

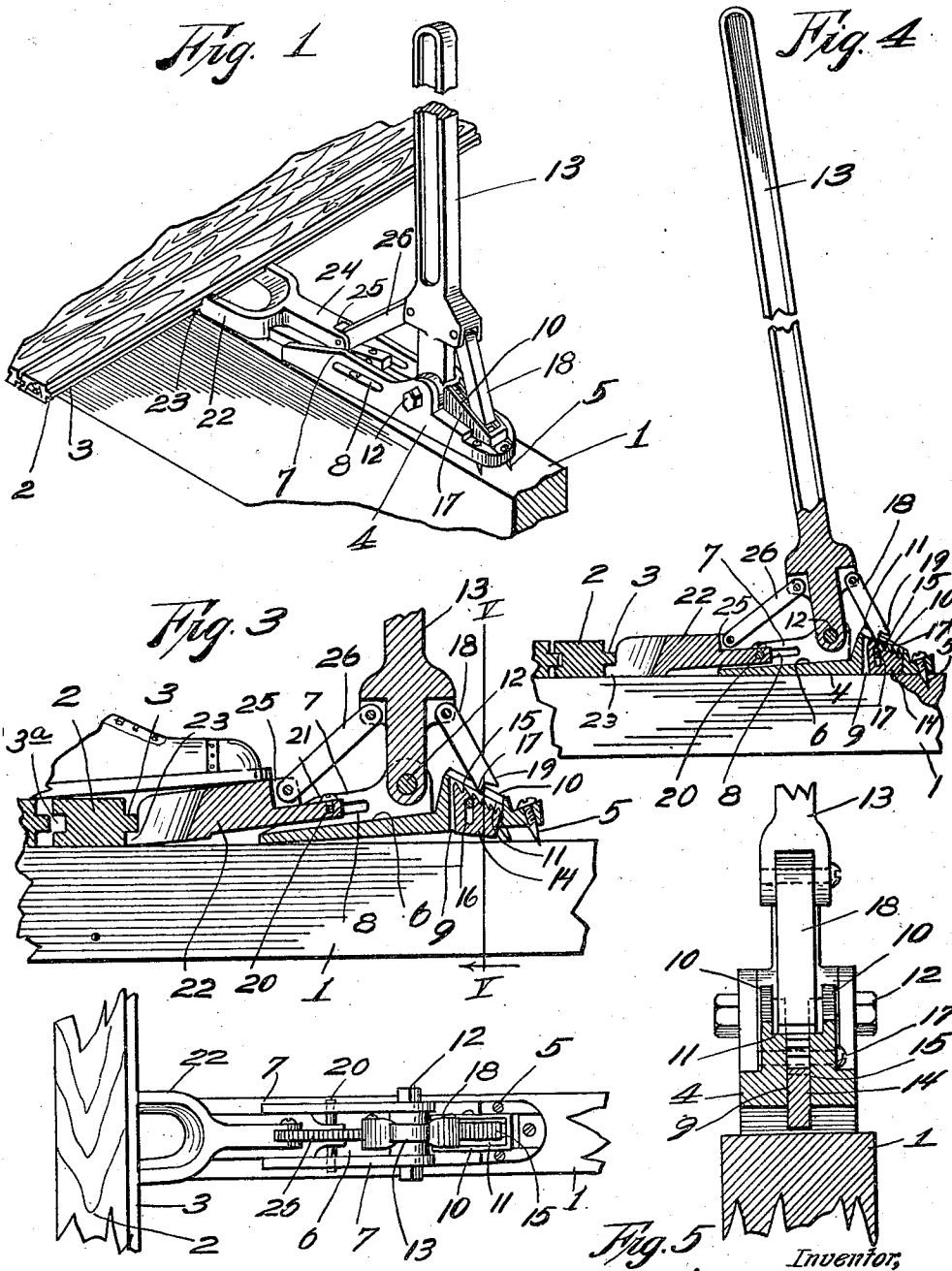
Oct. 21, 1924.

1,512,356

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FLOOR BOARD ADJUSTER AND CLAMP

Filed Sept. 5, 1922



Witness:

R. Hamilton

Fig. 2

Fig. 5

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UNITED STATES PATENT OFFICE.

