(No Model.)

A. M. WHITE.

JOINER'S FLOOR CLAMP.

No. 589,518. Patented Sept. 7, 1897.

Fig. 1.

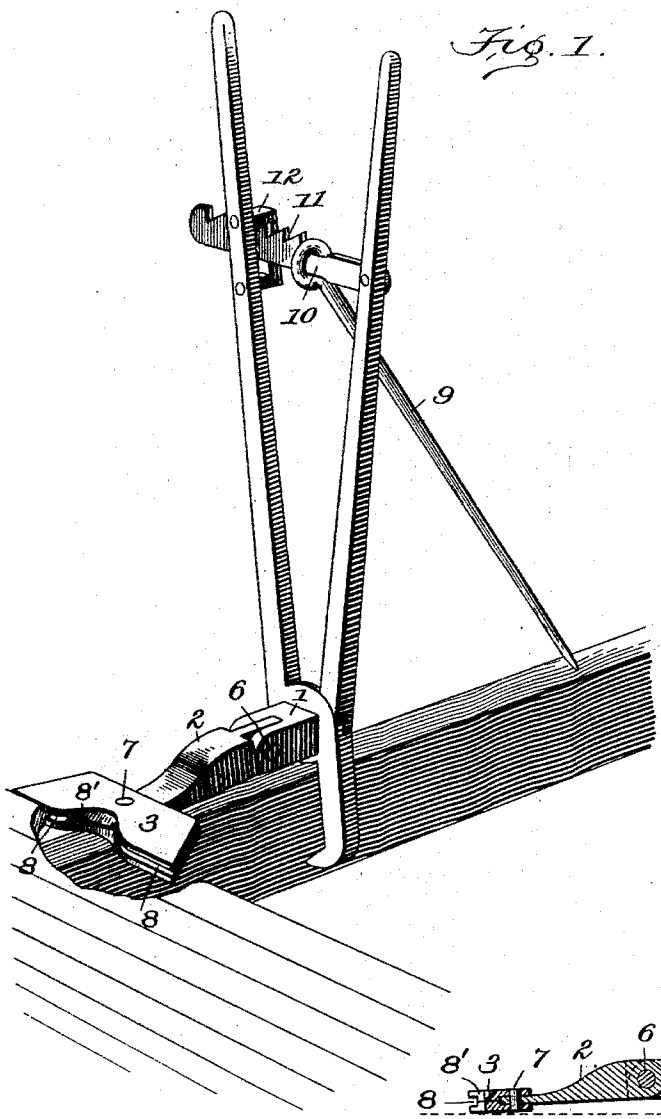


Fig. 2.

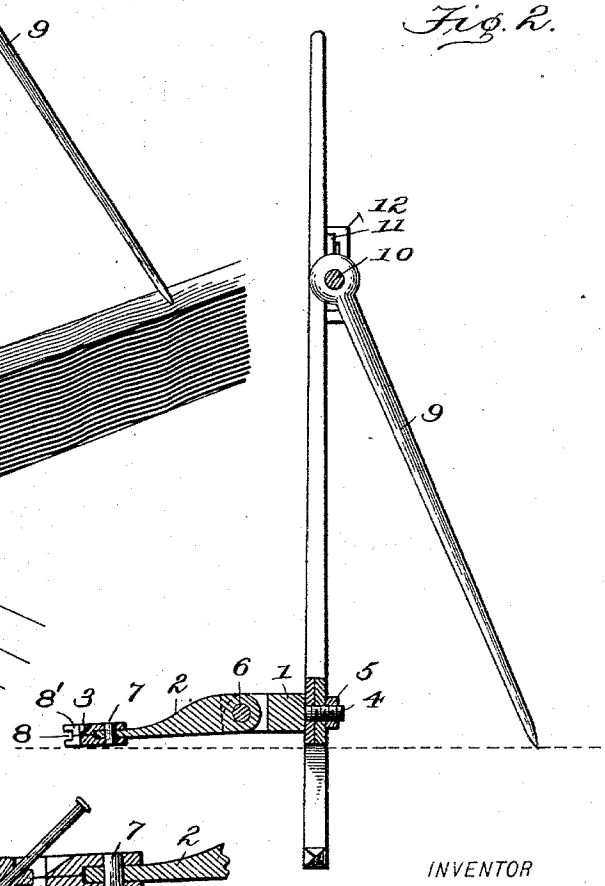
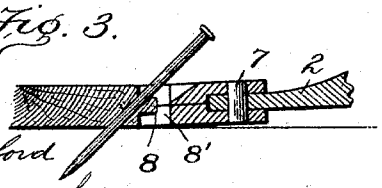


Fig. 3.



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JOINER'S FLOOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 589,518, dated September 7, 1897.

Application filed December 14, 1896. Serial No. 615,681. (No model.)

To all whom it may concern:

Be it known that I, ABLE M. WHITE, a citizen of the United States, residing at Tilmon, in the county of Caldwell and State of Texas, have invented a new and useful Improvement in Joiners' Floor-Clamps, of which the following is a specification.

