(No Model.)

S. MITCHELL.

CLAMP.

No. 299,829. Patented June 3, 1884.

Fig. 1.

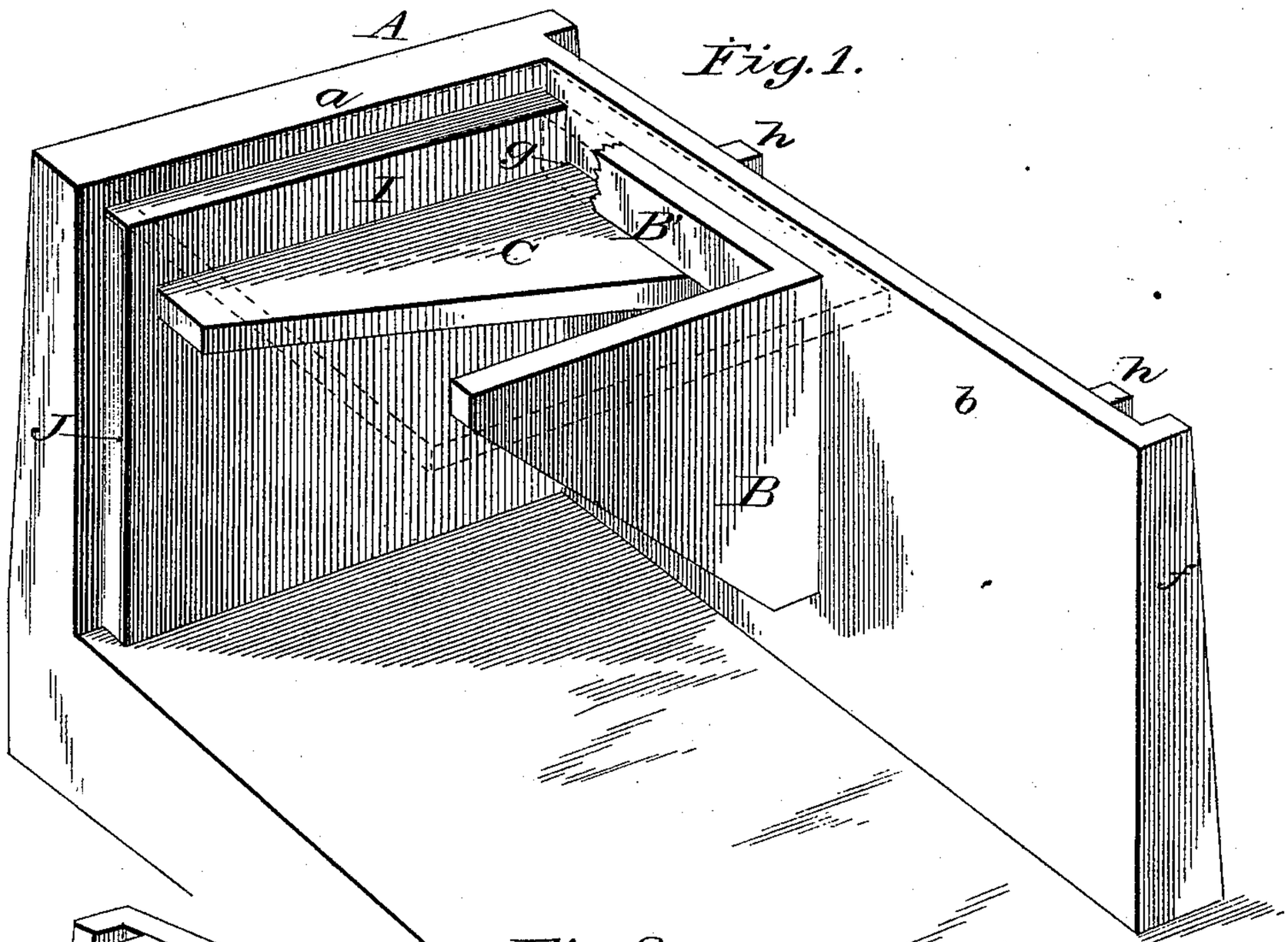
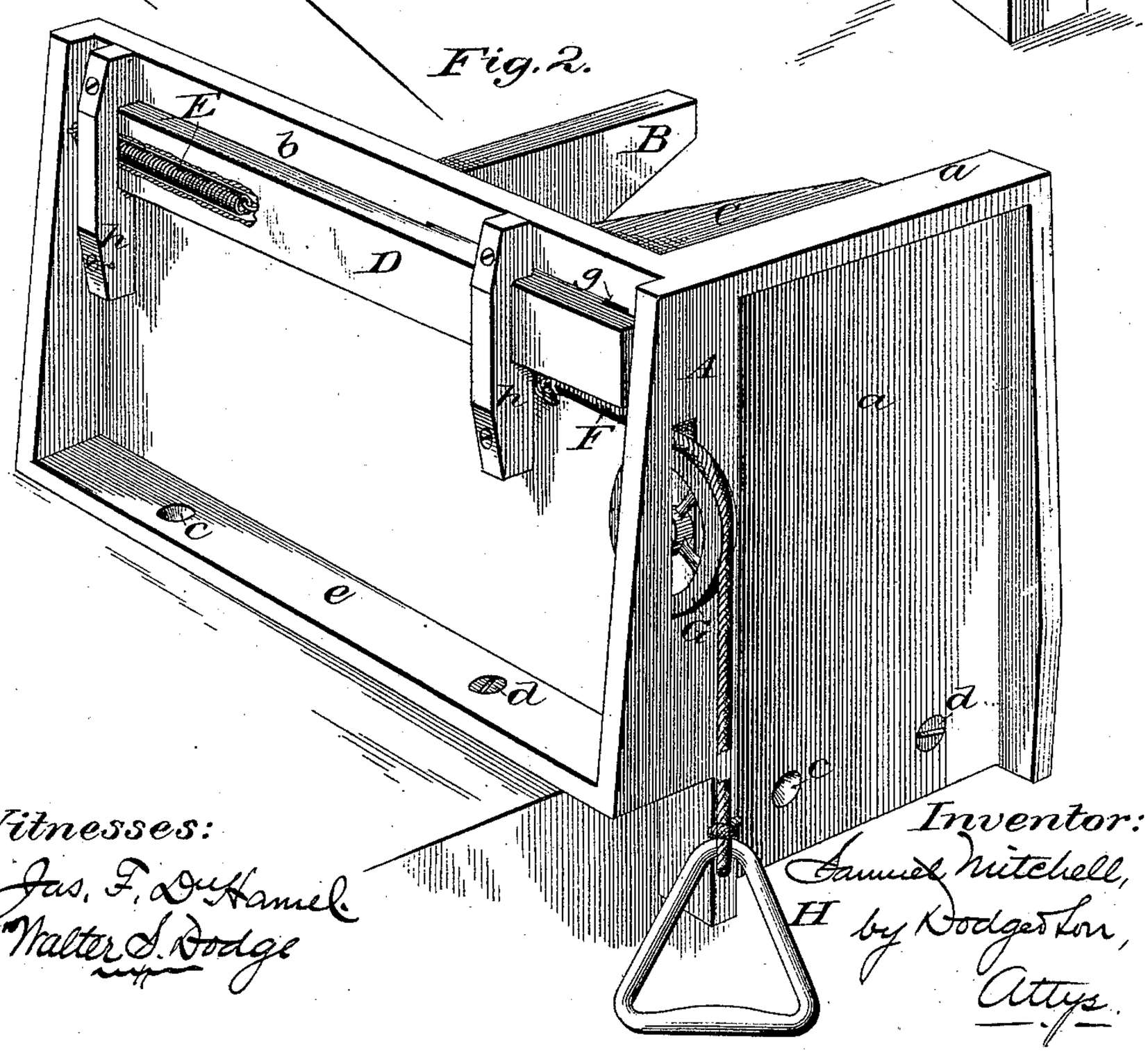


