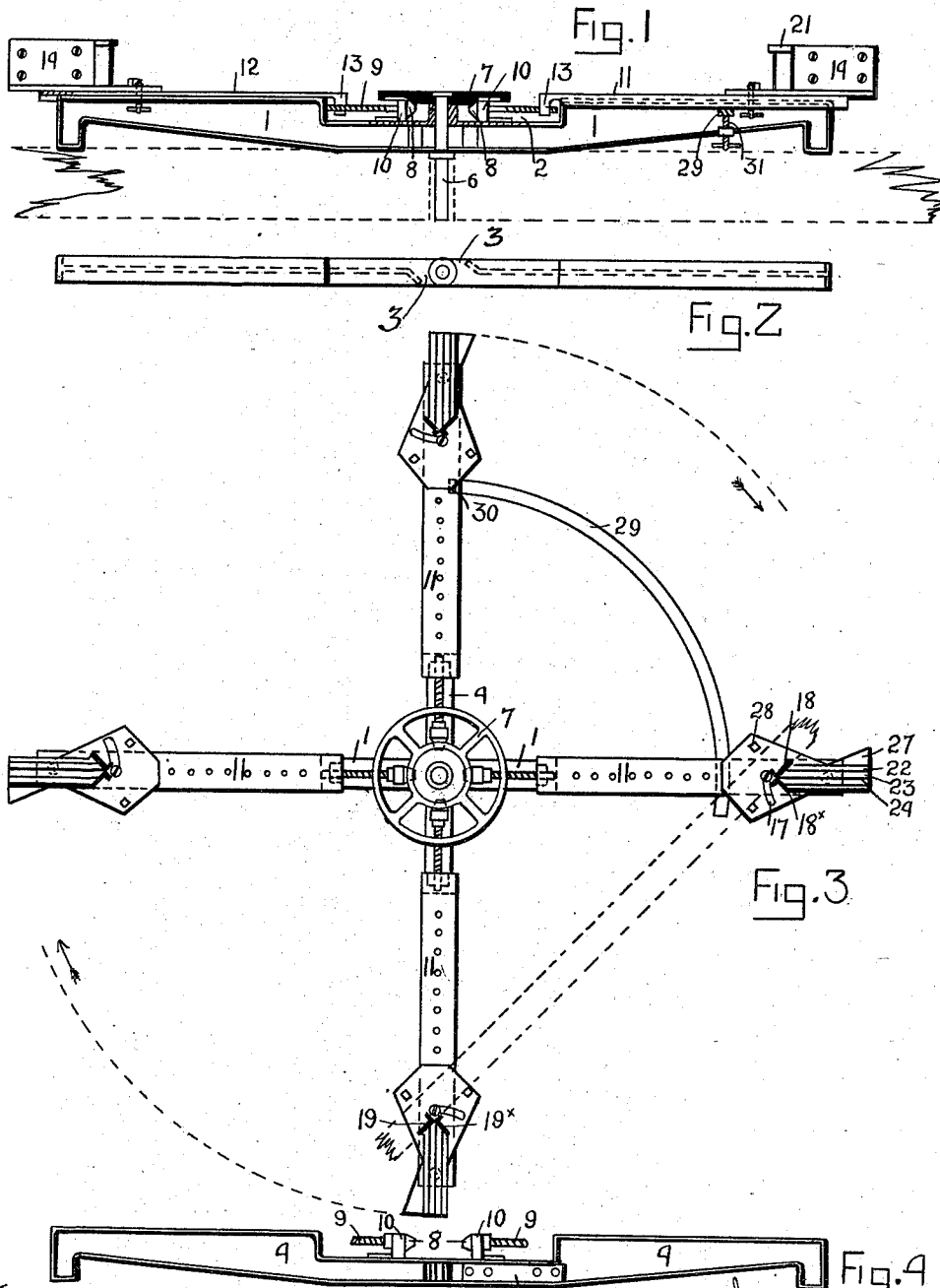


G. W. GREEN.
FRAME BEVEL AND CLAMP.

No. 562,524.

Patented June 23, 1896.



Witnesses
H. van der Meer
E. G. L. L.

