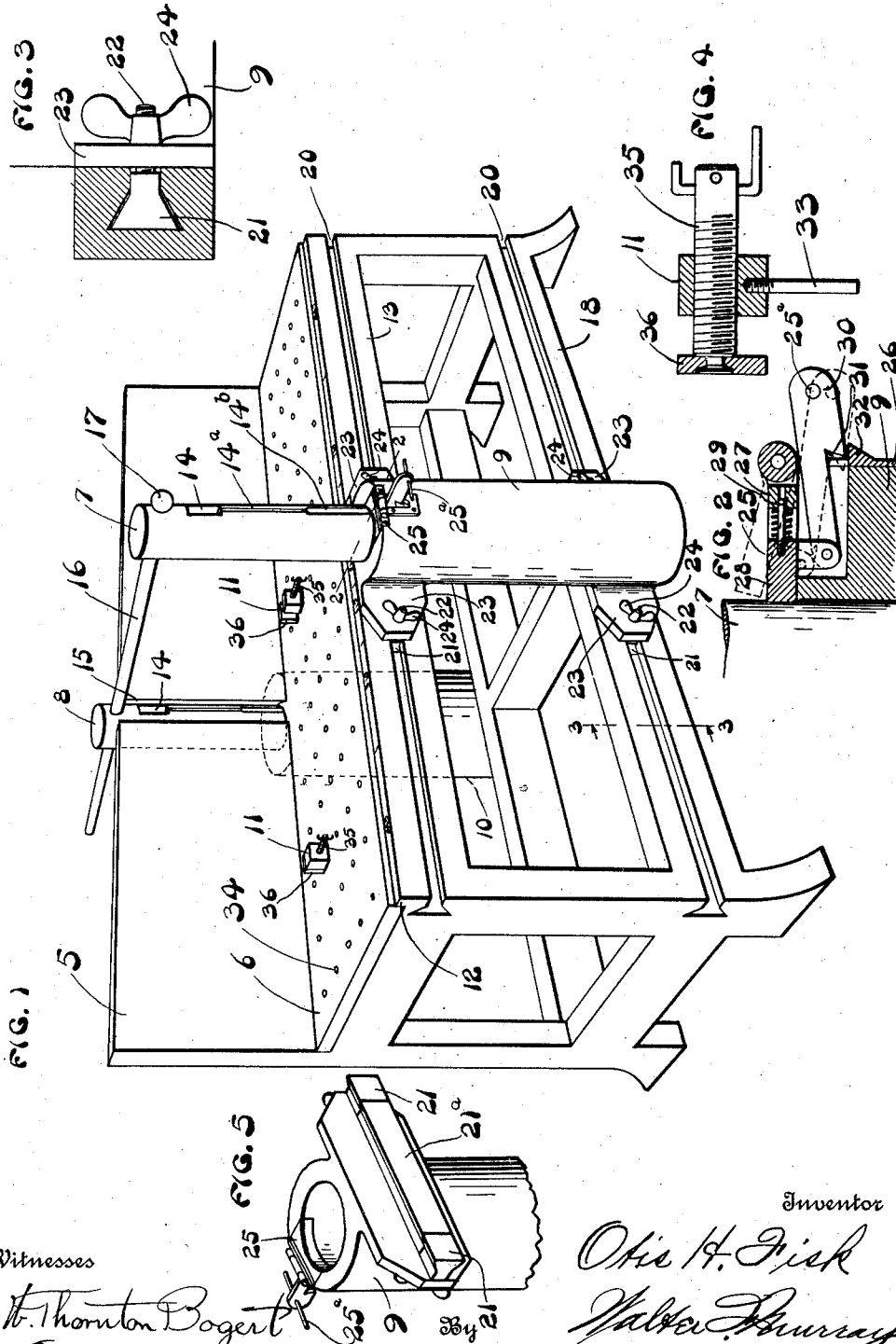


O. H. FISK.
ADJUSTABLE MITER BOX.
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1,026,086.

Patented May 14, 1912.



Witnesses

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ADJUSTABLE MITER-BOX.

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To all whom it may concern:

Be it known that I, OTIS H. FISK, a citizen of the United States of America, and resident of Cincinnati, county of Hamilton, and State of Ohio, have invented certain new and useful Improvements in Adjustable Miter-Boxes, of which the following is a specification.

An object of this invention is to produce an adjustable miter box, which may be quickly adjusted to accommodate different work and which is cheap to manufacture and easy to operate.

A further object is to produce a miter box provided with adjustable means for holding the saw in place, and for varying the position of the saw.

A further object is to provide an automatic means for locking the saw guides in positions to which they are moved.

These and other objects I attain in a miter box embodying the features herein described and illustrated.

In the drawings accompanying and forming a part of this application, Figure 1 is a perspective view of a miter box embodying my invention. Fig. 2 is a sectional view along line 2—2 of Fig. 1. Fig. 3 is a sectional view along line 3—3 of Fig. 1. Fig. 4 is a sectional view of an adjustable clamp, which forms a detail of my invention. Fig. 5 is a detail view of one of the guide blocks for the guide sleeve.

