

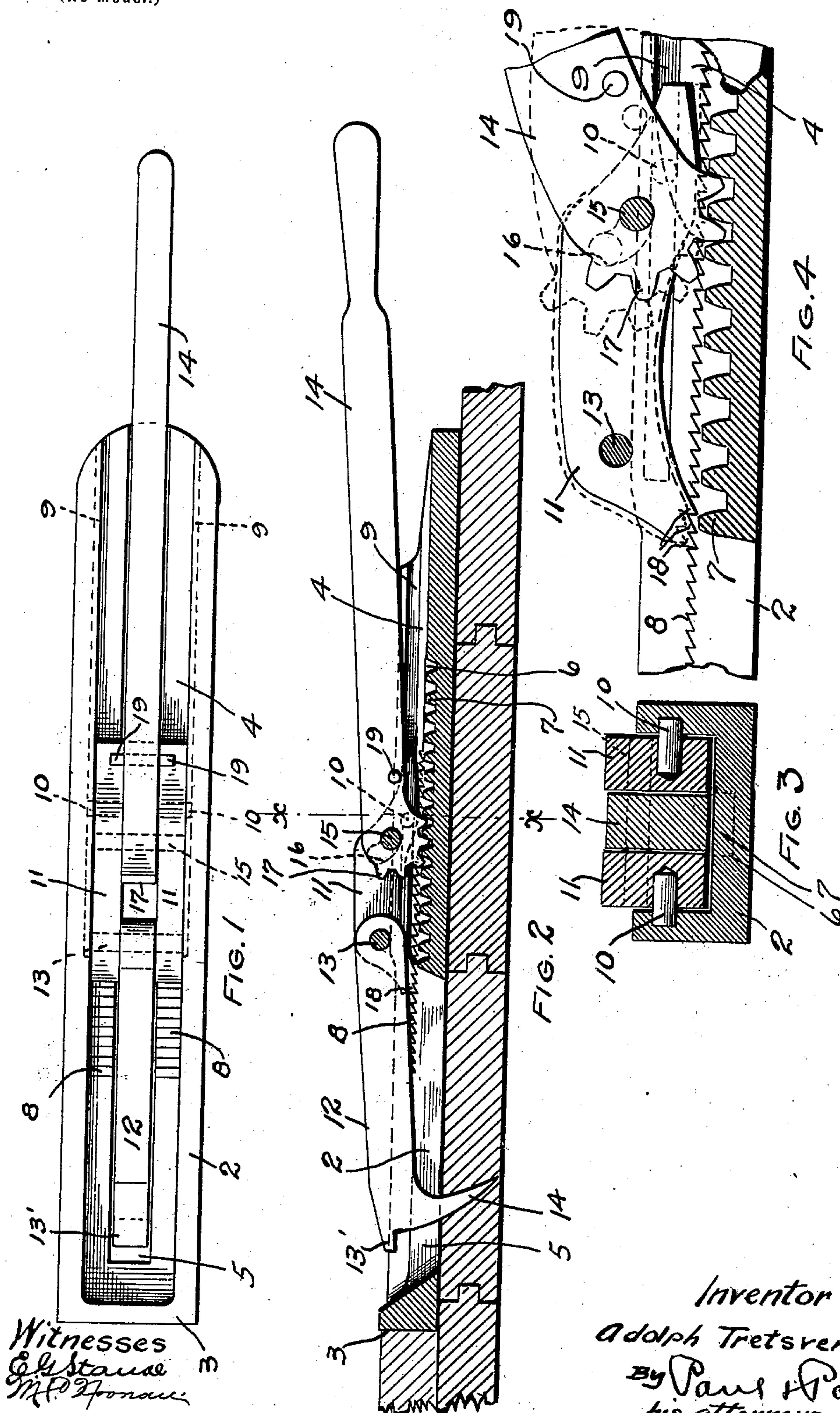
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Patented Sept. 30, 1902.

A. TRETSVEN.
FLOOR CLAMP OR JACK.

(Application filed Apr. 12, 1902.)

(No Model.)



Witnesses
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UNITED STATES PATENT OFFICE.

ADOLPH TRETSVEN, OF MILLTOWN, WISCONSIN.

FLOOR CLAMP OR JACK.

SPECIFICATION forming part of Letters Patent No. 710,169, dated September 30, 1902.

Application filed April 12, 1902. Serial No. 102,515. (No model.)

