

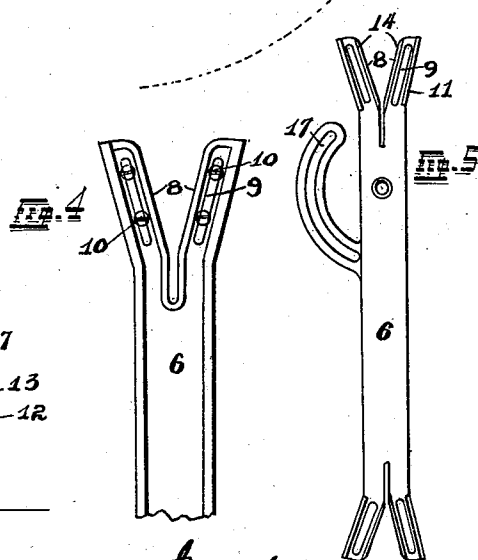
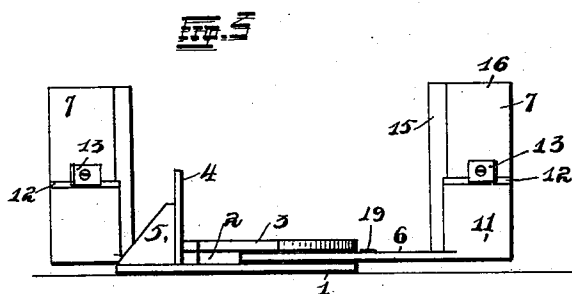
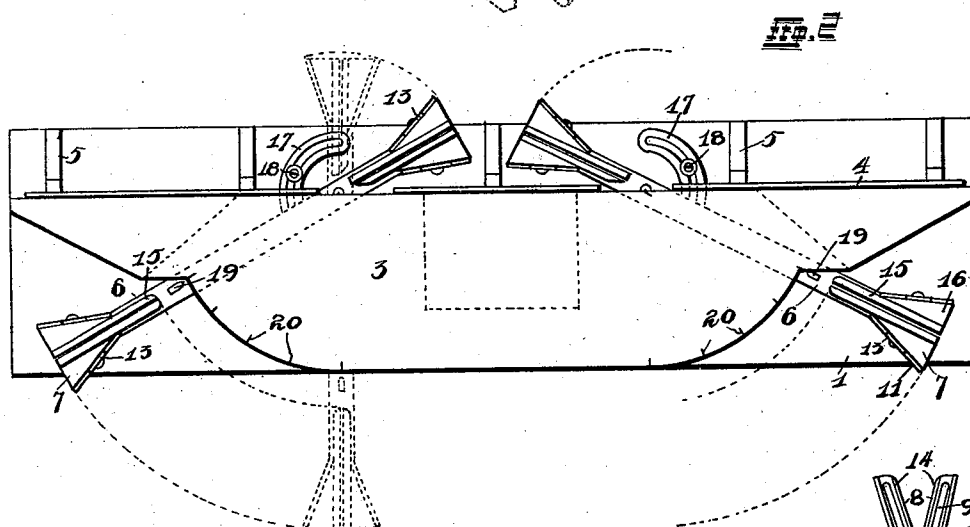
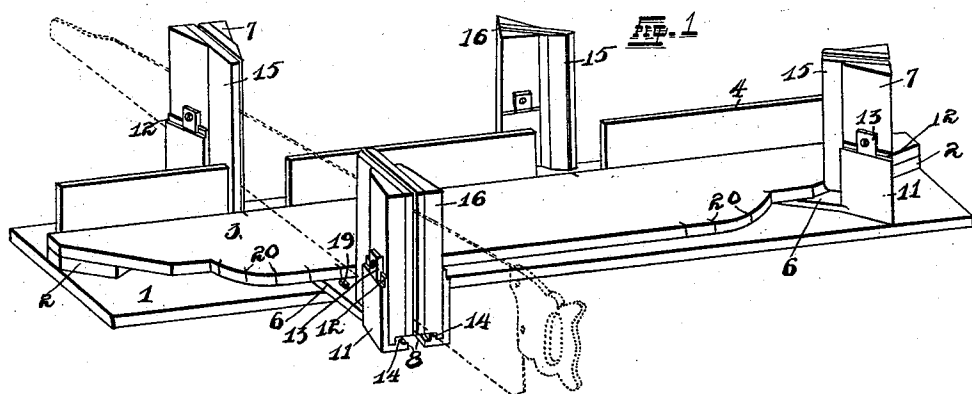
(No Model.)

