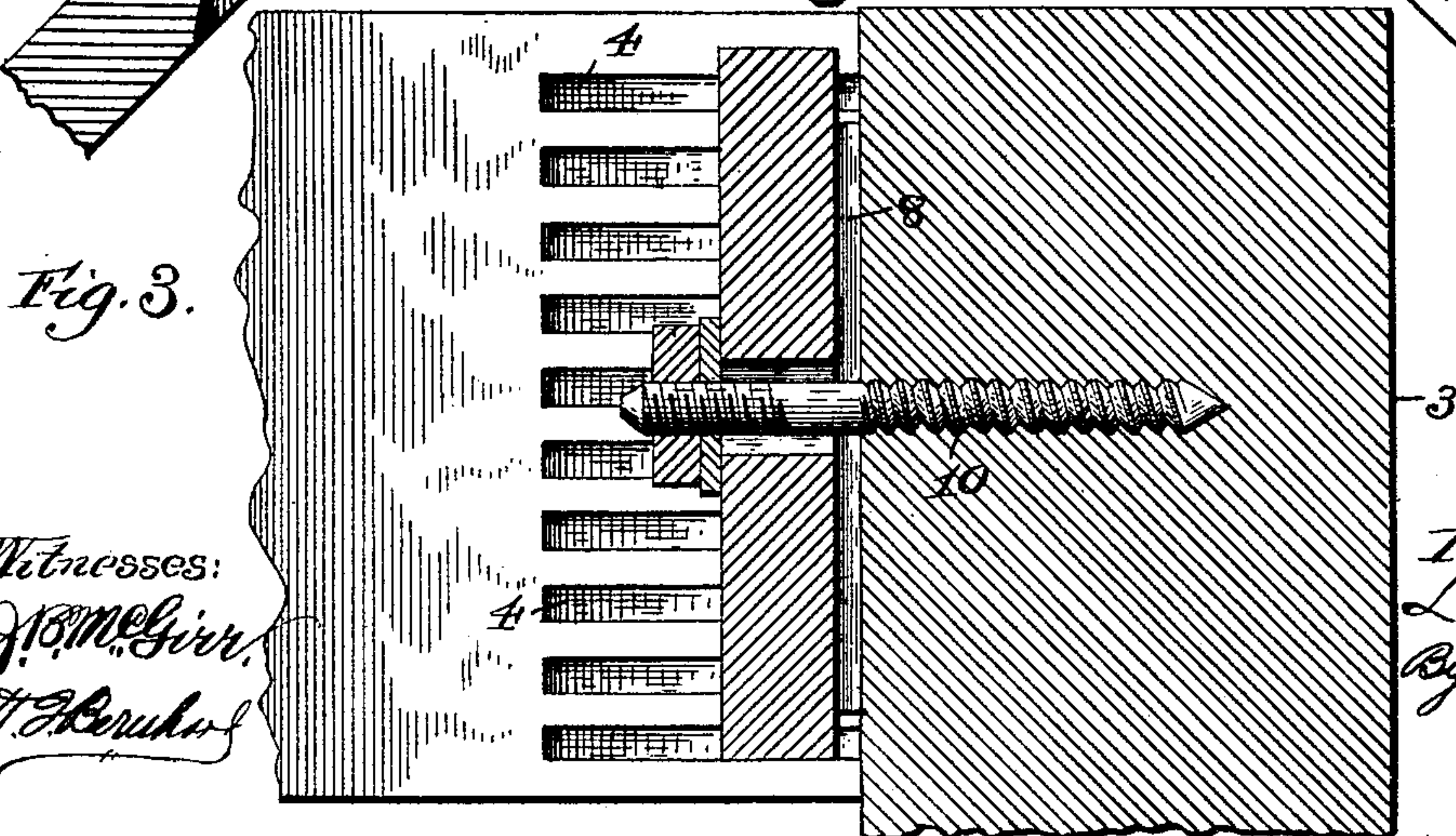
