

No. 618,573.

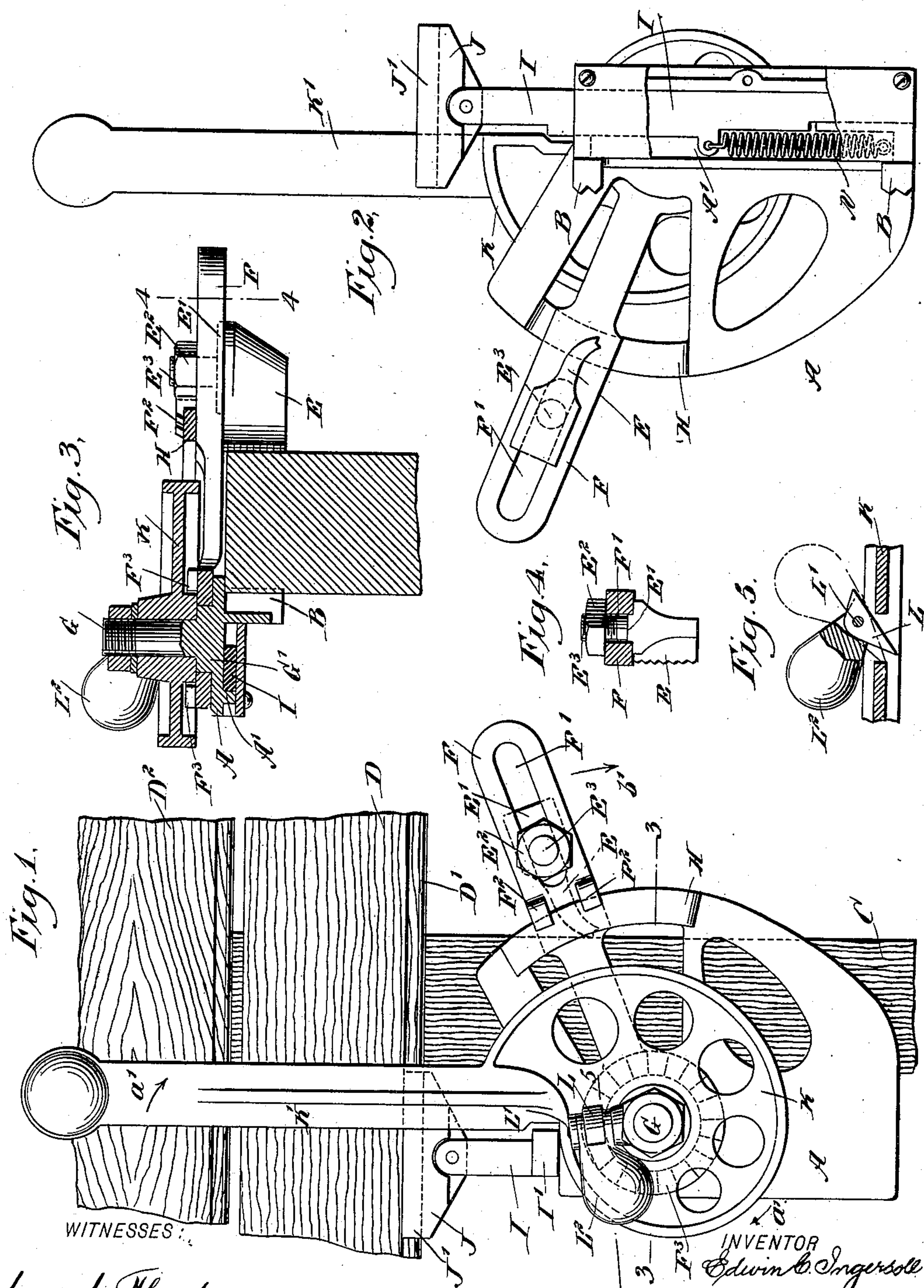
Patented Jan. 31, 1899.

E. C. INGERSOLL.

FLOOR CLAMP.

(Application filed Oct. 8, 1898.)

(No Model.)



WITNESSES:

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EDWIN C. INGERSOLL, OF PHILADELPHIA, PENNSYLVANIA.

FLOOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 618,573, dated January 31, 1899.

Application filed October 8, 1898. Serial No. 693,016. (No model.)

To all whom it may concern:

Be it known that I, EDWIN C. INGERSOLL, of Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and Improved Floor-Clamp, of which the following is a full, clear, and exact description.

My invention relates to floor-clamps such as shown and described in the Letters Patent of the United States No. 608,458, granted to me on August 2, 1898.

The object of the present invention is to provide a new and improved floor-clamp arranged to enable a carpenter or other person to readily and conveniently force a loose floor-board in firm contact or engagement with a fixed one to permit of properly nailing the loose board in place.

The invention consists of novel features and parts and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a plan view of the improvement as applied. Fig. 2 is an inverted plan view of the improvement. Fig. 3 is a cross-section of the same on the line 3 3 in Fig. 1. Fig. 4 is a sectional elevation of part of the improvement on the line 4 4 in Fig. 3, and Fig. 5 is a cross-section of the locking device on the line 5 5 in Fig. 1.

The improved floor-clamp is mounted on a suitably-constructed frame A, formed at its under side with two laterally-extending toothed lugs B, (see Fig. 2,) adapted to engage one side of a joist C or other support on which the floor-board D is to be fastened. A jaw E is adapted to engage the opposite side of the joist C at a point approximately opposite the upper lug B, (see Fig. 2,) and the said jaw E is provided on its top with an offset E', fitted to slide in a guideway F', formed on a lever F, fulcrumed loosely on the enlarged portion G' of a stud G, secured to or formed integral with the main frame A. The jaw E is adapted to be fastened in place on the lever F by a nut E², screwing on a stud E³, projecting from the jaw and passing through the guideway F', as plainly indicated in the drawings.