Fig. 2.



Witnesses:
Jas. F. DuHamel.
Walter S. Dodge

Inventor:
Samuel Mitchell,
by Dodger & Son,
Attys.

UNITED STATES PATENT OFFICE.

SAMUEL MITCHELL, OF HORNELLSVILLE, NEW YORK, ASSIGNOR TO THE SHIPPING PACKAGE COMPANY, OF SAME PLACE.

CLAMP.

SPECIFICATION forming part of Letters Patent No. 299,829, dated June 3, 1884.

Application filed April 12, 1884. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL MITCHELL, of Hornellsville, in the county of Steuben and State of New York, have invented certain Improvements in Box-Making, of which the following is a specification.

This invention relates to a clamping and holding device for use in box-making; and it consists in a novel construction and arrangement of parts, hereinafter more fully described and claimed.

In the drawings, Figure 1 is a perspective view of the device from the front; Fig. 2, a perspective view, looking from the rear.

The invention is more especially designed to facilitate the manufacture of metal-lined boxes or shipping-cans with square or flaring sides—such, for instance, as are shown in the patent to C. S. Betts, No. 238,835, and dated March 15, 1881.

In constructing boxes of thin, light material it is important to press and hold the same closely and firmly against a flat supporting plate or face, to take out any curvature produced by warping or otherwise, to insure a neat joint, and to avoid danger of driving the nails or brads too close to the face of the boards, and the consequent liability of splitting. When a metal lining is applied and its edges extended into the joints of the box, it is especially important to use such a clamping device to insure the close fitting of the lining to the wood.