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FLOOR-BOARD ADJUSTER AND CLAMP.

Application filed September 5, 1922. Serial No. 586,033.

To all whom it may concern:

Be it known that I, THOMAS B. MILLER, a citizen of the United States, residing at Kansas City, in the county of Jackson and State of Missouri, have invented a certain new and useful Improvement in Floor-Board Adjusters and Clamps, of which the following is a complete specification.

This invention relates to floor board clamps and has for one of its objects to produce a clamp for use with flooring boards more particularly of the tongue and groove type to force said boards into closely abutting relation when laying a floor.

Another object is to produce an automatic catch member which will maintain the operative lever in any desired position of clamping adjustment, and which, when it is desired to release the clamp and remove it for another operation, will automatically release the clamp.

A still further object is to produce a device of the character described, which is of simple, strong, durable, efficient and inexpensive construction and in order that it may be fully understood reference is to be had to the accompanying drawing, in which:—

Figure 1 is a perspective view partly broken away to illustrate the operative position of the device in conjunction with a series of floor boards.

Figure 2 is a top plan view of the same.

Figure 3 is a central vertical section taken through the device just prior to being anchored in position on a joist.

Figure 4 is a view similar to that of Figure 3 with the floor clamp anchored to a joist and in course of operation.

Figure 5 is an enlarged section on the line V—V of Figure 3.

In the said drawing where like reference characters identify corresponding parts, 1 indicates a floor joist and 2 a floor board formed with the common and ordinary type of tongue 3 at one side and groove 3^a at the other. The device of the invention consists of a base plate 4 having at its rear end a series of projecting spurs 5 for embedment in a joist as will be hereinafter explained. At the opposite end of the base from the

spurs 5, said base is formed with an inclined upper face 6 provided with upwardly-projecting side walls 7 formed with slots 8 extending at the same downward inclination as the face 6. At a point between the side walls 7 and the spurs 5, the base is formed with a downwardly tapering opening 9 flanked by upwardly-projecting side walls 10 having a downward inclination toward the rear end of the face as clearly shown in the drawing, said side walls being provided internally with a pair of shoulders 11 for a purpose which will hereinafter appear. Pivoted on a bolt 12 extending through the walls 7 is an operating handle 13 of any suitable length.

Adapted for vertical movement within the opening 9 is a tapering rack 14 formed at its upper end with a series of teeth 15, and said rack is provided with a vertical slot 16 through which projects a pin 17 secured in the side walls 10 of the opening. When the device is not in operative position on a floor joist, as shown most clearly in Figure 3, the tapering rack 14 will stand at its lowermost position through force of gravity and is retained within the opening through the contact of the pin 17 with the upper end of the slot 16. Upon the embedment of the spurs 5 in a joist, as shown in Figure 4, the rack 14 will be forced upwardly. The parts are so proportioned, however, that the bottoms of the teeth 15 of the rack, will never rise to a point above the plane of the shoulders 11, for a purpose which will be explained hereinbelow. Pivoted at one end to the operating lever 13 is a dog 18 formed with a notched lower end 19, said lower end being of such width that it will normally ride on the shoulders 11 of the walls 10.

Adapted for sliding engagement with the slots 8 of the side walls 7 of the front end of the device, is a pin 20 held in position by a screw 21 in the stem of a Y-shaped push member 22, formed at its front ends with lips 23 for abutment with a floor board below the tongue 3 of the same. The stem of the Y-shaped push member 22 is recessed to form a rib 24 of less width and length than the stem, and said rib is bifurcated at

its rear end as at 25 for pivotal engagement with a connecting link 26, pivoted at its opposite end to the lever 13.

The operation of the device is substantially as follows: The clamp is set down on a joist as shown in Figure 3, the parts occupying the positions shown. In order to embed the spurs in the joist, the operator's foot is pressed down on the sliding push member 22, as indicated in Figure 3, and the lever 13 is pushed rearwardly and upon the impingement of the dog 18 with the lower end of the guide-way formed by the shoulders 11 of the side walls 10, the spurs 5 will be forcefully embedded in the joist, as shown in Figure 4.