To all whom it may concern:

Be it known that I, ADOLPH TRETSVEN, of Milltown, Polk county, Wisconsin, have invented certain new and useful Improvements in Floor Clamps or Jacks, of which the following is a specification.

My invention relates to devices for use by carpenters in laying a floor or sheathing the walls or ceiling of a room and is designed for use in pressing and holding the floor or sheathing boards firmly together preparatory to nailing.

The object of the invention is to provide a device by means of which a carpenter can press the edges of uneven or warped boards together so that there will be no cracks between them after nailing.

A further object is to provide a clamping device that is adapted to be moved along the edge of a board to press it at the different nailing-points firmly against the abutting board, the clamp being moved along in advance of the nailing operation.

A further object is to provide a clamping device that is very strong and durable and of such simple construction that it cannot get out of order and can be manufactured and sold at a price that will be within the reach of all workmen using tools of this character.

The invention consists generally in a base-plate having a face or end to engage the edge of the board to be clamped and provided with a suitable gear-rack, a block slidable upon said plate and having a dog to be driven into the floor or wall beneath the same, and a toothed lever to engage said rack and when operated move said plate against the edge of the board.

Further, the invention consists in various constructions and combinations, all as hereinafter described, and particularly pointed out in the claims.

In the accompanying drawings, forming part of this specification, Figure 1 is a plan view of a clamp or jack embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is cross-section on the line $x-x$ of Fig. 2, drawn through one of the ratchet-teeth. Fig. 4 is a detail showing the different positions of the sliding block and its operating-lever.

In the drawings, 2 represents a base-plate having a square end face 3 to engage the edge of the board to be clamped, the bottom of said base-plate being flat to rest firmly upon the floor or wall. A trough or channel 4 is provided in the top of said plate, extending lengthwise thereof, and near the forward end of said plate a slot 5 is provided in the bottom of said trough. In the rear of the slot 5 and in line thereof is a groove 6, provided in its bottom with a series of rack-teeth 7, extending for a considerable distance from the rear end of the slot toward the rear of the base-plate, and upon each side of said rack-teeth in the bottom of the trough I provide ratchet-tooth bars 8, which extend for a considerable distance along each side of the slot 5 and are above the level of rack-teeth 7.

In the side walls of the trough 4 I provide grooves 9, wherein pins 10, carried by bars 11, are slidable. These grooves are open at their rear ends to permit the insertion or removal of the bars. Between said bars near their forward ends a dog 12 is pivoted on a pin 13, the point 14 of said dog being adapted to pass through the slot 5 and dig into the floor or wall whereon the base-plate may be laid. This hook is slightly curved to prevent it from becoming accidentally disengaged when in use. I provide a lug 13' (see Figs. 1 and 2) on the end of the dog adjacent to the hook 14 to be engaged by the claws of a hammer when it is desired to withdraw the hook from the floor or wall in which it is embedded.

Between the rear ends of the bars 11 I provide a lever 14, having a pin 15, adapted to enter curved slots 16 in said bars, and the end of said lever is provided with a series of teeth 17 to engage the rack-teeth 7. The forward ends of the bars have a series of ratchet-teeth 18, adapted to engage the teeth 8 and prevent the bars from slipping during the manipulation of the lever.

In Fig. 4 I have shown in full lines the ratchet-teeth 18 engaging the teeth 8 and the teeth of the lever 14 in engagement with the rack 7, this being the normal position of the parts when the clamp is being operated to press the flooring or sheathing boards together. To relieve the board from the strain of the clamp thereon, the forward ends of the

bars 11 are raised, disengaging the ratchet-teeth, and at the same time the pin 15 of the lever 14 is moved into the upper ends of the slot 16, while the teeth of said lever will be out of engagement with the rack-bar beneath. This upward movement of the lever I prefer to accomplish by providing a pin 19 in said lever in position to engage the ends of the bars when said lever is depressed to a substantially horizontal position, as shown in Fig. 2 in full lines and indicated by dotted lines in Fig. 4. When the lever has been moved to this position, it is obvious that pressure thereon will raise its teeth away from the rack-bar and also raise the forward ends of the bars 11 and disengage their ratchet-teeth from the teeth 8, allowing said bars when the dog has been raised to be moved along toward the forward end of the base-plate.

