(No Model.)

A. S. BAYER.

FLOOR CRAMP.

No. 366,446. Patented July 12, 1887.

Fig. 1.

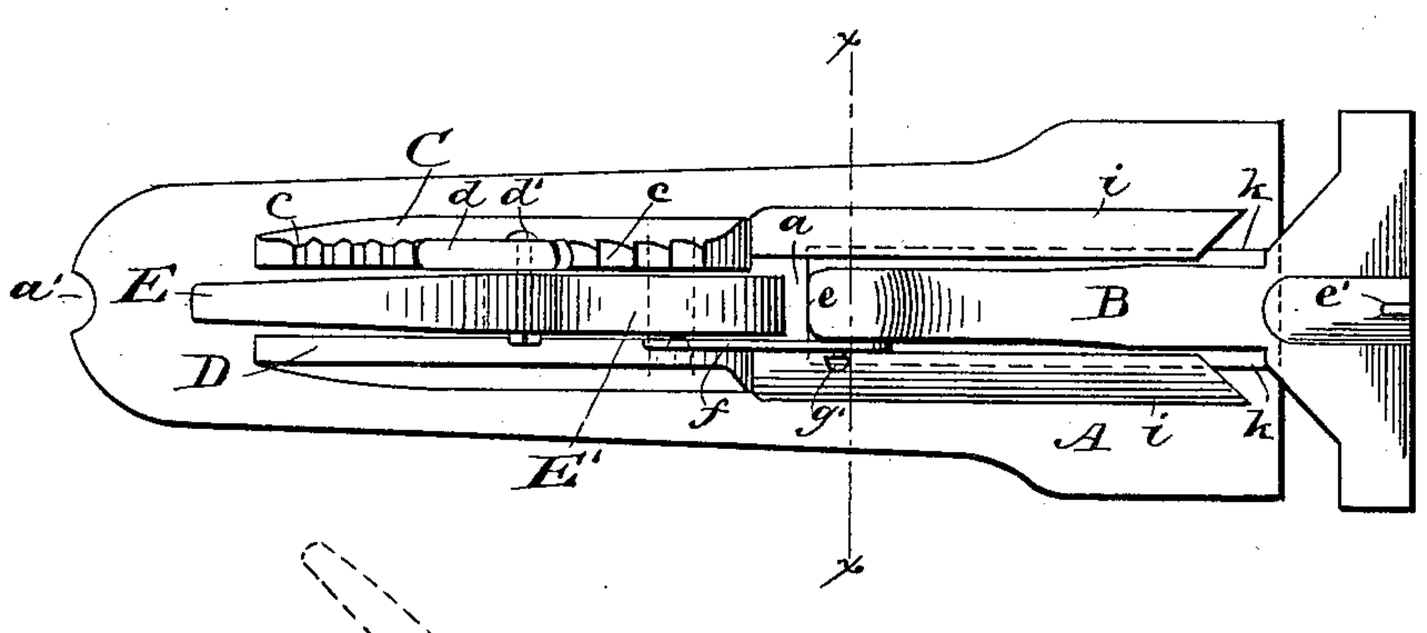

Fig. 2.