Inventor
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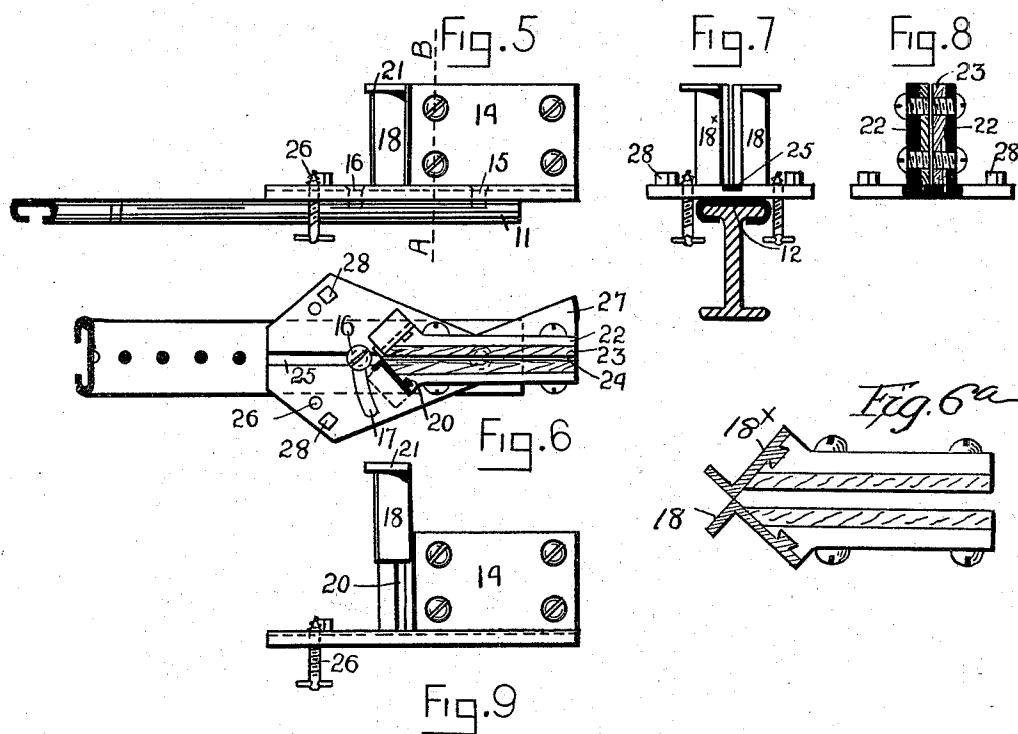
(No Model.)

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UNITED STATES PATENT OFFICE.

GEORGE WILLIAM GREEN, OF LAVENDER BAY, NEW SOUTH WALES,
ASSIGNOR TO SUMMERS BROWN, OF MOSSMAN, NEW SOUTH WALES.

FRAME-BEVEL AND CLAMP.

SPECIFICATION forming part of Letters Patent No. 562,524, dated June 23, 1896.

Application filed November 4, 1895. Serial No. 567,918. (No model.)

To all whom it may concern:

Be it known that I, GEORGE WILLIAM GREEN, a subject of the Queen of Great Britain, residing at Lavender Bay, North Sydney, in the Colony of New South Wales, have invented a new or Improved Frame-Bevel and Clamp, of which the following is a specification.

This invention has for its object the providing of apparatus in which the cutting of frame-bevels can be accomplished with facility and despatch and the pieces, when cut, clamped securely together in place, so as to facilitate the trying and setting of the angles and expedite the nailing or securing together of the several parts; but to make the invention and the method of carrying the same into practice better understood reference is had to the accompanying drawings, in which—

Figure 1 is a side sectional elevation of the apparatus, one of the arms being removed so as to show the straining-gear; Fig. 2, a plan of one of the arms; Fig. 3, a plan of the apparatus set to make a frame the sides of which are of equal length; Fig. 4, a side elevation of one of the arms; Fig. 5, an enlarged detail side elevation of bevel-box; Fig. 6, a plan of Fig. 5. Fig. 6^a is an enlarged view showing the stop-plates in place to close the mouths of the saw-slots; Fig. 7, an end elevation of same; Fig. 8, a section through line A B, Fig. 5; and Fig. 9 a similar view to Fig. 5, with top piece slid up.

1 is an arm in which a central depression 2 is formed to provide accommodation for the straining-gear. In this arm an aperture 3 is formed, through which the other arm 4 is inserted. This arm is preferably made in two pieces to permit of its being readily fitted into place. It is joined together with fish-plate 5.

