(No Model.)

A. J. GREELEY.

FLOOR CLAMP.

No. 492,010. Patented Feb. 21, 1893.

Fig. 1

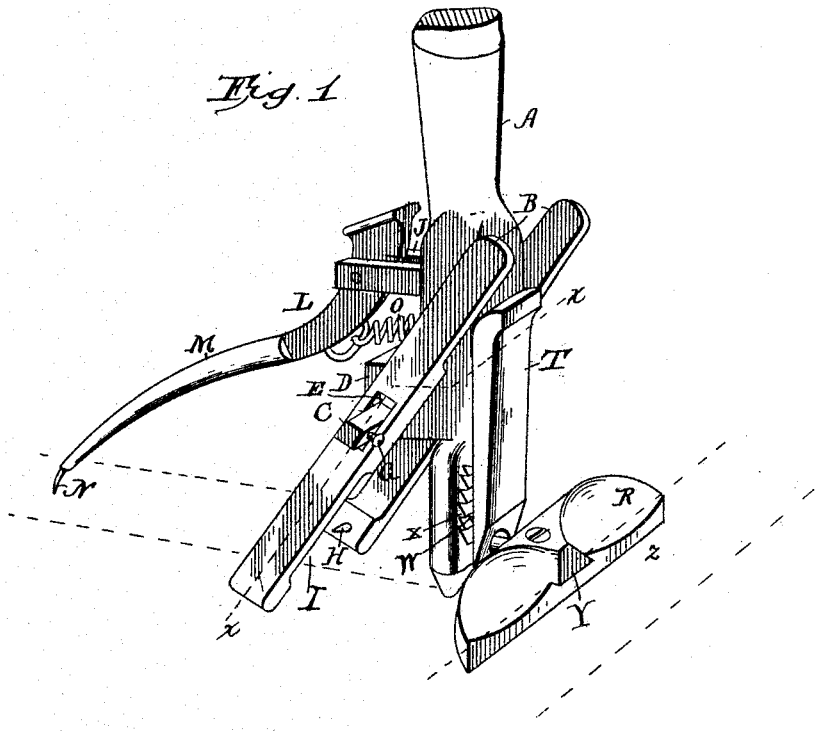


Fig. 2.

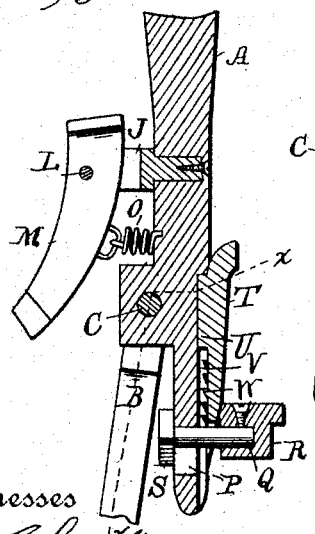


Fig. 3

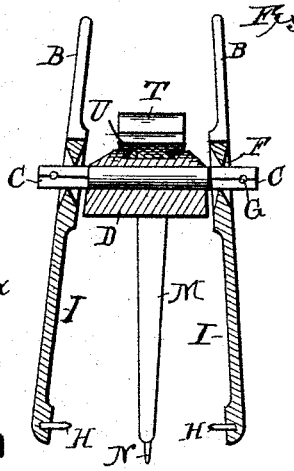
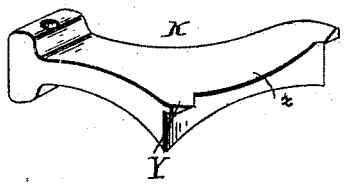


Fig. 4.



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UNITED STATES PATENT OFFICE.

ANDREW J. GREELEY, OF HILLSBOROUGH, WISCONSIN.

FLOOR-CLAMP.

SPECIFICATION forming part of Letters Patent No. 492,010, dated February 21, 1893.

Application filed August 6, 1891. Serial No. 401,833. (No model.)

To all whom it may concern:

Be it known that I, ANDREW J. GREELEY, a citizen of the United States, residing at Hillsborough, in the county of Vernon and State of Wisconsin, have invented certain new and useful Improvements in Floor-Clamps; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form part of this specification.

My invention relates to floor clamps, and has for its object to provide a device that will be strong, durable and convenient, and it consists in the construction and combination of parts of the same as will be hereinafter more fully set forth.

Referring to the accompanying drawings in which the same reference letters indicate corresponding parts throughout the different views:—Figure 1.—is a perspective view of my improved clamp in position for use. Fig. 2.—is a vertical sectional view of the same. Fig. 3.—is a transverse sectional view on the line *x x* of Figs. 1 and 2. Fig. 4.—is a detailed view of another form of the clamping block.

Referring particularly to the drawings, A indicates the main portion or the body of the device, the upper end of which is adapted to be used as a handle, and the lower portion as a support for the separate pieces.

B, B, are two arms which are pivotally connected to the lower end by means of a rod C, which passes through a hole or perforation in the lug or projection D upon the lower portion of the body A. Although these arms can be connected in any convenient manner, I have shown them each provided with a rectangular opening E, the upper and lower walls of which F, F, are inclined from both sides, which fit upon the outer ends of the rod C, which are also rectangular, and each end is provided with a screw G against which the arms will bear. The lower end of each of these arms is provided with an inwardly projecting stud H which points slightly upward and is adapted to engage with sides of the joist, the inner portion of the arms above the studs being hollowed out as shown at I to prevent the arms from engaging with the upper edge of the joist, and thus preventing the studs from entering the sides of the joist lower down. The sides of the projection D are made slightly beveled see Fig. 3 or inclined toward each other, so that the ends of the arms B which project above the sides, can be forced together and thus release the studs from the joist to move the clamp. Just above the projection D and upon the same side of the body A, projects a post J the outer end of which is bifurcated and provided with a pivot L. A brace M is pivotally secured within the bifurcation of the post J, and has a stud or pin N in its lower end to engage with the top of the joist. The upper end of the brace M is curved and projects a slight distance above the post and is preferably provided with a head or flattened portion to assist in manipulating the brace. A spring O is connected at one end to the body A between the projection D and post J and at its opposite end to the inner side of the brace M just below the pivotal point.