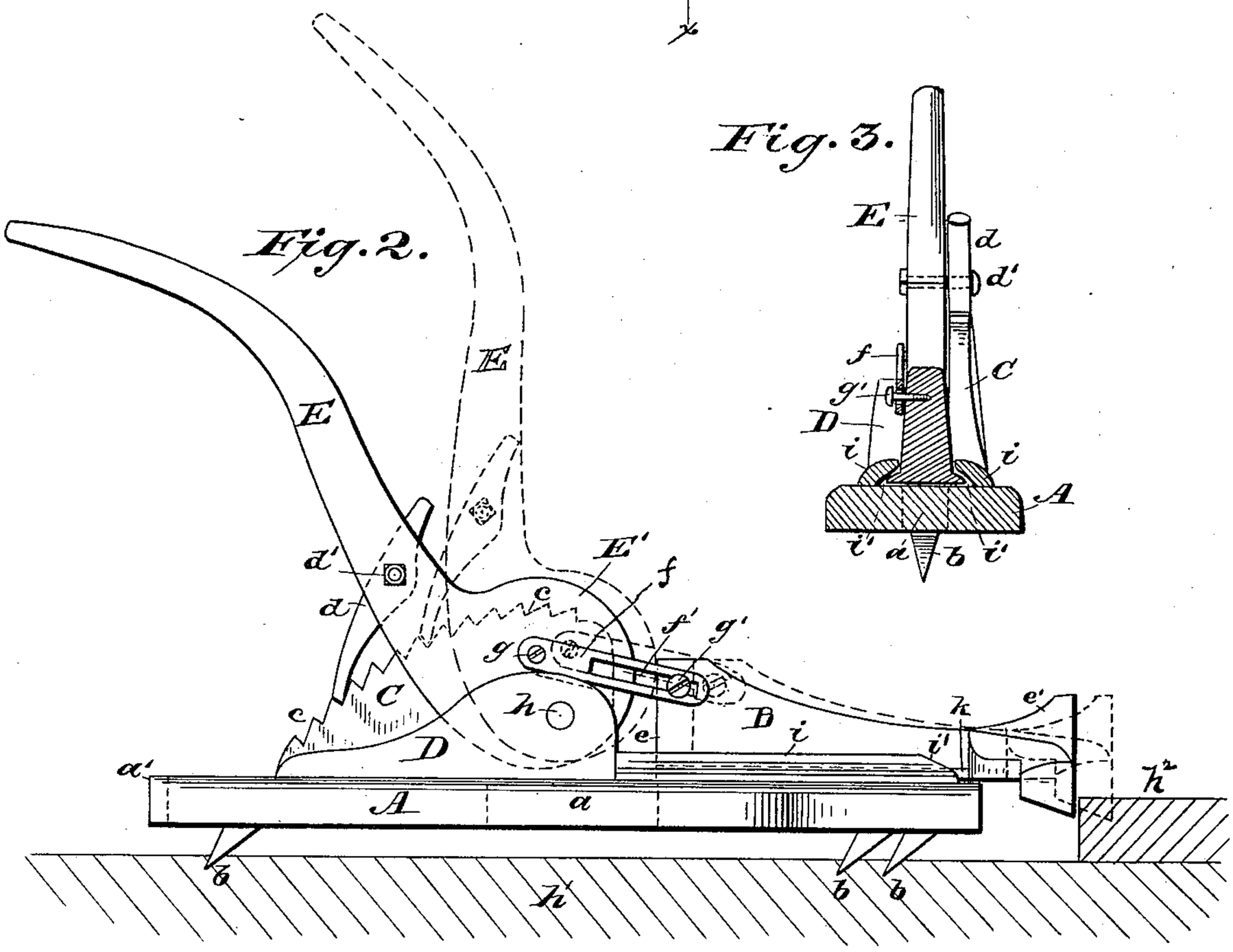

Fig. 3.

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FLOOR-CRAMP.

SPECIFICATION forming part of Letters Patent No. 366,446, dated July 12, 1887.

Application filed March 8, 1887. Serial No. 230,094. (No model.)

To all whom it may concern:

Be it known that I, ALEXANDER SHAW BAYER, of the city and county of Halifax, in the Province of Nova Scotia and Dominion of Canada, have invented a new and useful Improvement in Floor Cramps, of which the following is a full, clear, and exact description.

My invention relates to tools employed by carpenters, joiners, and others. Its objects are to provide a simple, handy, and inexpensive implement for tightly closing up the joints of flooring-boards and deck-planks prior to nailing or otherwise securing them.

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

Figure 1 is a top plan view of my improved floor-cramp. Fig. 2 is a side elevation of the same, showing it in place on the beam and the position of the working parts in the operations of cramping or releasing the board. Fig. 3 is a vertical cross-section of the same, taken on the line *x x* in Fig. 1.

Referring to said drawings, A is the bed-plate or holdfast of the tool.

B is a push-bar moving in bearings on said bed-plate.

C is an arched rack, and D a supporting-flange, which stand parallel with each other on the bed-plate.

E is a hand-lever having a cam-head, E′, supported between the rack and supporting-flange.

The bed-plate A is constructed with an opening, *a*, midway between its sides, to allow the cam E′ of the lever to be turned without contact with it. At the rear extremity of the bed-plate is formed a recess, *a′*, to permit the tool, if desired, to be set against a stop in the flooring or other base.

The push-bar B is constructed with a shoulder, *e*, at its inner end, flanges *k* on its lower edge, and a cross-head, *e′*, at its forward extremity. The rack C has teeth *c* constructed upon its upper edge, said teeth being of a depth to give the cam about an eighth of an inch advance at each forward movement of the lever. The flange D is shouldered to conduce to the steadiness of the cam in its movements, and is projected backward in line with the rack C.

Bearings *i*, constructed with grooves *i′* in their inner sides, are secured upon the bed-plate A, and receive the flanges *k* of the push-bar B. The cam E′ of the lever E is embraced by the rack C, and flange D is constructed with a suitable opening to receive a pin, *h*, which is held by the rack and flange and turns freely on said pin as its pivot.

To the arm of the lever E is loosely journaled, at *d′*, a pawl, *d*, which engages with the teeth *c* of the rack C. A link, *f*, constructed with a longitudinal slot, *f′*, connects the cam E′ and the push-bar B, being loosely pivoted to the cam at *g* and to the shoulder *e* of the push-bar B at *g′*. Beneath the bed-plate A are firmly riveted steel spurs *b*, constructed with sharp points, and projecting diagonally backward in the direction of its rear extremity, *h′*, is the floor-beam, and *h²* the floor-board to be cramped.

