(No Model.)

W. L. BOOYER.

MITER BOX.

No. 335,738. Patented Feb. 9, 1886.

Fig. 1.

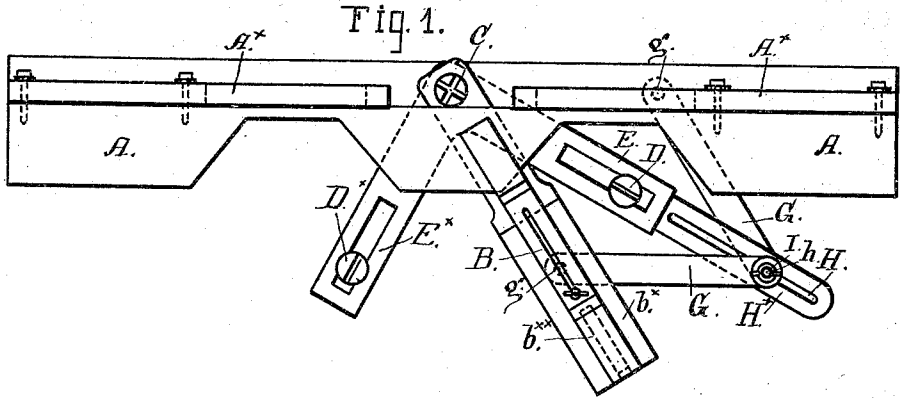


Fig. 2.

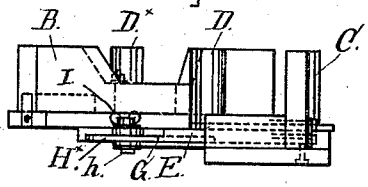


Fig. 3.

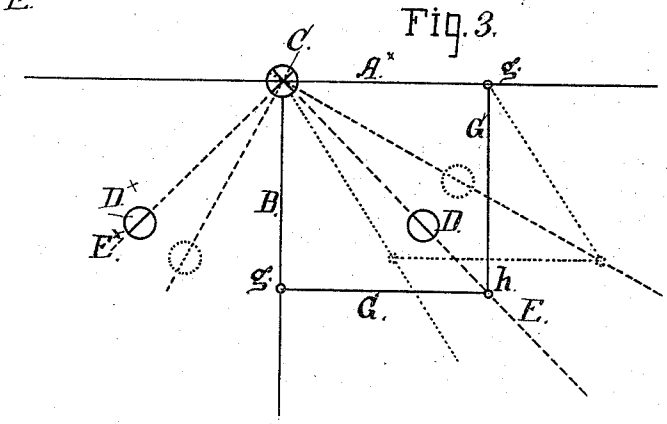
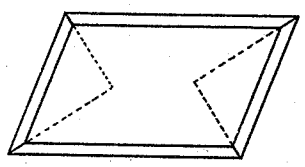


Fig 4.



Witnesses:

Wm Mayer

Thos. F. Smith

Inventor:

Wm L. Booyer

By his Atty., Edwd L. Brown

N. PETERS. Photo-Lithographer, Washington, D. C.

UNITED STATES PATENT OFFICE.

WILLIAM L. BOOYER, OF SAN FRANCISCO, CALIFORNIA.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 335,738, dated February 9, 1886.

Application filed September 30, 1885. Serial No. 178,656. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM L. BOOYER, a citizen of the United States, residing in the city and county of San Francisco, in the State of California, have invented certain new and useful Improvements in Miter-Boxes; and I do hereby declare that the following is a full, clear, and exact description of my said invention, reference being had to the accompanying drawings.

My invention relates to improvements made in adjustable miter-boxes for carpenters' and cabinet-makers' use and for other like purposes; and my improvements consist in constructing and combining two sets of saw-guides and molding-guides or work-guides in such manner that all the four corners of any panel having parallel sides are obtained at the same time by a single adjustment of the box to give either one of the required angles.