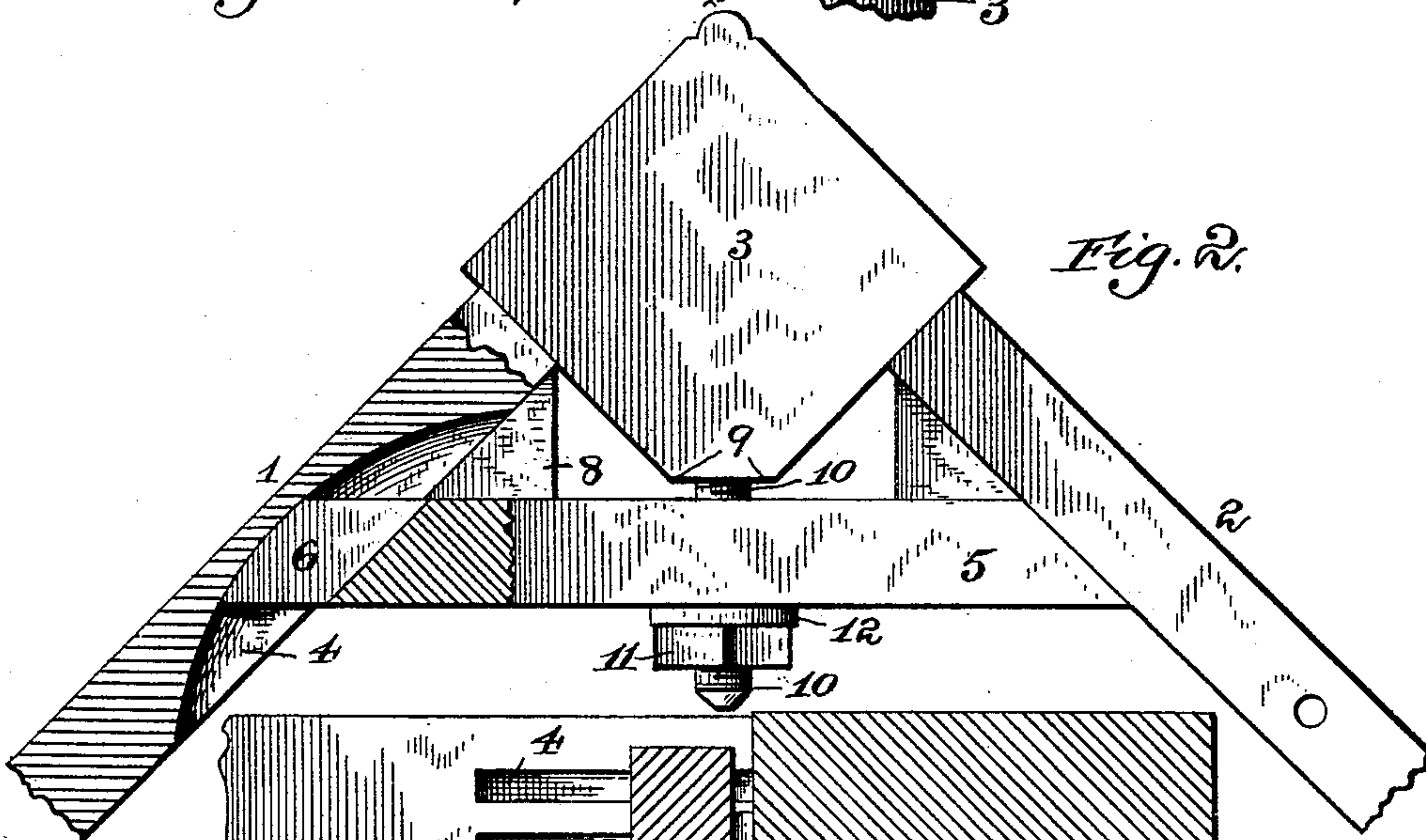