When my invention is employed for laying floors or decks, the bed-plate is placed upon the beam at a suitable distance from the article to be cramped and its spurs are set firmly into said beam. The arm of the lever E is raised and carried forward, the pawl *d* slipping forward over the teeth of the rack. The cam E′ impinges against the shoulder *e* of the push-bar B, forcing said bar forward in the grooved bearings *i* and setting its cross-head *e′* against the side of the board. The pawl *d* engages with one of the teeth *c* of the rack C and prevents the lever from moving backward. A further forward movement of the lever presses the cross-head *e′* tightly against the board, and the engagement of the pawl with one of the teeth of the rack holds said board in place until it is secured to the beam. A slight pressure upon the upper end of the pawl trips and clears it from the teeth of the rack and allows the lever to be carried backward, the link *f* on its cam causing the cross-head of the push-bar to withdraw from the board and rest against the front of the bed-plate. The tool is then released from the beam, set farther back thereon, and another board is cramped in place, as above described.

My invention may be used for cramping the wainscoting of a room, the bed-plate being set by its spurs in the flooring or joist, and the same operation being pursued as in laying floor-boards. The recess *a′*, at the rear of the

bed-plate, may be set against a removable pin or stop in the flooring as an additional safeguard against backward movement of the bed-plate.

My invention may also be advantageously employed in clamping doors together, and for various other work where close joints are requisite, and in such case it is also preferable to set the bed-plate, by its recess *a'*, against a stop in addition to setting its spurs into the body of the material.

My invention is light and handy to use, is simple in construction and operation, is strong and durable, and is comparatively inexpensive to manufacture.

The tool is very powerful, and is capable of cramping from eight to ten boards from four to seven inches in width at one time.

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

1. A device for cramping floor-boards, consisting of an elongated bed-plate provided with rearwardly-projecting spurs on its under side, an upright hand-lever carrying a pawl at the base of its arm, and constructed with a cam-head embraced by and turning between a toothed rack and a supporting-flange rising from the bed-plate, a push-bar sliding in parallel bearings on the bed-plate, constructed with a cross-head and connected by a slotted link to the cam of the lever, substantially as shown and described.

2. In a device for cramping floor-boards, the combination of the bed-plate A, provided with spurs *b*, as described, toothed rack C, supporting-flange D, and grooved bearings *i*, with the lever E, pawl *d*, cam E', pin *h*, slotted link *f*, and push-bar B, having a cross-head, *e'*, substantially as and for the purpose set forth.

3. In a device for cramping floor-boards, a bed-plate, A, provided with spurs in its under surface, and with an arched rack, C, and a flange, D, rising parallel with each other from its upper surface, and grooved bearings *i*, fixed parallel with each other on the upper surface of said bed-plate, in combination with a lever, E, having a cam-head, E', turning on a pivot between said rack and flange, a pawl, *d*, journaled to the arm of said lever and engaging said rack, a push-bar, B, having a cross-head, *e'*, and fitted to slide in said grooved bearings, and a slotted link, *f*, connecting said push-bar with the cam-head of said lever, substantially as and for the purpose shown and described.

4. In a device for cramping floor-boards, a bed-plate, A, provided with rearwardly-projecting spurs *b* in its under surface, an arched rack rising from its upper surface, and grooved bearings *i* fixed parallel with each other on its upper surface, in combination with a hand-lever, E, having a cam-head, E', pivoted to the side of said rack, a pawl, *d*, journaled to the arm of said lever and engaging said rack, a cross-headed push-bar, B, sliding in said grooved bearings, and a slotted link, *f*, connecting said push-bar and the cam of said lever, substantially as and for the purpose shown and described.

5. In a device for cramping floor-boards, the bed-plate A, backwardly-inclined spurs *b* beneath said bed-plate, an arched rack, C, and flange D upon said bed-plate, a lever, E, having a cam-head, E', pivoted to and between said rack and flange and carrying a pawl, *d*, which engages said rack, in combination with the push-bar B, having the shoulder *e* and cross head *e'*, said push-bar being adapted to slide in grooved bearings *i*, fixed parallel with each other on said bed-plate, and being connected by a slotted link, *f*, with the cam-head of said lever, substantially as and for the purpose shown and described.

6. In a floor-cramp, the combination of a base having spurs beneath it to engage with the floor-beam, a toothed rack and lever-support on the upper surface of said base, between which is pivoted a cam-lever, a pawl on said lever, engaging with said toothed rack, and a pressure-bar sliding in grooved bearings on said base and connected by a slotted link to the cam of the lever, substantially as shown and described.

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Witnesses:
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