The extreme lower end of the body A is provided with a longitudinal slot P, through which passes the pin Q, to the outer end of which is detachably secured the clamping block R, the opposite end of the pin being provided with a head or block S which prevents its passing through the slot. The length of the pin Q is greater than the thickness of the body A so that after the block has been forced up against the flooring as firmly as possible by means of the brace or fulcrum M, and held there by the pressure of the operator's hand upon the upper end of the handle a wedge T can be driven down between the block and the lower end of the body, which will force the block tighter against the floor. As the lower end of the body is pointed and rests against the top of the joist in an inclined position, the back thrust of the wedge is taken up by the body of the clamp, and the board is driven in the opposite direction until it is firmly held against the last board that was laid. The wedge T has its lower end slotted to pass over the pin Q, and is movably secured to the body by means of a dovetailed projection U, which fits in a corresponding dovetailed groove V in the body A. Its in-

ner face is also preferably provided with a lip or projection W, which engages with teeth or serrations X upon that side of the body.

In operation the implement is taken in the right hand with the index or forefinger on the upper end of the brace M, and the left hand holding the upper ends of the arms B, B. The block R is then placed against the flooring board which is to be driven up against its companions, and the lower portions of the arms B, B, are made to straddle the joist, and the brace M is released. The studs at the lower ends of the arms B, B, are then made to engage with the sides of the joist, and the stud or pin N in the end of the brace is made to engage with the top of the joist. Now by forcing the upper end of the handle over toward the brace the lower end of it will be crowded over in the opposite direction, which will of course carry the clamping block and the board with it. By exerting sufficient force upon the handle the board can be usually driven up against the adjoining board where it can be nailed in the usual manner. But if it stick or otherwise can not be driven up tight enough by operating the handle, the wedge can be driven down by striking the upper end which is preferably slightly enlarged for that purpose. As the points of the teeth or serrations project downward, the wedge can be driven down, but will not slip back until after the clamp has been removed from the joist, when the lower end of the wedge can be forced out from the portion A sufficiently to let the projection slip over the serrations, and the wedge can be raised to its original position. If the clamp is to be used on lined flooring in which the joists are covered up, the arms B, B, must be removed or turned up so that their lower ends will not interfere with or strike against the floor and thus prevent the block and fulcrum from engaging with their respective parts.

In using the implement for ceiling, the clamping block R should be removed and the one K, shown in Fig. 4 should be substituted in its place. Each of the blocks has a lip or lips Y upon its upper edge to engage with the upper side of the board or floor, while the upper and lower faces of the block K are recessed or hollowed out as shown at Z to permit of the nail being driven in to hold the board while the block is still in position.

In laying flooring the operator stands at one side or the other of the clamp and consequently the best results are secured by locating the recesses at each end of the block, but in ceilings, the operator stands below the clamp which causes the blow of the hammer to fall more in a line with the handle or central portion of the clamp and therefore, the recess is more preferably located at the center of the block, as shown in Fig. 4.

From the above description it will be evident that my clamp can be used for flooring, ceiling, siding, or wainscoting and that it will be strong and durable. The main parts of it will be of steel, except the upper part or handle of the body A, which will preferably be of wood something in the shape of a chisel handle. The separate pieces will be secured to the body by means of nuts and bolts.

Having thus described my invention, I claim—

1. In a floor clamp, the combination with the body having a perforated projection near its lower end, the sides of which are inclined toward each other, of a rod through the projection, the ends of which are rectangular in cross section, an arm on each end of the rod having a rectangular opening, the upper and lower walls of which opening are inclined from both sides, a bolt or retaining device through each end of the rod beyond each arm, the upper ends of the arms projecting above the inclined portion of the projection, and the opposite ends each being provided with an inwardly projecting stud or pin, a block on the lower end of the body, and a rearwardly projecting brace pivotally connected with the body above the projection, substantially as described.

2. In a floor clamp, the combination with the body, of the block R loosely connected with the lower end thereof and having a limited movement, the adjusting wedge I sliding between the body A and block R and operating on said block as specified, and the rearwardly projecting brace pivotally connected to the opposite side of the body; substantially as and for the purpose set forth.

3. In a floor clamp, the combination with the body, the lower end of which is slotted and provided with a lengthened dovetailed groove, a headed pin through the slot, a clamping block detachably secured to the end of the pin, a wedge between the body and the block, the lower end of which is slotted, and the rear face is provided with a dovetailed rib or projection to fit the groove, and a rearwardly projecting brace pivotally connected with the opposite side of the body, substantially as described.

4. In a floor clamp, the combination with the body, the lower end of which upon one side is provided with teeth or serrations, a block loosely connected with that side of the body, the upper and lower faces of which are cut away or recessed, a wedge between the body and the block, the inner face of which is provided with a projection, a rearwardly projecting brace pivotally connected with the opposite side of the body, and a spring one end of which is connected with the body and the opposite end is connected with the brace below it substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

ANDREW J. GREELEY.

Witnesses:
ROGER WILLIAMS,
J. A. COSGROVE.