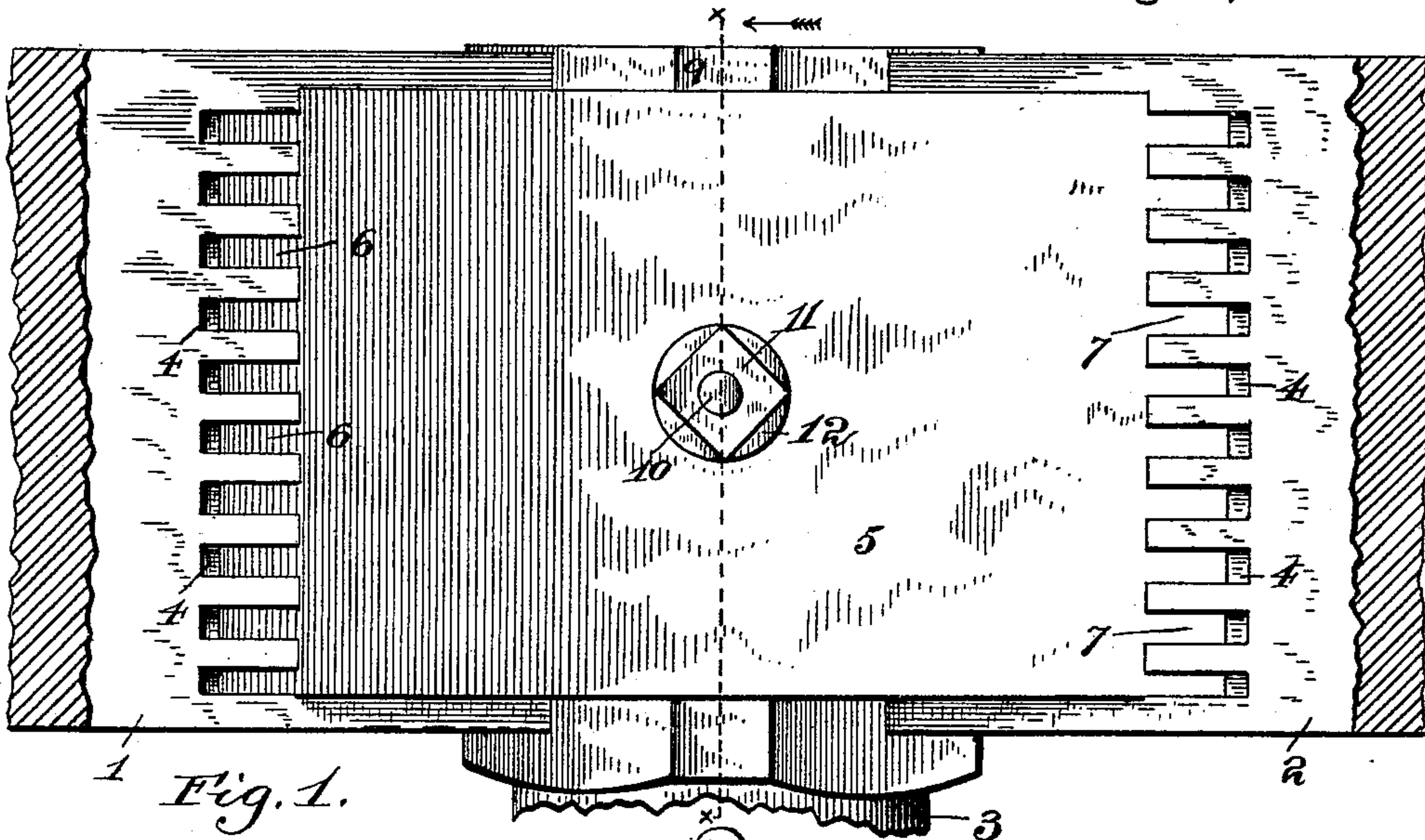


