(No Model.)

J. A. SMITH.

BLIND MORTISE JOINT.

No. 422,843. Patented Mar. 4, 1890.

Fig. 1.

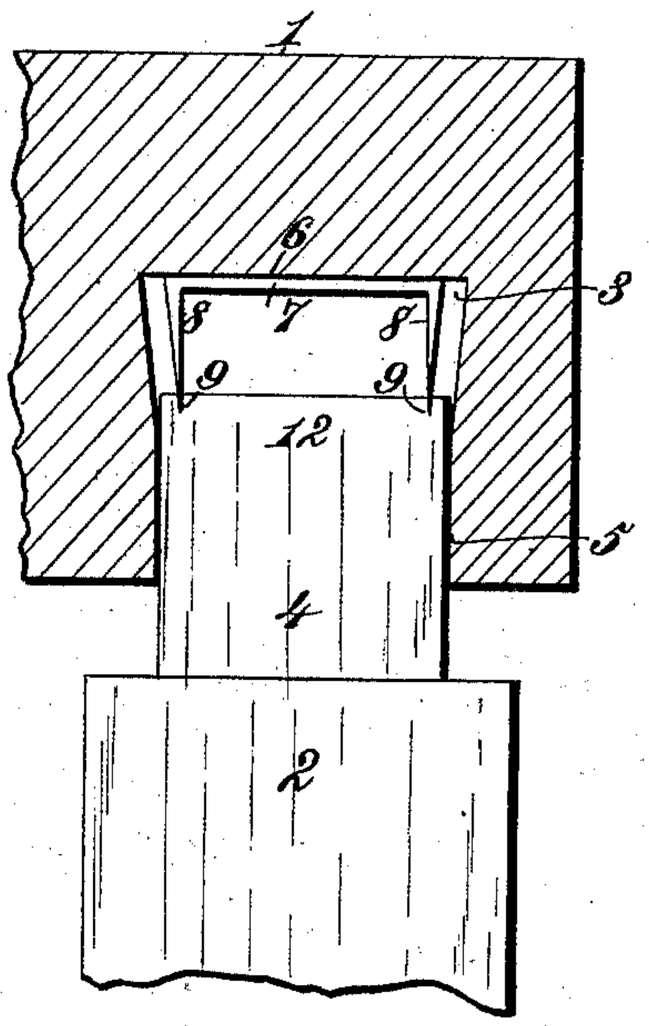


Fig. 2.

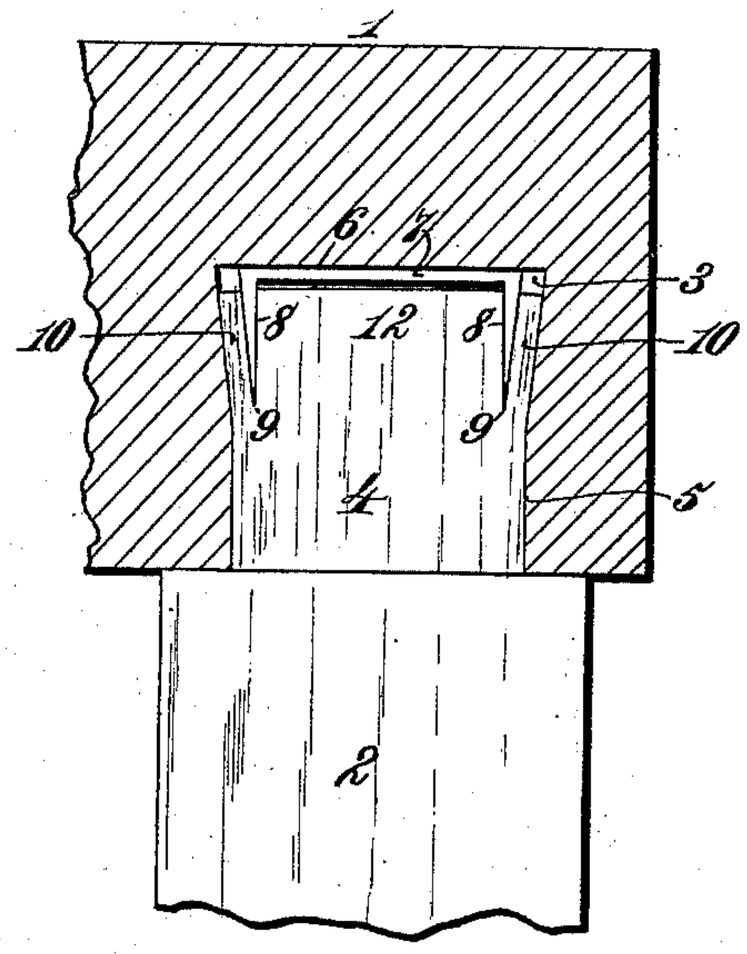


Fig. 3.