2 Sheets—Sheet 1.

J. LUSCHER.
ADJUSTABLE MITERING MACHINE.

No. 507,742.

Patented Oct. 31, 1893.



Witnesses:-
Alfred O. Eichler.
Herbert S. Robinson.

Inventor:
John Luscher,
By Higdon Higdon Longan,
Attorneys.

(No Model.)

2 Sheets—Sheet 2.

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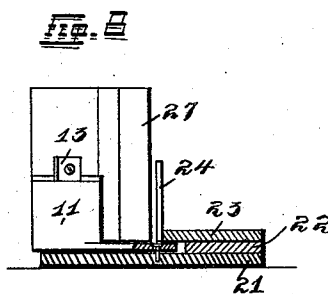
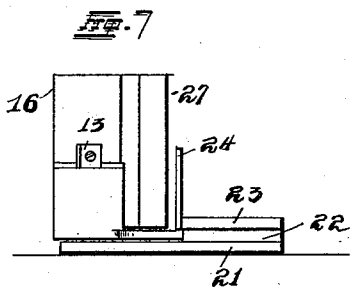
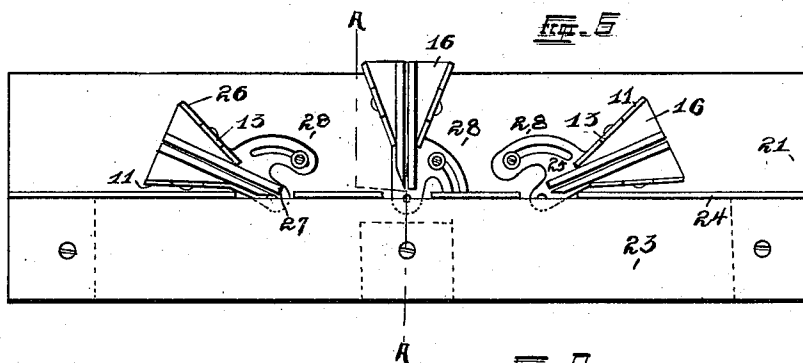
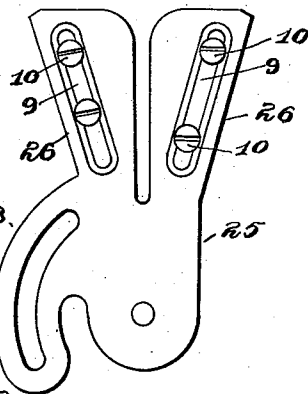
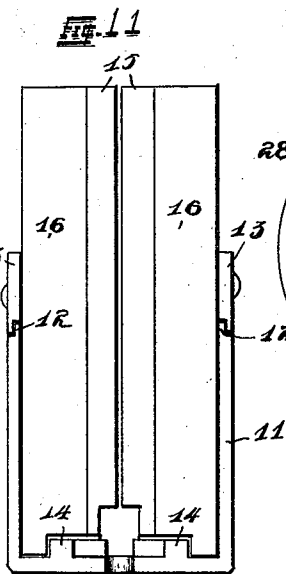
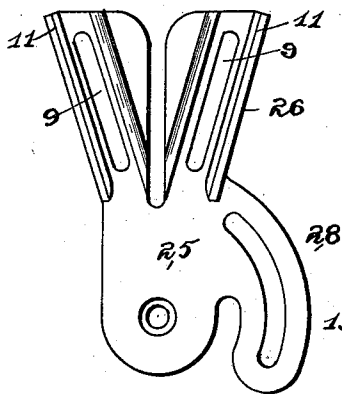


Fig. 9

Fig. 10



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UNITED STATES PATENT OFFICE.