6 is the pivot or king-bolt securing the apparatus to a bench or table and about which it can be freely swung.

7 is a hand-wheel engaging on its under side the drive-disk or pinions 8, secured on the spindles or straining-screws 9 and rotating in bearings 10.

11 are sliding beds capable of transverse movement along the faces 12 of the arms 1 and 4, and to which the bevel-boxes 14 are secured. The straining-screws 9 work into the tapped

heads 13. By the rotation of the hand-wheel 7, acting through the pinion 8, the beds 11 are caused to advance or retire from the center. The bevel-boxes 14 are secured to the beds 11 by pivotal screws 15, about which they are capable of being swung, for the purpose of altering the angle of their axis in relation to the axis of the arms 1 and 4.

16 is a pinching-screw for securing the bevel-boxes at any required angle, and 17 is a radial slot in the bed thereof to permit of such swing.

18 18^x 19 19^x are stop or chock pieces on the face, held in place by dovetail guides 20, and are capable of vertical movement.

21 are finger-pieces.

22 are the metal sides; 23, wooden guides for saw; 24, saw-groove; 25, india-rubber or wooden saw-guard piece; 26, frame-holding screws; 27, overhanging base; 28, angle-setting stops; 29, radial locking-bar secured at 30 to arm 1 and locked by screw 31 on arm 4.

In carrying out the invention each bevel-box is set in its approximate position (relative to the size of the frame to be made) upon the movable bed 11 by screwing its pivotal pin 15 into one of a series of holes provided for that purpose, each bevel-box being set at an equal distance from the center.

The distance measured between the leading edges of each adjacent pair of boxes determines the size of the frame. Should the correct size not be obtained at the first setting, the hand-wheel 7 is rotated to either move the boxes farther apart or draw them nearer to the center.

If a frame other than that of a square be required, the arms 1 and 4 are swung round, as indicated by the radial dotted lines, till the required size is obtained. The arms are then locked in their position by the screw 31 pinching the radial locking-bar 29, and the corresponding bevel-boxes set at right angles to one another. The wheel 7 is rotated, if necessary, to bring the latter to their exact position.

To cut the bevel on the molding or such like, a piece of the material to be worked is laid across the face of two of the adjacent bevel-boxes, as indicated by dotted lines on

Fig. 3, the stop or chock pieces 18 and 19 being slid up out of the way to allow the material to bear flat against the face, and, if necessary, to further insure accurate cutting, the molding is secured in place by forcing the points of the screws 26 into it. A saw is inserted in one of the grooves 24 and the bevel is cut with accuracy. At the end of the cut the teeth of the saw come in contact with the soft bed 25 and are not injured thereby. The saw is next inserted in the groove of the other bevel-box and the second angle cut. Corresponding sides of the frame are cut preferably from the same bevels. The other sides of the frame are formed in a similar way.

To secure the pieces of the frame to one another, the stop-pieces 18 and 19 are slipped down into place, the sides of the frame are arranged between their respective bevel-boxes, the hand-wheel 7 is rotated to advance them toward the center and so force the angles tightly together, and the stop-pieces close the mouths of the saw-slots. The corners of the frame are thus held firmly in place, and they are accurately and expeditiously secured together.

Although I have described and illustrated apparatus for the purpose set out, it is to be understood that I do not restrict myself specifically to the details of construction, as these

may be modified without departing from the principle of the invention; but

What I do claim as my invention, and desire to secure by Letters Patent, is—

1. In combination, the arms 1 and 4 having depressions at their centers with the guideways extending from said depression along the arms, the beds 11 sliding on said guideways, the bevel-boxes at the outer ends of the beds, the central hand-wheel over the depressed part of the arms and on the pivot-post of said arms, the screws over the depressed part of the arms and the gear connection between the screws and the hand-wheel, said screws engaging the sliding beds, substantially as described.

2. In combination the bevel-boxes, means for supporting them and means for adjusting them toward and from each other, said boxes having guiding-slots for the saws and the bearing-plates 18 adjustably arranged at the front of the boxes, and at the mouths of the slots therein substantially as described.

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

GEORGE WILLIAM GREEN.

Witnesses:

C. G. HEPBURN,
W. I. DAVIS.