To serve the above purposes I construct the device in the following manner, preferably of metal, but of other suitable material, if desired.

A indicates a frame consisting of two vertical sides, *a b*, joined together at a right angle or the same angle of the box, or can be nailed and adapted to be bolted, screwed, or otherwise fastened to a work bench or table. For the latter purpose I preferably extend side *a* below side *b*, and form holes *c* through the lower part to receive screws *d*, which enter the end or edge of the bench or table, as in Fig. 2, and I form the side *b* with a horizontal foot or web, *e*, which is likewise provided with a hole or holes, *c*, to receive the screw or screws *d*, which enter the top of the bench or table. Upright strengthening or bracing webs *f* are also formed to brace the sides *a b*.

B indicates a bracket or supporting-arm, and B′ a lateral extension thereof, to support the side of the box through which the nails are to be driven, these parts being at the exact height required for the particular size of the box being manufactured. When smaller boxes or packages are to be made up, a cleat or block may be laid upon the bench or secured to the frame, to form a support for the lower edge of the side pieces.

C indicates a presser-arm projecting horizontally through an elongated opening, *g*, in the side *b*, and standing parallel with and a short distance away from the side *a*, as shown in Fig. 1. The presser-arm C is carried by, and may advantageously be made integral with, slide D, which moves in guides *h* at the back of the side or plate *b*, as shown in Fig. 2, said slide and arm being retracted and normally held away from plate or side *a* by means of a spring, E, seated in a recess in the rear end of the slide D, connected at one end to the slide, and at the other end to frame A, or placed outside of the slide and similarly connected.

To move the slide D and its arm C forward, I provide a rope or band, F, which passes forward from the slide over a pulley, G, and thence downward, terminating in a loop or stirrup, H, to receive the foot of the operator, or being attached to a treadle, by which it may be drawn down, as required.

The device being thus constructed is secured to a bench, table, or other convenient support, and is used as follows: The side pieces, I, of the box come to the operator with the tin lining J turned over one edge, as in Fig. 1, and one of these pieces is placed between the side or face of the frame and the arm C. The operator then bears down with his foot, which is placed in stirrup H, and thus through the band F moves slide D and arm C forward, causing the latter to press the board I and its facing J firmly together and against side or face *a* of the frame, as shown in Fig. 1. The next side or part of the box, similarly prepared, is then laid with its edge resting upon the upper edge of the piece clamped by arm C, as shown in dotted lines in Fig. 1, and pressed close up against

side or face *a*, and while it rests upon the part clamped by arm C and upon the bracket B and ledge B′, the tacks, brads, or nails are driven in. The foot is then raised, releasing the arm C, the parts of the box are turned to receive another side, and the foregoing operation is repeated, and so on until the four sides are properly joined and secured.

I do not claim, broadly, a presser arm or plate arranged to bear against the face of a thin board to hold it while another part is being tacked or nailed to it, as I am aware that I am not the first to construct such a machine or device; but I am not aware that any one has ever before constructed a machine in the manner herein set forth, nor one capable of performing the offices thereof. By its use accurate work can be done, and both hands are left free to handle the parts of the box, while at the same time the complication necessarily incident to power-driven nailing-machines is avoided.

Having thus described my invention, what I claim is—

1. The herein-described clamp or holder for use in manufacturing boxes, consisting of a frame composed of two sides joining each other at an angle corresponding to the desired angle of the box, a bracket projecting horizontally from the frame to sustain the applied side or board, a slide provided with a projecting arm to press the side or board of the box against the frame, a spring attached to and serving to retract the slide, and a band attached to the slide and serving to move it in opposition to the spring, all substantially as described and shown.

2. In a clamping device for use in box-making, the combination of a stationary upright plate or support having a plane face, a slide movable to and from said support and provided with a horizontally-projecting arm parallel with said face, a band attached to the slide, and a foot-piece attached to the band, all substantially as described and shown, whereby the operator is enabled to force the slide against the flat face of the board or box-side by the pressure of his foot, and to clamp said board between the face of the support and the arm, thereby taking out any bends or irregularities in its face.

3. In a clamp for use in nailing boxes, the combination of a frame having two sides joining each other at an angle, a slide provided with a projecting arm movable to and from one of said sides to press and clamp a board against the same, a bracket and ledge projecting from the other side to support the piece to be nailed, a spring attached to the slide at one end and to the frame at the other end to retract the slide, and a band attached to the slide and provided with a foot-piece, whereby the slide may be moved against the board in opposition to the force of the spring.

SAMUEL MITCHELL.

Witnesses:
C. ADSIT,
C. W. ETZ.