I have produced an improved device for use by joiners in setting tongue-and-groove floor and ceiling boards, whereby the boards are forced in close joining and held while being nailed to the joists. In the work the board is laid upon the joists in position for joining and a clamp or jack block carried by a pair of tongs, which are gripped to the joist, is forced against the edge of the board to drive and join it with the board previously laid and nailed. In the driving function of the clamp or jack block and while nailing the board the tongs are firmly held in position upon the joist by a latch-bar, holding the tongs closed, and by a take-hold brace adapted to bite into the joist in forcing up the clamp-block to hold the board while it is being nailed.

The particular matters of my improvement are the pivoting of the take-hold brace upon the latch-bar, whereby the resistance upon the take-hold brace serves to safely hold the latch in engagement with the gripped tongs, the mounting of the clamp or bearing block upon a knuckle-jointed adjustable arm, whereby the bearing-block is maintained in an extended position in relation to the tongs to facilitate its engagement with the flooring or ceiling board, and in the provision for adjusting or reversing the clamp-block in its relation to the tongs. In these particulars the improvements will be set out in the claims.

The drawings herewith illustrate these improvements and show in Figure 1 the device as applied for use. Fig. 2 is a vertical section of the same, and Fig. 3 shows the beveled recess in the clamping-block to facilitate the driving of the nail.

The tongs are formed with claws adapted to embrace and clamp the joist, and the tongs are pivoted together by a short bar 1, to which the clamp-block arm 2 is pivoted, so that the clamping-block 3 has a mounting of three pivotally-acting joints. The tongs are secured upon the pivot-bearing 4 of the bar 1 by a nut 5, which allows said bar to be turned or reversed for ceiling-work and secured when set. To the other end of the pivot-bar the clamp-arm is attached by a vertically-flexing pivot-joint 6, while the clamping-block is attached to said arm by a horizontally-flexing pivot-joint 7.

The acting edge of the clamp-block has a groove 8, adapted to receive the tongue of the board, while the opposite edge of the clamp-block has a recess or socket within which its carrying-arm is pivoted, so that the clamp-block is free to turn horizontally upon said pivot-joint 7 within certain limits to give it a true bearing upon the edge of the board.

Mediately of the grooved edge of the clamp-block it has a recess 8', within which the nail is placed in driving it into the edge of the board. This gives the advantage of nailing the board at a point in direct line with the clamping force.

The joiner in placing and gripping the tongs upon the joist brings the clamp-block thereon and forces its grooved edge against the edge of the board, and this action brings the take-hold brace 9 in position piercing the top of the joist to support and brace the tongs while forcing up and nailing the board. In this supporting function of the brace it is important that the latch 10, which holds the tongs gripped to the joist, should be made secure, and for this purpose I mount the brace so as to be free to swing upon the latch-bar between the handles of the tongs, and I make the latch-bar, which is pivoted to one of the handles, with ratchet-teeth 11 on the upper edge, so as to engage a keeper 12 on the other handle, whereby the holding function of the brace in following up the forcing action of the tongs will exert an upward force upon the latch-bar to hold it in secure engagement with its keeper while forcing up and nailing the board.

As it is important that the clamp-block should be held in position to rest and slide upon the joist in using the device, the pivot-joint 6 is a knuckle-joint, which prevents the clamp-block from hanging down whether for flooring or for ceiling work, while the joint 7 gives it freedom for a limited horizontal adjustment in the line of the tongue.

I prefer to make the clamp-block of two plates riveted together for greater convenience in forming the pivoting-recess within

its edge, and I prefer to bevel the upper plate part at the recess 8′ to facilitate the placing and driving of the nail obliquely, as in Fig. 3.

I claim—

1. The combination, in a joiner's floor-clamp, a pair of gripping-tongs and a clamp-block, an adjustable and reversible arm connecting the tongs and clamp-block and having the intermediate knuckle-joint 6 whereby to maintain the clamp-block in an extended relation to the tongs and to reverse its position thereon to facilitate applying the device to the flooring or ceiling board.

2. In a joiner's floor-clamp, the combination of a pair of gripping-tongs, and a clamp or bearing block, a connecting-arm therefor screw-nutted to the tongs, pivot-jointed to the bearing-block and knuckle-jointed between the tongs and the bearing-block, in the way and for the purpose stated.

3. The combination, in a joiner's floor-clamp, of the gripping-tongs, a latch-bar for securing their handles when gripped, and a driving clamp-block for the board, with a take-hold brace mounted to swing freely upon the latch-bar, whereby the resistance upon the brace in driving and holding the clamp-block, serves to securely hold the latch in locking relation to the tongs.

4. In a joiner's floor-clamp, the combination with the gripping-tongs, of a clamp-block for the board mounted upon said tongs by a knuckle-jointed arm by which the clamp-block may also be reversed in position, a pivotal connection of said arm with the tongs, and means for clamping said arm when set.

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Witnesses:
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