Figure 1 of the drawings is a plan or top view of a miter-box constructed in accordance with my invention. Fig. 2 is an end view taken from the right-hand end of Fig. 1. Fig. 3 is a diagram illustrating the arrangement and relation of the parts to one and with one another. Fig. 4 shows a molding for an oblique panel cut with this machine.

Referring to the parts by letters, A is the bed or base, and A* the fixed standing edge along the front side for setting and holding the pieces to be mitered.

B is a swinging rest and guide, having a movement about the point C as a center, and furnishing two rests and guides, *b** *b***, for the pieces to be cut. These parts thus give two guides, A* *b** to one side of the center C and two, A* *b***, on the other side, and by moving the part B to obtain any given angle of one set it will be seen that the other set of these guides gives the complement of the angle.

C D D* are upright posts with slits to receive and guide the saw, C having cross-slits and the others each a single slit, so that the saw can be shifted to one or the other of the guides D.

D D* are movable around the point C as a center, but in all positions which they are capable of taking always keeping ninety degrees apart, and in connection with the post C furnishing at every adjustment two sets of guide-slits for the saw, one at a right angle to the other. Such position is secured by mounting the posts on the arms E E*, that are movable about the center C, but are fixed as regards independent movement, and by making the post C to turn on the center that its slits may be kept always in line with those of the other posts. The result of this arrangement is that when saw-guide, as C D, is set to bisect the angle between the molding-guides at one side, as A* *b**, the other guide, C D*, is set at the same time and by the one adjustment into corresponding position with the other guides, A* *b***. One side thus gives the cut for two pieces to match and fit the acute angle, and the other side the cut for the obtuse angle of any panel or piece of work having parallel sides.

In setting the swinging guide B to the required angle the adjustment of the saw-guides is also made without further operation. This is effected by connecting the swinging part B to one of the arms E by the bars G G, of equal length, the outer ends of which are hinged or pivoted at *g g* to the bed A and to the part B at points equidistant from the center C, while the inner ends meet and are attached together at a common point to a pin or stud, *h*, working in a slot, H, on the outer end of the arm. This slot is in a plate, H*, that is an extension of the arm E, and the sliding stud is screw-threaded for a clamp-nut, I. Equal movement of the two bars takes place as the swinging part B is carried in either direction, and the guide-slits for the saw are consequently kept on the line that bisects the angle formed by the fixed side A* and the swinging part. Whatever position is given to the guides in adjusting them to the work the same is preserved by tightening the clamp-nut, and as the other arm that carries the guide-post of the other set is rigidly connected to the arm D a like movement and center position follows in the other saw-guide.

In the use of a miter-box constructed in this manner the swinging guide B is readily set for either corner of the panel by means of the bevel-gage, and the cuts required to match all the four corners are obtained without further measurement of the work.

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

1. The combination, with the swinging guide B, of the post C, set at the center of such movement of the guide, the arms E E*, fixed at ninety degrees apart and carrying the posts D D*, and the bars G G, of equal length, having a common attachment in a slotted plate, H, and at the outer ends pivoted the one to a fixed point, *g*, and the other to the swinging guide, both said points of attachment being equidistant from the center C, substantially as described.

2. The herein-described miter-box, consisting of the bed A with guide A*, the swinging guide B, having movement about the guide-post C as a center, the swinging posts D D*, fixed at ninety degrees apart, and having movement in such position about the stationary post C, the pivoted bars G G, the slotted connection H, and the clamp I, combined for operation substantially as set forth.

WM. L. BOOYER.

Witnesses:
JAMES L. KING,
EDWARD E. OSBORN.

Correction in Letters Patent No. 335,738.

It is hereby certified that the name of the patentee in Letters Patent No. 335,738, granted February 9, 1886, for an improvement in "Miter-Boxes," was erroneously written and printed "William L. Booyer," whereas said name should have been written and printed *William L. Bovyer;* and that said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 29th day of June, A. D. 1886.

[SEAL.]

D. L. HAWKINS,
Acting Secretary of the Interior.

Countersigned:

M. V. MONTGOMERY,
Commissioner of Patents.