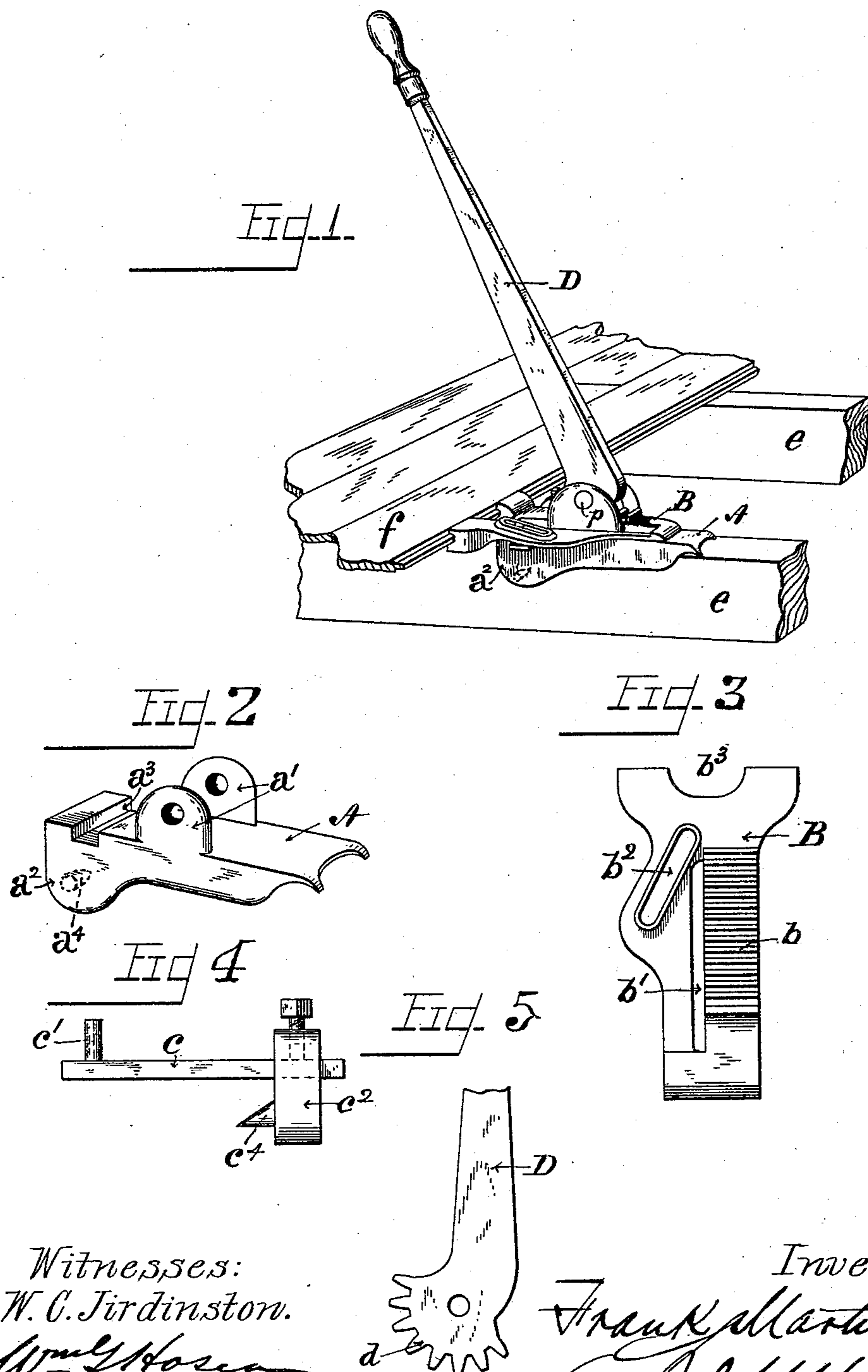


(No Model.)

F. MARTIN.
FLOOR CLAMP.

No. 488,147.

Patented Dec. 13, 1892.



Witnesses:
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UNITED STATES PATENT OFFICE.

FRANK MARTIN, OF CINCINNATI, OHIO, ASSIGNOR TO THE SAMUEL C. TATUM COMPANY, OF SAME PLACE.

FLOOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 488,147, dated December 13, 1892.

Application filed June 13, 1892. Serial No. 436,499. (No model.)

To all whom it may concern:

Be it known that I, FRANK MARTIN, a citizen of the United States, residing at Cincinnati, Ohio, have invented new and useful Improvements in Floor-Clamps, of which the following is a specification.

My invention relates to that class of implements used by carpenters in laying floors in buildings and commonly termed "floor clamps" or "jacks," the main function of the implement being to compress the tongue-and-groove flooring-board in process of laying against those already laid, so as to obtain a perfectly secure and tight joint.

The object of my invention is to produce a simple and effective implement for this purpose which shall be inexpensive in construction and easy to manipulate.

To this end my invention consists in the floor clamp or jack hereinafter described, embodying in its combination a joist-plate adapted to rest upon and be firmly held to the joist, a compressing-plate adapted to slide and be guided upon the joist-plate and engage and compress the flooring-board horizontally against the floor already laid, and a hand-lever pivoted upon the joist-plate and engaging the compression-plate to operate the same, the arrangement being such as to offer great facility in the adjustment and manipulation of the implement, all as hereinafter more fully described.

