No. 817,906. PATENTED APR. 17, 1906.

R. DUNNE.

MITER CLAMP.

APPLICATION FILED JUNE 27, 1905.

FIG. 1

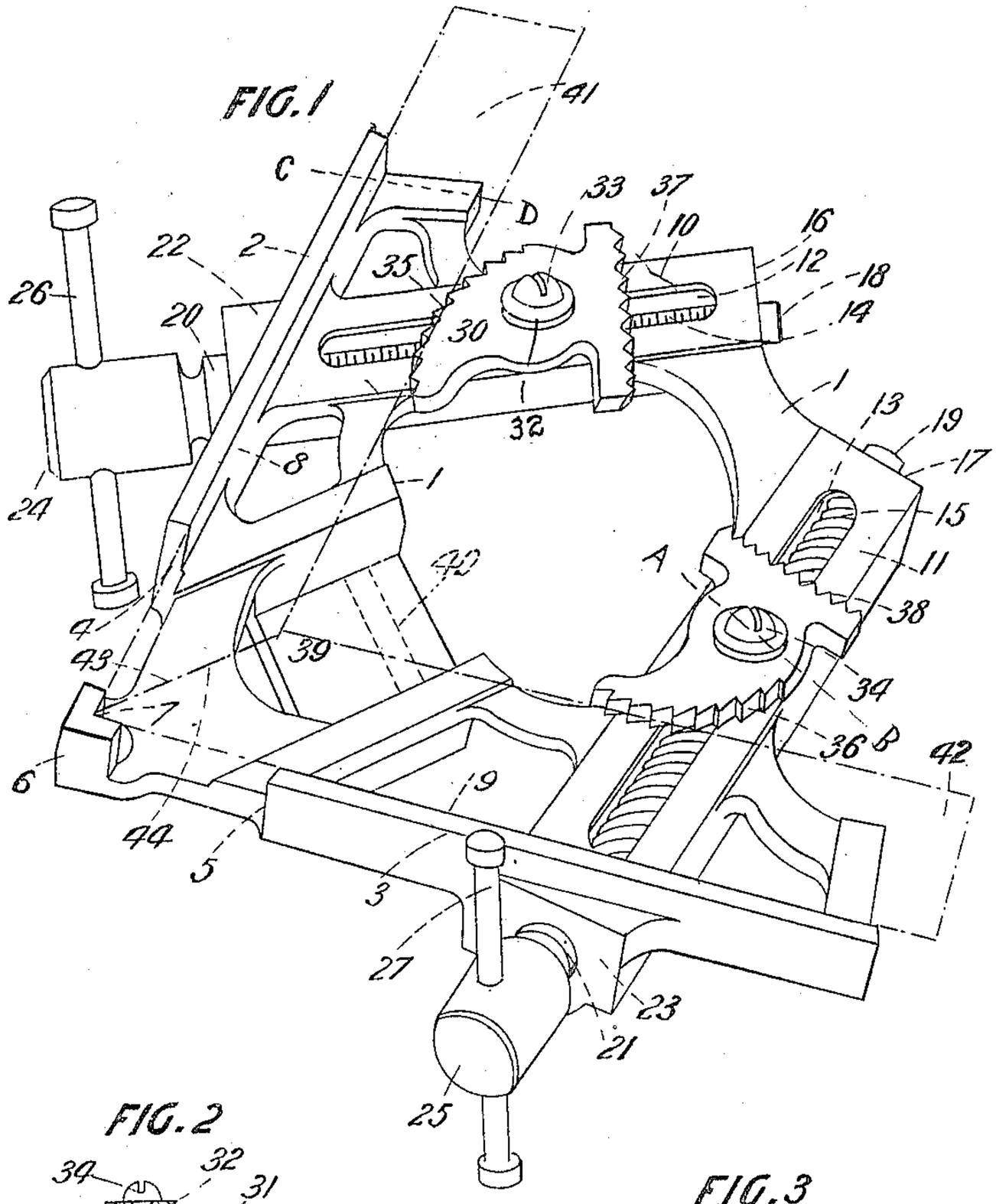


FIG. 2

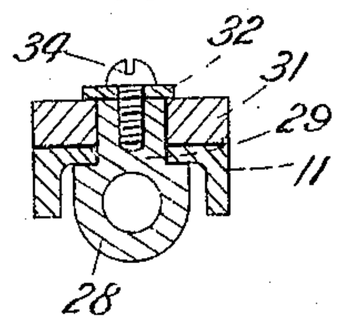
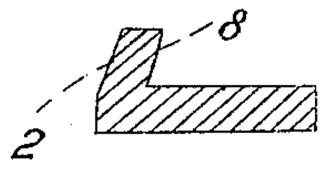


FIG. 3



Witnesses
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UNITED STATES PATENT OFFICE.

RALPH DUNNE, OF DUNEDIN, NEW ZEALAND.

MITER-CLAMP.

No. 817,906. Specification of Letters Patent. Patented April 17, 1906.

Application filed June 27, 1905. Serial No. 267,244.