Upon the embedment of the spurs 5 in the joist, the bottom of the wedge-shaped rack 14 will come into contact with the joist and the wedge-shaped rack will be forced upwardly, the teeth 15 thereof projecting beyond the shoulders 11 of the guide-way above mentioned, and the dog 18 will be engaged with one of the rear teeth of the rack, as will be readily understood.

Upon the placing of the floor board in position, if such action has not already been accomplished, the operator will pull forwardly on the operating lever 13, the dog riding freely over the teeth 15 of the rack 14 until the push member 22 engages the floor board below the tongue and forces the same until it abuts a previously secured board. It will be apparent that if the pressure on the lever 13 is released at any time, the dog, by engagement with the teeth 15 of the rack 14, will prevent the floor board from springing back from its position, so that it can be nailed in position without the necessity of holding or paying any attention to the clamp. The operator then grasps the handle 13 and by a slight upward movement disengages the spurs 15 and then shifts the clamp along the joist for another operation, this operation being performed without any necessity of manually tripping the dog 18 as the instant an upward pull is applied on the handle to withdraw the spurs 5, the rack, by gravity, drops downward from engagement with the dog 18.

In clamps provided with immovable teeth to serve as a resistance point for a dog pivoted to a handle for operation to clamp a floor board in place, the dog must be manually tripped preliminary to shifting the clamp to a new position after a board is secured in place, and in this respect the device of this invention possesses an advantage which permits of its operation with less labor and much more expeditiously.

From the above description it will be apparent that I have produced a device of the character described which possesses all of the features of advantage set forth as desirable, and while I have described and

claimed the preferred embodiment of the same, I reserve the right to make all changes properly falling within the spirit and scope of the appended claims.

I claim:—

1. In a floor board clamp, the combination with a base, of an operating handle, a pusher member operable by said handle, a dog connected to said handle, and a vertically reciprocable rack for cooperation with said dog.

2. In a floor board clamp, the combination with a base formed with an opening, of an operating handle, a pusher member operable by said handle, a dog connected to said handle, and a rack adapted for vertical reciprocating movement in the opening in said base and for cooperation with said dog.

3. In a floor board clamp, the combination with a base formed with an opening, of an operating handle, a pusher member operable by said handle, a dog connected to said handle, a rack adapted for vertical reciprocating movement in the opening of said base, and means for preventing said rack from dislodgment from said opening.

4. In a floor board clamp, the combination with a base formed with an opening, of an operating handle, a pusher member operable by said handle, a dog connected to said handle, a rack adapted for vertical reciprocating movement in the opening of said base, and a pin mounted in said base and adapted to retain said rack against dislodgment.

5. In a floor board clamp, the combination with a base formed with an opening and shoulders near the upper end of said opening, an operating handle, a pusher member operable by said handle, a dog connected to said handle and normally adapted for sliding on said shoulders of the base, and a rack mounted for vertical reciprocation in said opening of the base and at times adapted for engagement by said dog.

6. In a floor board clamp, the combination with a base formed with an opening having upwardly-facing shoulders, an operating handle, a pusher member slidable on the base, a rack freely reciprocatory vertically in said opening, a dog pivoted to the handle and engaging the said shoulders and rack when the latter is in its elevated position and in engagement only with the shoulders when the rack is depressed.

7. In a floor board clamp, the combination with a base provided with depending spurs and an opening at one end, a slidable pusher member on the other end of the base, a handle pivoted to the base, a link pivotally connecting the handle and pusher, a rack freely movable up and down in said opening, and a dog pivoted to the handle and adapted to be actuated by rearward movement of the latter, to force the base downward until the spurs are embedded in said support and the rack is raised by contact with the latter, into

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engagement with the dog to form a resistance point to rearward movement of the handle after the same has been swung forwardly to advance the pusher.

- 5 8. In a floor board clamp, the combination with a base formed with an opening, of an operating handle, a pusher member operable by said handle, a dog connected to said han-

dle, and a rack adapted for vertical reciprocating movement in the opening in said base and for cooperation with said dog, said rack in its lowermost position projecting beyond the underside of said base. 10

In witness whereof I hereunto affix my signature.

THOMAS B. MILLER.