The lever F is provided on its top with lugs F², engaging a segmental guideway H, attached to or formed integrally on the frame A to properly support the lever F and facilitate its swinging movement for bringing the jaw E in the desired position against the side of the joist C to fasten the frame A and the parts carried thereby securely in position on the joist.

The frame A is provided on its under side with a guideway A', in which is fitted to slide a presser-foot bar I, on the outer end of which is pivoted a presser-foot J, formed with a longitudinally-extending groove J' for accommodating a tongue D' on the floor-board D to be forced in position against the floor-board D², already secured in place on the joist C or other support. The presser-foot J is adapted to engage the floor-board at the outer side thereof, as plainly indicated in Fig. 1, and slightly at one side of the joist C, so that the presser-foot is not in the way when driving the nails to fasten the board to the joist. The bar I is formed with an offset I', in alinement with the presser-foot J and riding on the peripheral surface of a spiral cam K, mounted to turn on the stud G, previously mentioned. A handle K' is secured or formed on the top of the cam K and is adapted to be taken hold of by the operator to turn the spiral cam K in the direction of the arrow a' and cause the presser-foot bar I to slide outward, so as to move the presser-foot J first in contact with the board D, then move the board along, and finally force the board in engagement with the fixed board D².

In order to securely clamp or lock the cam K in position after the board D has been pressed in contact with the board D² by the action of the cam K on the presser-foot bar I and the presser-foot J, I provide a locking device consisting of a pawl L, fulcrumed on a pin L', carried by the cam K, the pawl being adapted to engage a ratchet-wheel F³, secured or formed on the top of the fulcrum end of the lever F. A weighted handle L² is hung loosely on the pin L' and is arranged to be swung into contact with the pawl L on either side of its fulcrum, (see Fig. 5,) so that the pawl is held in or out of mesh with the ratchet-wheel F³. Now when the operator throws the handle L² into the position shown

in Figs. 1 and 5 the pawl L is held down in engagement with the ratchet-wheel F³, and when the cam is turned in the direction of the arrow *a'*, as above described, the pawl L is carried along and glides over the teeth of the ratchet-wheel to finally lock the cam in place when the board D is in engagement with the fixed board D². When the board D is nailed in place, the operator throws the handle L² over onto the other side of the pawl L to the position shown in dotted lines in Fig. 5 to swing the pawl upward and out of mesh with the ratchet-wheel F³. The cam K can now be returned to its former position to allow the presser-foot J to disengage the board D. The return or inward movement of the presser-foot J and the bar I is obtained by a spring N, arranged in the frame A and connected at one end to the bar I, the other end being connected to the frame A. (See Fig. 2.) Thus when the arm K' is turned in the inverse direction of the arrow *a'* the offset I' is held in peripheral contact with the cam K by the action of the said spring N.

In starting the device the several parts are in the position shown in Fig. 1, the offset I' of the bar I being at the innermost part of the cam-surface of the spiral cam K, the handle K' extending parallel to the said bar I. Now it is evident that when the handle K' is swung around to cause the cam K to move the presser-foot J and bar I, as described, then the said handle moves away from the board D to give free access to that part of the board resting directly on the joist C and allow of conveniently driving the nails, as above mentioned, to fasten the board D in place after it is forced in contact with the board D². When this has been done, the operator returns the handle K' to its former position and then swings the lever F in the direction of the arrow *b'* to disengage the toothed inner end of the jaw E from the joist C and release the frame A to permit of removing the device and placing it on another joist. The above-described operation is then repeated.

It is understood that for clamping the frame in place it is only necessary to hold the lever F in position approximately at a right angle to the bar I to permit of conveniently plac-

ing the lugs B against one side of the joist. Then by moving the lever F in the inverse direction of the arrow *b'* the teeth of the jaw E readily engage the opposite side of the joist to lock said device and other parts in position.

Having thus fully described my invention, I claim as new and desire to secure by Letters Patent—

1. In a floor-clamp, the combination of a frame provided with lugs and having a segmental guideway formed thereon, a lever swinging over said guideway and having a guideway extending longitudinally on the lever, a jaw having a portion sliding in the guideway of the lever and movable toward and from the frame, means for holding the jaw in the various positions on the lever, lugs formed on the jaw and engaging the segmental guideway of the frame, a presser-foot, and means carried on the frame for moving and holding the presser-foot.

2. In a floor-clamp, the combination with a frame provided with a presser-foot and devices for actuating the same, the frame also having a segmental guideway formed thereon, of a lever mounted to swing on the frame over the guideway thereof, the lever also having a guideway, a jaw sliding in the guideway of the lever, means for locking the jaw at the desired adjustment on the lever, lugs carried by the jaw and engaging the guideway of the frame, and a lug carried on the frame coacting with the jaw, whereby to hold the floor-clamp on the joist.

3. In a floor-clamp, the combination with a frame having a presser-foot and means for actuating the same, and also having a segmental guideway, of a lever mounted to swing on the frame over said guideway, the lever having a guideway thereon, a jaw sliding in the guideway on the lever and having portions engaging the guideway of the frame, means for holding the jaws at various positions on the guideway, and a stud carried by the frame and coacting with the jaw.

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Witnesses:

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