(No Model.)

L. WELKER.
FASTENING FOR TABLE LEGS.

No. 480,536.

Patented Aug. 9, 1892.



Witnesses:

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UNITED STATES PATENT OFFICE.

LOUIS WELKER, OF WILLIAMSPORT, PENNSYLVANIA.

FASTENING FOR TABLE-LEGS.

SPECIFICATION forming part of Letters Patent No. 480,536, dated August 9, 1892.

Application filed December 2, 1891. Serial No. 413,812. (No model.)

To all whom it may concern:

Be it known that I, LOUIS WELKER, a citizen of the United States, residing at Williamsport, in the county of Lycoming and State of Pennsylvania, have invented certain new and useful Improvements in Fastenings for Table-Legs; 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.

My invention relates to improvements in means for fastening legs to the frames of tables of that class known particularly as "knockdown" tables, in which the parts are adapted to be readily taken apart for compact storage and ready transportation, and which can be put together very quickly.

Heretofore various forms of cast-metal plates or brackets have been employed for uniting the side pieces of a table-frame together and the legs to the side pieces of said frame; but said brackets and plates are expensive and cannot be economically used in the manufacture of ordinary furniture. The wooden side pieces and legs of a table-frame have also been united by forming grooves in the legs to receive the side pieces or by dovetailing the side pieces into the faces of the leg and employing a diagonal brace-piece, which is secured at its ends to the side pieces by screws and fastened to the leg by a common wood-screw. Such construction, however, does not provide for the shrinkage of the wood, as it is found that the wooden leg in transportation or storage, or when made from undried or "green" wood, will sometimes expand. Consequently when the table is set up by the dealer or retail merchant the leg is liable to split; and, furthermore, owing to shrinkage of the leg, the joints between the same and the side pieces become loose and the table is not steady and firm. I aim to overcome these objections and to provide a device which is cheap and expeditious to manufacture, which will have the joints between the side pieces and legs firm and rigid to provide a steady table, which is capable of being readily put together, which provides for the expansion and contraction of the parts, and which enables any slack or loosening to be quickly taken up.

With these ends in view the invention con-

sists in a table-frame having the inner surfaces of each side piece provided with a multiplicity of parallel segmental kerfs or grooves near each end, a diagonal brace of wood at each corner of said frame and having each end of said brace formed with a series of tenons, which fit and are secured in the kerfs or grooves in the side pieces, and a table-leg fitted between the ends of the side pieces and abutting against the same, and a horizontal screw-bolt fastened in the table-leg and having a threaded end passing through the diagonal brace or corner-piece and receiving a nut, which draws the leg firmly in place against the side pieces.

My invention further consists in the combination of parts and in the peculiar construction and arrangement of devices, as will be hereinafter described and claimed.

In the accompanying drawings, Figure 1 is an elevation of one corner of a table-frame and its leg, the top being omitted. Fig. 2 is a plan view, with the top removed, of the corner of the table-frame and the leg thereof, part of one side piece being broken away to show one of the tenons on the diagonal brace or corner-piece fitting in one of the kerfs or grooves in the corner-piece. Fig. 3 is a vertical section on the plane indicated by the dotted line *xx* of Fig. 2.

Like numerals of reference denote corresponding parts in all the figures of the drawings, referring to which—

1 2 designate two of the side pieces of a table-frame, and 3 is the table-leg. The side pieces 1 2 are each provided on their inner approximate faces, on the inside of the table-frame, with a plurality or series of kerfs or grooves 4 4, which are cut at uniform distances from each other and in parallel planes, each kerf beginning and ending on the inner face of the side piece, (see Fig. 2,) whereby the kerfs are prevented from running out at or extending to the end of the side piece. The ends and outer faces of the side pieces are thus left smooth, as the kerfs do not penetrate transversely through the wood, nor do they extend to the ends thereof, and the faces of the leg 3 are likewise smooth, thus preserving the parts practically intact and preventing the weakening of the side pieces and the legs.

5 is the diagonal brace or corner-piece,

which is cut from a single piece of wood, and the ends of the corner-piece are formed with a plurality of tenons 6 7, adapted and organized for insertion into the kerfs in the two side pieces 1 2.