To all whom it may concern:

Be it known that I, RALPH DUNNE, of George street, Dunedin, New Zealand, have invented certain new and useful Improvements in Clamps for Use in Making Frames, of which the following is a specification.

This invention relates to clamps for holding strips of material for making frames for pictures and the like, such strips having been cut in such a way that their cut ends when joined together will form a miter or bevel joint and whereby these may be forced closely together at a corner and held conveniently for fastening together.

The invention consists in the features and combination and arrangement of parts hereinafter described, and more particularly pointed out in the claims.

The invention in one form is illustrated in the accompanying drawings, in which—

Figure 1 is a perspective view of the clamp. Fig. 2 is a cross-section through A B of Fig. 1, showing one of the nuts. Fig. 3 is a cross-section through C D of Fig. 1, showing the inclination of the flanges to the frame.

The same reference-numbers indicate the same or similar parts.

There is a frame 1, preferably cast in one piece, with flanges 2 3 integral with the frame and in this case at right angles to each other and leaving a space between their ends 4 5 and the corner-pillar 6. This pillar 6 is integral with the frame and is situated so that its inner corner 7 is at the intersection of the inner inclined surfaces 8 9 of the flanges, if produced to intersect.

Portions 10 11 of the frame 1 are provided with slots 12 13, and immediately under and in line with these slots are screws 14 15, suitably mounted beneath the frame 1. These screws 14 15 project, respectively, through the ends 16 17 of the slotted portions 10 11 and are there provided, respectively, with collars 18 19, riveted thereto and adapted to bear against the ends 16 17, respectively. The other ends 20 21 of these screws 14 15 project, respectively, through raised portions 22 23, integral with and external to the flanges 2 3 and having their surfaces parallel with the ends 16 17. The screws 14 15 have the usual heads 24 25 and levers 26 27 to rotate them. They work through nuts, such as 28, Fig. 2, adapted to fit them, and these nuts have pivot-pins, such as 29, Fig. 2, projecting upward through the slots 12 13 in the portions 10 11, upon which cams 30 31 are mounted so as to be capable of turning and are kept in position by the pivot-pins 29 passing through them, the whole being secured by washers, such as 32, and screws 33 34. These cams have curved toothed edges 35 36, eccentric with respect to the pivot-pins 29, and also straight toothed edges 37 38.

A portion 39 of the frame 1 projects below the plane of the frame while bridging the two similar flange-carrying pieces thereof, and this portion 39 is for the purpose of fixing the device to a table and may have a flange 40, depending at right angles to it to serve as a gripping-piece for a vise or to assist in fixing the device to a table.

In operating the clamp the strips 41 42, (shown by dotted lines in Fig. 1,) having their ends 43 44 cut at an angle, are placed with these ends meeting and with their corners at the corner 7. The screws 20 21 are then operated to draw the cams toward the strips, the curved toothed edges 35 36 thereof engaging the edges of the strips. The screws are continued in operation and by reason of the shape and construction of these cams the strips are forced lengthwise into the corner 7 and are held tightly together. The inclined inner surfaces 8 9 of the flanges 2 3 prevent the pressure of the cams from tipping the strips and so causing the joint to open upward. Instead of using both curved toothed edges of the cams together, one edge 37 of the straight toothed edges may be used to hold one strip in position, while the curved toothed edge 36 of the other cam is used to push the other strip into the corner, and vice versa. The two strips may then be nailed together.

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

1. A clamp comprising a frame, two flanges at an angle with each other thereon with inclined inner surfaces, and means whereby strips of cut material placed on the frame against said flanges are pushed lengthwise toward each other and held together the means for operating on one strip being independent of the means for operating on the other strip substantially as described.

2. A clamp comprising a frame, two flanges at an angle with each other thereon with inclined inner surfaces, a pillar on said frame forming a corner at the intersection of said surfaces produced, and means whereby strips of cut material placed on the frame against said flanges are pushed lengthwise to-

ward said corner and held together the means for operating on one strip being independent of the means for operating on the other strip substantially as described.

3. A clamp comprising a frame, two flanges at an angle with each other thereon with inclined inner surfaces, a pillar on said frame forming a corner at the intersection of said surfaces produced, two cams with curved toothed edges slidably mounted on said frame, and means operating independent of each other for moving said curved toothed edges toward said flanges respectively, whereby strips of material placed on the frame against said flanges are pushed toward and held together at said corner substantially as described.

4. A clamp comprising a frame, two flanges at an angle with each other thereon with inclined inner surfaces, a pillar on said frame forming a corner at the intersection of said surfaces produced, two cams with curved toothed edges slidably mounted on said frame above two slotted portions respectively, nuts below the frame pivotally secured to said cams, and two screws respectively passing through said nuts whereby said cams are moved independently of each other substantially as described.

5. A clamp comprising a frame, two flanges at an angle with each other thereon, and means whereby strips of cut material placed on the frame against said flanges are pushed lengthwise toward each other and held together, the means for operating on one strip being independent of the means for operating on the other strip.

In witness whereof I have hereunto set my hand in presence of two witnesses.

RALPH DUNNE.

Witnesses:
A. J. PARK,
A. A. PARK.