JOHN LUSCHER, OF ST. LOUIS, MISSOURI.

ADJUSTABLE MITERING-MACHINE.

SPECIFICATION forming part of Letters Patent No. 507,742, dated October 31, 1893.

Application filed March 13, 1893. Serial No. 465,780. (No model.)

To all whom it may concern:

Be it known that I, JOHN LUSCHER, of the city of St. Louis and State of Missouri, have invented certain new and useful Improvements in Adjustable Miterring-Machines, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

My invention relates to improvements in an adjustable miter-box, and consists in the novel arrangement and combination of parts as will be more fully hereinafter described and set forth in the claim.

The object of my improvement is to construct a device of this class which embodies improved parts, adjustable to any desired angle at which it may be desired to cut the miter. The improvement is also constructed in such a manner that its durability is unquestionable, and one of its main features lies in providing the guides with common centers, thus enabling the measurement to be taken from said centers in order to obtain any desired angle.

In the drawings: Figure 1 is a perspective view of my complete invention, showing a saw in position as indicated by dotted lines. Fig. 2 is a top plan view of my complete invention, showing different angles at which the guides may be placed, both by dotted and solid lines. Fig. 3 is an end view of the miter-box. Fig. 4 is an enlarged detail elevation of a portion of one of the adjustable base frames. Fig. 5 is a similar elevation of a complete base frame. Fig. 6 is a top plan view of the modified form of the miter-box. Fig. 7 is an end view of the same. Fig. 8 is a vertical sectional view taken through the line A—A in Fig. 6. Fig. 9 is an enlarged elevation of the base frame of the guide as used in the modification. Fig. 10 is an inverted plan view of the base frame. Fig. 11 is a rear end elevation of the base frame and guide removed from connection with other parts.

Referring to the drawings: 1 indicates the base-board which it may be said, forms the foundation for the construction herein described and claimed. Secured upon the upper side of the base-board 1 are a number of blocks 2 which serve to elevate a plate 3 above said base-board 1, so as to provide a clear space between said baseboard and said

plate, the relative position and size of the blocks 2 being shown by dotted lines in Fig. 2. The plate 3 is not of the same width as the base-board 1, but along its straight inner edge, is provided with upwardly projecting, preferably metallic plates 4, located at right angles with the surface of said plate 3, and held in an aligned upright position by braces 5 secured upon the base-board 1. The plates 4 are not continuous but leave open spaces between their ends, which allow the operation of certain parts hereinafter described. Pivoted under the plate 3 adjacent its inner edge, and immediately under the space between the ends of the plates 4, are frames 6 upon which are mounted the guide blocks 7. Said frames 6 consist of metallic plates provided upon each end with diverging slotted arms 8, which give said ends somewhat the appearance of a Y. The arms 8, are provided with slots 9 through which screws 10 are placed and which pass upwardly and engage the blocks 7. Projecting upwardly from the outer edges of the arms 8 are plates 11 which are provided upon their upper edges with extensions 12, which are only about one-half the thickness of said plates 11, and are adapted to be engaged by a small plate 13 which is screwed into the blocks 7. The inner edges of the arms 8 are surmounted by upwardly projecting strips 14 which engage in cut out portions in the under side of the blocks 7, and assist in keeping the same in a rigid position. The blocks 7 consist of a straight center guide strip 15 upon the outer side of which are secured triangular shaped blocks 16 which are engaged by the plates 11 and 13. Both ends of the base frame 6 are similarly constructed, and the pivotal point of the complete guide is near one end, the relative location of the guides and the remainder of the construction being particularly shown in Fig. 2. Secured to the outer edges of the base frame 6 are projecting curvilinear slotted arms 17, said arms being adapted to operate in connection with a set screw 18 by the use of which, said guides can be set in any desired position. This function is especially illustrated in Fig. 2 where the scope of possible movements is clearly shown. The plate 3 has its outer edge curved and cut away to allow the free movement of the guide, as around a quadrant. Upon the