In the manufacture of the table-frame the side pieces 1 2 are so adjusted that the mortises on the inner faces thereof lie in the same planes, and the tenons in the corner-piece 5 are fitted in the kerfs, the corner-piece being united to the side pieces by glue or any suitable adhesive. The side pieces of the frame are united very securely and firmly together by the plurality of kerf-and-tenon joints between the side pieces and the corner-piece, and the joints are further strengthened by reinforce-blocks 8 9, which are fitted and secured in the angle formed by and between the front or outer face of the corner-piece and the inner faces of the side pieces, near the ends of the same. The ends of the side pieces are not brought together, so that a space is left between said ends of the side pieces at the corner of the frame, and in this space is fitted the solid leg 3, the smooth faces of which bear directly against the smooth ends of the side pieces. The inner angle or corner of the leg projects beyond the inner faces of the side pieces, and said angle is beveled, as at 9, to lie in a plane parallel with the plane of the diagonal corner-piece, but out of contact with the same. A screw-bolt 10 is secured in the leg and protrudes therefrom through the beveled face 9. This screw-bolt has a lag screw-thread at one end, which penetrates the wood of the leg and fastens the bolt to the same, and the other end of the screw-bolt has an ordinary screw-thread designed to receive the nut 11. The screw-bolt is fastened to the table-leg in a rigid and firm manner, as described, and when the leg is adjusted in the space between the ends of the side pieces the free end of this bolt passes through a perforation or opening in the diagonal corner-piece, after which the washer 12 is slipped on the bolt and the nut 11 screwed home, so that the leg 3 is drawn taut and firm against the ends of the side pieces.

It will be readily seen that the leg can be fastened securely in place in the table-frame with ease and dispatch and that any shrinkage of the leg or side pieces can be taken up by tightening the nut on the screw-bolt, which is very important, as the table-frame and legs can always be rigidly secured, so as to present a steady firm table.

In the manufacture of the table-frame the side pieces are fed to a cutting-machine having a gang of loosely-mounted wobbling saws, which cut at one operation the whole series of grooves or kerfs in the face or side of the side frame, the grooves or kerfs being cut in segments of circles, and the same gang of saws is employed in cutting the series of tenons in the chamfered ends of the diagonal brace, after which the parts are assembled so

that the tenons are forced into the series of segmental kerfs or grooves in the two side pieces, making a broad firm joint which is not affected by any shrinkage in the material used. By thus cutting the kerfs or grooves in the side pieces and the tenons on the chamfered ends of the diagonal brace I am enabled to easily, quickly, and cheaply construct the frame and the table, as a complete article can be produced at less cost than is now possible. Besides, I produce a stronger and more durable article, which has the advantage of being readily taken apart and put together, and any slack in the frame can be taken up by a few turns of the nuts on the bolts.

Although I have only shown and described one corner and leg of a table, yet for a practical table each corner and the leg thereat will be constructed and arranged as herein shown and described.

I am aware that modifications in the form and proportion of parts and details of construction can be made without departing from the spirit of my invention, and I therefore reserve the right to make such changes and alterations as fall within the scope of my invention.

What I claim is—

1. In a knockdown table, the frame having its side pieces provided on the inner faces thereof with the series of segmental kerfs or grooves extending longitudinally of the same and terminating within the ends of the side pieces and the diagonal corner-piece provided at its ends with the series of tenons, an adhesive substance being applied and the corner-piece or brace forced into position with its tenons in the kerfs or grooves and allowed to set, substantially as described.

2. In a knockdown table, the frame having its side pieces provided with the series of longitudinal segmental kerfs or grooves, the diagonal corner-piece or brace provided at its ends with the series of tenons which are secured in the kerfs or grooves, the leg, and the angular reinforce-blocks secured between the corner-piece, the side pieces, and the leg, substantially as described.

3. In a knockdown table, the combination of the frame having its side pieces provided with the longitudinal segmental kerfs or grooves, arranged as described, the corner-piece or brace having its chamfered ends provided with the tenons secured in the grooves or kerfs, the solid head-leg fitted against the imperforate ends of the side pieces, and the screw-bolt secured in the head of the leg and having a nut bearing against the corner-piece or brace, substantially as described.

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

LOUIS WELKER

Witnesses:

HENRY E. COOPER,
H. I. BERNHARD.