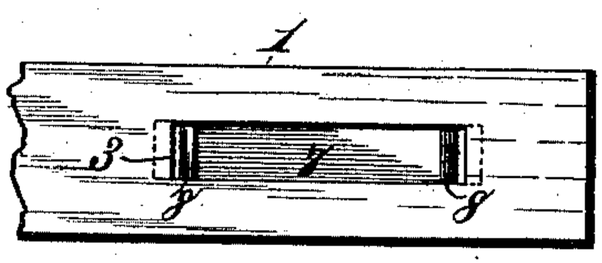
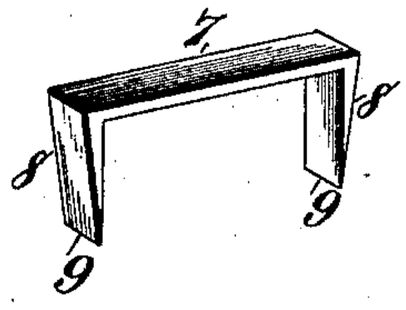


Fig. 4.



Witnesses.
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J. A. Rutherford

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UNITED STATES PATENT OFFICE.

JOHN A. SMITH, OF ROCHESTER, NEW YORK.

BLIND MORTISE-JOINT.

SPECIFICATION forming part of Letters Patent No. 422,843, dated March 4, 1890.

Application filed August 15, 1889. Serial No. 320,823. (No model.)

To all whom it may concern:

Be it known that I, JOHN A. SMITH, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented new and useful Improvements in Blind Mortise-Joints, of which the following is a specification.

This invention relates to that type of mortise-joints for wood-work wherein a tenon enters a dovetailed mortise and is spread at its inner end by a wedge to produce what is technically termed a "blind mortise-joint."

The objects of my invention are to improve the prior constructions, to provide a novel blind mortise-joint for door and other wood frames, and to increase the strength, firmness, and durability of the joint by providing a novel wedge-bar which effects the requisite endwise compression and lateral spreading of the wood comprising the tenon to effect a perfect dovetailed connection of the parts.

To such ends my invention consists in a blind mortise-joint for door-frames and other wood-work, comprising a dovetailed mortise, a tenon, and a rectilinear wedge-bar, the wedge part of which, entering the tenon as it is driven or forced into the mortise, spreads the wood in opposite directions, while the rectilinear bar portion serves to compress the tenon endwise, as will appear more fully hereinafter, reference being made to the accompanying drawings, in which—

Figure 1 is a sectional view showing the tenon resting on the cutting-edges of a duplex wedge; Fig. 2, a similar view showing the tenon driven or forced into the mortise; Fig. 3, a detail edge view showing a duplex wedge in the mortise; and Fig. 4 a detail perspective view of a duplex wedge.

In order to enable those skilled in the art to make and use my invention, I will now describe the same in detail, referring to the drawings, where the numerals 1 and 2 may indicate parts of a frame to be united—such as a door-frame—one part having a dovetailed mortise 3 and the other a square tenon 4 to enter the mortise. The dimensions of the tenon are substantially the same as the dimensions of the contracted or narrow portion 5 of the mortise, as will be obvious. To spread the inner end of the tenon in opposite directions and compress the tenon endwise when driven or forced into position, I place against the inner end wall 6 of the mortise a duplex wedge comprising a flat rectilinear metallic bar 7, having at each end a wedge-shaped projection 8. The width of the bar and wedges is the same or substantially the same as the width of the tenon, and when the latter is driven or forced into position the cutting-edges 9 of the wedges, cutting their own passage into the tenon, spread the wood laterally in opposite directions, as at 10, to fill the wide part of the mortise, while at the same time that portion 12 of the wood between the inner or adjacent sides or faces of the wedges is compressed, and the inner end of the tenon coming in contact with the rigid bar 7 causes the tenon to be compressed endwise, the whole contributing to produce a strong, firm, durable, and efficient dovetailed mortise-joint.

The rectilinear bar located at the base of the mortise serves to sufficiently compress the tenon endwise to produce the perfect connection of the parts, and in this respect my invention is a decided advantage over a simple wedge having no base-bar and used to simply separate the parts of the tenon, as heretofore.

In the practical use of wedges they are first started in the tenon, and the latter is then inserted in the mortise, and the duplex wedges shown can be used in the same way.

Having thus described my invention, what I claim is—

1. A blind mortise-joint for door and other frames, comprising the part having a dovetailed mortise, the part having a tenon, and a rectilinear wedge-bar whose dimensions are substantially equal to one end of the tenon for compressing the latter endwise and spreading it laterally, substantially as described.

2. A blind mortise-joint for door and other frames, consisting of the dovetailed mortise part, the tenoned part, and the rectilinear bar having a wedge at each end for compressing the tenon endwise and spreading it laterally at two points, substantially as described.

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

JOHN A. SMITH.

Witnesses:
HENRY FISK,
GEORGE GEYER.