rounded edges of said plate 3 are placed indicating saw-cuts or other marks to denote the different angles at which the guides may be placed. Secured upon the frame 6 and near the outer guide is an indicating pointer 19 which points toward the indicating marks 20 arranged along the curved edge of the plate 3. A slight passage is left between the strips 15 of the blocks 7 in order to allow the insertion of the saw. The plates 4 provide a back, against which the timber to be cut is placed and held firmly by the hand or a clamp during the operation of cutting the joint.

Reference to Fig. 3 gives a clear and concise idea of the relative arrangement of the parts, Fig. 2 also enabling the observer to note the many positions and angles which the guides may attain.

I have now fully described the construction of the miter-box, as designed for the cutting of large timbers, and I will now proceed with the description of what I have shown as a modification, the same being especially designed for use in small molding and quarter strips, and in this construction I apply the same principle, but with a simpler manner of adjusting the guides for use.

The base boards 21 upon which are secured the blocks 22 elevate a plate 23 as in a construction hereinbefore described, and the inner edge of the plates 23 is surmounted by a metallic plate 24 against which the timbers are placed when it is desired to cut the joint.

The base frame 25 is of a construction nearly similar to the construction before referred to, the same having similar arms 26 and guide-blocks 27. As this construction has been before detailed, I will not enter into a specific description of the same.

The frame 25 is provided with a projecting curvilinear slotted arm 28, the operation of which is similar to the arm 18 upon the base frame 6.

I desire to call particular attention to the fact that the guides in the original construction shown in the first sheet of the drawings, have what might be termed a common center, that is, the passage for the guidance of the saw points to the indicating mark on the inner edge of the plate 3 at whatever angle said guide may be placed. This is also true of the construction shown on the second sheet of the drawings, the single guide having the same function.

The construction of my invention is such that the securing of the blocks 7 and 27 prevents the warping of the same to change the location of the passage or guide for the saw, and the general construction is intended to eliminate any possibility of the parts becoming deranged, thus preventing a perfect operation of the parts.

The device could be constructed with any number of guides, without in any way materially altering the idea of my invention.

Having fully described my invention, what I claim is—

The improved miter box, consisting of a baseboard 1, a series of blocks 2 mounted on said baseboard, a plate 3 mounted on said blocks so as to provide a clear space between said baseboard and said plate, said plate being of less width than said baseboard, a series of aligned vertical back-plates 4 mounted upon the upper side of said baseboard in contact with the edge of said plate, braces which hold said plates 4 in position, a frame 6 mounted in the space between said baseboard and said plate 3 and pivoted in said space, guide-blocks 7 mounted vertically upon said frame 6, said frame 6 comprising a metallic plate provided at its end with diverging slotted arms 8, screws 10 engaging slots in said arms, and screwing said blocks 7 to said arms, plates 11 projecting upward from the outer edges of said arms, and provided upon their upper edges with extensions 12 which are reduced in thickness, small plates 13 which engage said extensions 12 and are screwed to the blocks 7, the inner edges of said arms 8 surmounted by upwardly projecting strips 14, which engage cut-out portions in the underside of said blocks and assist in keeping the same in a rigid position, said blocks 7 having straight guide-strips 15, upon the outer side of which are screwed triangular shaped blocks 16, which are engaged by the plates 11 and 13, and means for securing said frame 6, and the devices carried by it, at any desired angle with relation to the back-plates 4, substantially as herein specified.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN LUSCHER.

Witnesses:

HERBERT S. ROBINSON,
ALFRED A. EICKS.