The miter box illustrated as an embodiment of my invention consists of a bed provided with a back 5, a table 6 mounted on the bed, movable guides 7 and 8 for the saw, guide sleeves 9 and 10 for the respective guides 7 and 8, automatic clamp 25 for locking the guides 7 and 8, longitudinal ways 20 for the guide sleeves, and removable and adjustable clamps 11, for securing the work in place on the table.

The bed illustrated comprises a frame, which is composed of integrally formed up-rights or legs and horizontally extending braces, which are located between the up-rights. The back 5 is formed integrally with the bed and the table 6 is removably mounted on the bed, between the back and the upwardly projecting ridge or flange 12, which is formed on the upper face of a horizontal member 13. The table is formed preferably of wood and is so arranged that it projects above the flange 12. Any suitable means may be employed for securing

the table in place on the bed, between the back 5 and the flange 12, so that it may be removed and replaced.

Each saw guide consists of a cylindrical rod provided with a diametrical slot, the upper end of which has an enlargement 14 adapted to engage the back of a back-saw, a reduced portion 14^a adapted to engage the side of a panel-saw, and also enlarged portions 14^b, which are adapted to accommodate teeth of various widths, for instance, such as the teeth of a panel-saw. The rods 7 and 8 may rotate in their sleeves to permit of their slots taking various angles in relation to the table.

The rear guide 8 is mounted in the vertical sleeve 10, which is rigidly mounted on, and preferably formed integrally with, the bed or frame. The back is formed in two pieces, or is slotted at 15, and the rear guide 8 is located in the slot, so that its cylindrical face is tangent to the plane of the front face of the back. The vertical sleeve 9 of the front guide is reciprocally mounted in ways 20 on the frame or bed, and is capable of being clamped in different positions along the front of the bed, for the purpose of varying the position of the saw. A rod 16 extends through apertures, formed near the tops of the guides 7 and 8, to move them in unison, both vertically and rotatively. The rod is preferably provided with a knob 17, which is located at its forward end, and which prevents it from moving relatively to the guide 7. The rod is free to move through the guide 8 and operates to change the angular position of the guide 8, when the sleeve 9 is shifted, and also to change the vertical position of the guide 8, when the guide 7 is raised or lowered. The sleeve 9 is adapted to be clamped in place on the frame at different positions along the horizontal member 13 and a member 18, which forms a part of the frame and extends parallel to the member 13. The front face of each of the horizontal members 13 and 18 is provided with an undercut or dove-tailed slot 20, which extends longitudinally of the member. Wedge shaped blocks 21 (Fig. 3) are mounted in each slot 20 and are provided with threaded extensions 22, which are located near the ends of the wedge and project out of the slot. Secured to the sleeve 9, between the blocks 21, is a bar 21^a, which is wedge-shaped in cross-section. This bar 21^a is adapted to engage the upper way

20. A similar bar is secured to the sleeve 9 to slide in the lower way 20. The sleeve 9 is substantially cylindrical in shape and is provided with top and bottom lugs 23, which are located in pairs on each side of the sleeve, and are adapted to be clamped against the forward faces of the members 13 and 18, for the purpose of securing the sleeve in place. The extensions 22 of the blocks 21 extend through apertures provided in the lugs 23, and the sleeve is secured in place on the extensions by means of wing-nuts 24. The upper face of the flange 12 is graduated to indicate the angle to which the saw is turned. The sleeve 9 is provided with a center mark, which is located adjacent to the graduated scale on the flange, and is employed in adjusting the position of the saw. In shifting the sleeve, nuts 24 are loosened, so that the blocks 21 and the bars 21^a will slide easily in their mounting slots, and the sleeve is then moved along the members 13 and 18 to the desired position. The nuts 24 are then screwed up to draw the inclined faces of the blocks 21 into clamping engagement with the undercut walls of the slot, and to thereby clamp the sleeve 9 into position. This adjustment of the sleeve may be made while the saw is in place in the guides. The blocks 21 and the bars 21^a, engaging the upper and lower ways 20, keep the sleeve in a vertical position, so that during the act of sawing, the sleeve does not tilt either forward, backward or sidewise and thus keeps the guide 7 in a perpendicular position.

A clamp 25 is mounted in a recess formed in the top of the sleeve 9 and consists of a metal strap 26, secured to the sleeve, and a member which is hinged to the strap. The member is formed in two parts 27 and 28, which are secured together by means of pins 29. The part 28 is movable relatively to the part 27 and is held against the cylindrical face of the guide 7 by means of a spring, which is located between it and the part 27. A handle 30 is pivotally mounted on the underside of the part 28 and is provided with a notch 31, which is adapted to engage a lug 32, provided on the strap 26, and to hold the part 28 out of engagement with the guide 7, so that the guide may be easily moved up and down. While the sleeve 9 is being adjusted, the notch 31 may be released from the lug 32, so that the part 28 is held in engagement with the guide 7. This will prevent a downward motion of the guide 7, and consequently of the guide 8, and the guides may be readily raised, since the parts 27 and 28 are hinged on the strap. An upward movement of the guide 7 will raise the hinged member out of the mounting recess, as shown in dotted lines, Fig. 2, and will release the guide. The guide, however, will be checked in its downward movement, since the hinged member will be

moved by a downward movement of the guide to the locking position.