To operate the device, the base-plate is placed on the floor or wall at right angles to the edge of the board to be clamped with the face 3 bearing thereon. The point of the dog 12 is then driven into the floor or wall beneath, and the operator grasping the lever 14 swings it back and forth and with each stroke of the lever moves the base-plate forward. During each movement of the lever toward the rear end of the base-plate said plate will be advanced one step, and on the return stroke of said lever the plate will be prevented from slipping by the engagement of its ratchet-teeth with the corresponding teeth of the bars 11. The dog will hold the forward end of the bars down and the greater the strain on the dog the more firmly the ratchet-teeth will be held in engagement with each other, while the rear ends of the bars will be prevented from rising by the engagement of the pins 10 within grooves 9. When the board has been clamped and its edge pressed against the abutting board sufficiently, the carpenter will leave the lever in a position substantially as shown in Fig. 2, and after nailing the board will depress the lever still further, causing the toothed end to become disengaged from the ratchet-teeth. The pressure of the clamp on the board will then be relieved and by removing the dog the device can be adjusted in another position. Any suitable material may be used in the manufacture of the device; but I prefer to use malleable castings for all the parts except, perhaps, the dog, which I may find it advisable to make of steel.

I claim as my invention—

1. A floor-clamp, comprising a base-plate having an end to engage the edge of the board to be clamped, and provided with a rack-bar and ratchet-teeth near said bar, of sliding bars mounted on said plate and having teeth to engage said ratchet-teeth, a dog pivoted on said sliding bars having a point to pass into the floor or wall beneath, and a lever pivoted on said sliding bars and having teeth to engage said rack-bar and adapted when recip-

rocated to advance said plate and force it forward against the edge of a board.

2. A floor-clamp, comprising a base-plate having an end to engage the edge of the board to be clamped and provided with a longitudinal slot and with a rack-bar along its central line and also having ratchet-teeth near said rack-bar, of bars mounted on said plate and having teeth to engage said ratchet-teeth, a dog pivoted on said bars and having a point to pass through said slot into the floor or wall beneath, and a lever having teeth to engage said rack-bar and adapted when reciprocated to advance said plate and force its forward end against the edge of a board, substantially as described.

3. A floor-clamp, comprising a base-plate adapted to engage the edge of a board to be clamped and provided with a longitudinal slot and with a rack-bar and with suitable ratchet-teeth, of a member slidable in guides on said plate and having teeth to engage said ratchet, a dog, a lever having teeth to engage said rack, a pin loosely mounted in slots in said member and carrying said lever and permitting the teeth of the same to be disengaged from said rack-bar to release the clamp.

4. A floor-clamp, comprising a base-plate adapted to engage the edge of the board to be clamped and provided with a rack-bar and suitable ratchet-teeth, of a member slidable in guides on said plate and having teeth to engage said ratchet, a dog carried by said member to engage the floor or stud whereon the clamp is placed, a lever having teeth to engage said rack, a pin loosely mounted in slots in said member and carrying said lever and permitting the teeth of the same to be disengaged from said rack-bar to release the clamp.

5. The combination, with a base-plate having a face to engage the edge of the board to be clamped and provided with a longitudinal groove, of a member slidable in said groove, a dog pivoted on said member and operable through the bottom of said plate to enter the floor or wall, a rack and ratchet bar provided in said groove, said member having teeth to engage said ratchet-bar, a lever loosely pivoted on said member and having teeth to engage said rack-bar, and a pin carried by said lever and adapted when said lever is depressed to elevate its toothed end out of engagement with said rack-bar and disengage the teeth of said member from said ratchet.

6. The combination, with a base-plate having a face to engage the edge of the board to be clamped and provided with a longitudinal trough having grooves in its side walls, of a member having pins to enter said grooves and slidable therein, a dog pivoted on said member and operable through a slot in the bottom of said plate to enter the floor or walls, a rack and ratchet bar provided in the bottom of said trough beneath said member, said member having teeth to engage said ratchet-bar, a le-

ver loosely pivoted on said member and having teeth to engage said rack-bar, and a pin provided on said lever and adapted when said lever is depressed to elevate its toothed end
5 out of engagement with said rack-bar and disengage the teeth of said member from said ratchet-teeth, substantially as described.

In witness whereof I have hereunto set my hand this 8th day of April, 1902.

ADOLPH TRETSVEN.

In presence of—

RICHARD PAUL,
M. C. NOONAN.