Mechanism embodying my invention is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the implement as applied in use, showing its position upon the joist and its relation to the flooring while in the act of compression. Fig. 2 is a perspective view of the joist-plate detached; Fig. 3, a plan view of the sliding compression-plate detached; Fig. 4, a side elevation of the movable cross-bar employed as a clamp to hold the joist-plate firmly to the joist while the compressing process is being performed; and Fig. 5 is a side elevation of the lower end of the operating-lever, showing its cogged segment for operating the compression-plate.

Referring now to the drawings, A represents the joist-plate, provided with two upwardly-projecting ears or lugs a' , a downwardly-projecting ear or lug a^2 , and a cross

slot or recess a^3 , all as clearly shown in Fig. 2. The upwardly-projecting lugs are perforated oppositely to receive a pivot-bolt for the operation of a hand-lever, hereinafter described, between said lugs, and they also constitute side guides for the operation of the clamp-plate B. (Shown in Fig. 3.) The latter consists, substantially, of a flat plate or rack-bar provided at its front end with a cross-recess adapting it to fit over the "tongue" and against the adjacent flat edges of a flooring-board. Its upper surface is formed into a longitudinal series of rack-teeth b , adjacent to which series of teeth is a longitudinal opening b' . Through the plate and at the side of the said opening and extending forward to the front of the same is a second longitudinal opening in an oblique line to the first.

The plate B is placed in position on the plate A, with the portion of the former containing the rack-teeth b between the two lugs a' , one of said lugs passing up through the slot b' , so that as the plate B slides to and fro longitudinally on the plate A it is guided by the lug a' . A cross-bar c , adapted to fit and slide in the recess a^3 of the plate A, is provided and so arranged that when in position its upper surface is flush with the general surface of the plate A. At one end the cross-bar c carries a stud c' , projecting upwardly into the slot b^2 of the plate B. At its opposite end the cross-bar c carries a lug c^2 , adjustable to any width of joist, which when the parts are in position drops down alongside of the joist opposite the lower flange a^2 of the plate A, and carries a small tooth c^4 , projecting inwardly toward the joist. When the parts are in position, the movement of the plate B forward, acting by means of its oblique slot b^2 upon the stud c' , forces the cross-bar c over and embeds the tooth c^4 in the side of the joist. Such action naturally tends to draw the plate A in the opposite direction and embeds in the opposite side of the joist a tooth a^4 , (shown in dotted lines in Figs. 1 and 2,) projecting inwardly from the lug a^2 , thus holding all parts secure against backward movement, while the plate B is projected forward against the flooring-board.

The movement of the plate B is effected by the hand-lever D, provided at its lower end with a segmental head d , provided with cogged

teeth. This lever being placed between the lugs a' of the plate A is secured by a pivot-bolt p , passing through said lugs and through the lever, in which position the cogged teeth 5 of its segmental head engage the series of cogged teeth b of the plate B.

In Fig. 1 the completed apparatus is shown attached to one of a series of joists e in position to act upon a flooring-board f . The implement is susceptible of being lifted and 10 placed in position upon a joist by the operator with his left hand singly. The lever, being then forced upward and outward by the operator, performs two functions simultaneously—namely, it throws forward the plate B 15 to compress the flooring-board f against its neighbor already in position, and at the same time, in order to secure a "purchase" for such compression, it embeds the teeth a^4 into the 20 joist e at opposite sides. There is thus produced a simple and powerful hand implement for the purpose indicated composed of parts which can be produced by casting, with little or no machine or hand work.

25 In order to give an opportunity for nailing the flooring-board in position while under compression, the front edge of the compression-plate B is provided with a wide notch b^3 , affording space for inserting and driving a 30 nail.

I claim as my invention and desire to secure by Letters Patent of the United States—

1. A floor clamp or jack embodying, in combination, the following elements, namely: a 35 joist-plate, a rack-bar sliding thereon, a lever pivoted to the joist-plate and operatively engaging the rack-bar, a cross bar or plate sliding laterally upon the joist-plate and provided with a depending detent-lug, and a connection between the lever and the cross-bar, 40 whereby in operating the rack-bar the lever

also operates the cross-bar detent to engage the joist and prevent rear displacement of the apparatus, substantially as set forth.

2. In a floor-clamp, the combination of a 45 joist-plate having a depending flange at one side provided with a detent upon the inner side, a sliding cross-bar resting upon and guided by the joist-plate, an adjustable dog 50 upon the cross-bar provided with a detent upon its inner side, and means, substantially as described, for operating the cross-bar and its detent in opposition to the joist-plate flange and its detent to engage the joists at 55 opposite sides and retain the parts fixedly to the joist during the operation of compressing the flooring-board, substantially as set forth.

3. The combination of the joist-plate provided with the cross-recess, the side ears or lugs, and the side flange, the sliding or clamp 60 plate provided with the inclined slot, the cross-bar provided with the upwardly-projecting stud and adjustable dog with detent, and the hand-lever secured to the joist-plate and operating the clamp-plate, substantially 65 as set forth.

4. The combination and arrangement of the joist-plate formed as described, the cross-bar formed to slide in the cross-recess flush with the surface of the joist-plate, the clamp-plate 70 resting upon the joist-plate and covering the cross-bar, and the lever pivoted to the guide-lugs above the clamp-plate and holding all parts together into an integral implement, 75 substantially as set forth.

In testimony whereof I have hereunto set my hand in the presence of two subscribing witnesses.

FRANK MARTIN.

Witnesses:

DAVID DAVIS,
L. M. HOSEA.