When an upward pressure is exerted on the rod 7, the clamp 25 opening, permits the rod to be raised to any position desired, and when the upward pressure is released, the initial movement downward of the rod 7, caused by gravity, causes the clamp 25 to engage the rod 7 automatically and hold the rod in the position to which it has been adjusted. Since the rods 7 and 8 are connected by the rod 16, the rod 8 moves in unison with the rod 7 and keeps the slots in the rods 7 and 8 in alinement with each other. Therefore, when a workman desires to adjust the work on a table, or desires to place new work on the table, he has simply to raise the rod 7, so as to carry the saw out of engagement with the work, and upon his releasing the rod 7, it automatically locks the saw in the position to which it has been adjusted, out of the way of the movement of the adjustment of the work. When the workman desires to saw the work, he draws the clamp 25 out of contact with the rod 7 by grasping the handle 30, in drawing the handle toward him, which carries the member 28 out of contact with the rod 7. Then he engages the notch 31 with the lug 32. The guides 7 and 8 then drop and bring the saw into contact with the work, and the sawing is then done.

Each clamp 11 is secured in place on the table 6 by means of a pin 33, secured to the body of the clamp, and which is adapted to project downwardly through one of a number of apertures 34 provided in the table. The clamp consists of a body, a screw 35 extending through a tapped hole in the body, and a block 36 rotatively mounted on the end of the screw 35. In securing the work to the miter box, the clamps 11 are secured in proper position on the table, by locating the pins 33 in convenient apertures 34, and the work is then clamped in place against the back 5. I have illustrated but two of these clamps 11, but as many be used as may be desired. When the work is of an irregular outline, the clamps may be located in various perforations, so as to stand adjacent to the irregular outline of the work and to hold the work firmly against the back. In some instances, it may be desired to locate the work between the clamps, instead of between the clamps and the back. In such instances, the perforations in the table permit the clamps to be located on each side of the work, which may then be adjusted to any position upon the table which may be desirable.

What I claim is:—

1. A miter box comprising a frame, a sleeve rigidly mounted on the frame, a saw guide rotatively mounted in said sleeve and movable longitudinally thereof, a second

sleeve adjustably mounted on the frame, a second saw guide rotatively mounted in the second sleeve and movable longitudinally thereof, means for connecting the guides together, and means engaging the second guide for locking both the guides against rotative and longitudinal motion relatively to their sleeves.

2. A miter box comprising a frame, a sleeve rigidly mounted on the frame, a saw guide rotatively mounted in and longitudinally movable of the sleeve, a second sleeve movably mounted on the frame, a second saw guide rotatively mounted in and longitudinally movable of the second sleeve, means for locking the second sleeve in adjusted positions on the frame, a slidable bar connecting the guides together, and means for engaging the second guide for locking both the guides in position relatively to their respective sleeves.

3. A miter box comprising a frame, a sleeve rigidly mounted on the frame, a saw guide slidably mounted in the sleeve, a second sleeve movably mounted on the frame, a second saw guide slidably mounted in the second sleeve, a slidable bar connecting the guides together, and a clamp engaging the second guide for locking both guides in adjusted positions relatively to their respective sleeves.

4. In combination in a miter box, a sleeve, a saw guide slidably mounted in the sleeve, and a clamp comprising a pivotally mounted member yieldingly forced into engagement with the sleeve and capable of being moved out of locking engagement therewith by the upper movement of the slide.

5. In combination in a miter box, a saw guide, a sleeve in which the guide is slidably

mounted, a clamp carried by the sleeve and comprising a pivotally mounted member, and means for yieldingly forcing it into locking engagement with the slide, and a handle for moving the hinged member out of engagement with the slide guide.

6. In combination in a miter box, a longitudinally movable rotatively mounted saw guide, a clamp for locking the guide against longitudinal movement in one direction, but not capable of preventing movement in the other direction.

7. A miter box comprising a frame, a vertically extending sleeve rigidly mounted on the frame, a saw guide mounted in said sleeve and movable longitudinally thereof, a second sleeve adjustably mounted on the frame and clamps located at opposite ends thereof for securing the sleeve in place on the frame and a second saw guide rotatably mounted in and longitudinally movable of said sleeve.

8. A miter box, comprising a frame, a work table supported by the frame, a vertically extending sleeve rigidly mounted on the frame on one side of the table, a rotatably mounted saw guide located in the sleeve and movable longitudinally thereof, a second sleeve movably mounted on the frame on the other side of the table, a second saw guide rotatably mounted in the second sleeve and movable longitudinally thereof and means located at each end of the second sleeve for rigidly mounting it in place on the frame.

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Witnesses:

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