E. W. WHITMORE.

MITER BOX.

APPLICATION FILED SEPT. 16, 1907.

914,543.

Patented Mar. 9, 1909.

2 SHEETS—SHEET 1.

FIG. 1.

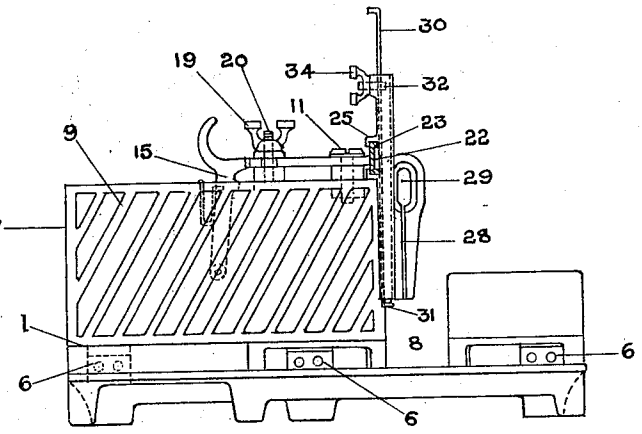


FIG. 2

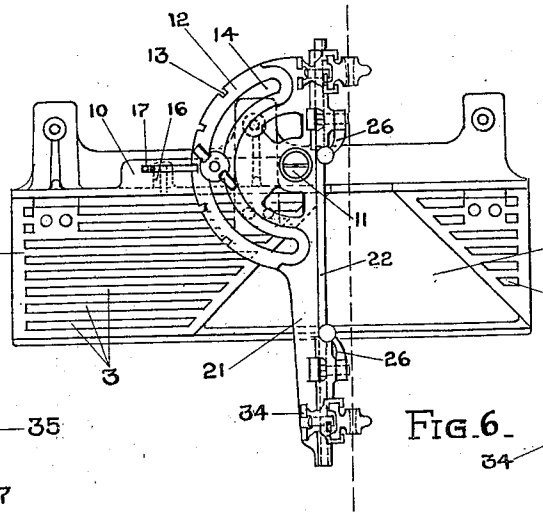


FIG. 5.

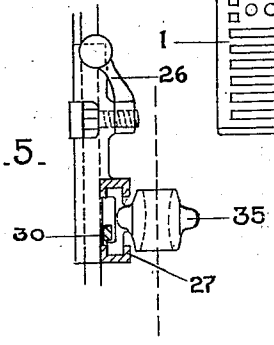
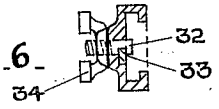


FIG. 6.



WITNESSES

George. Y. Yribe

L. L. Nakashjian

INVENTOR

EDWIN W. WHITMORE

BY ATTY Oscar A. Taff

THE NORRIS PETERS CO., WASHINGTON, D. C.

E. W. WHITMORE.

MITER BOX.

APPLICATION FILED SEPT. 16, 1907.

914,543. Patented Mar. 9, 1909.

2 SHEETS—SHEET 2.

FIG. 3.

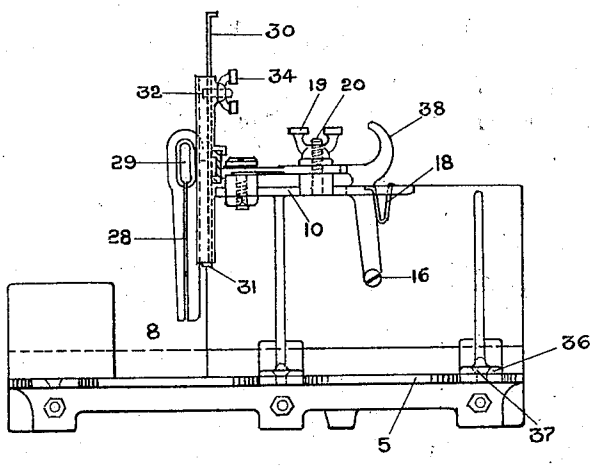
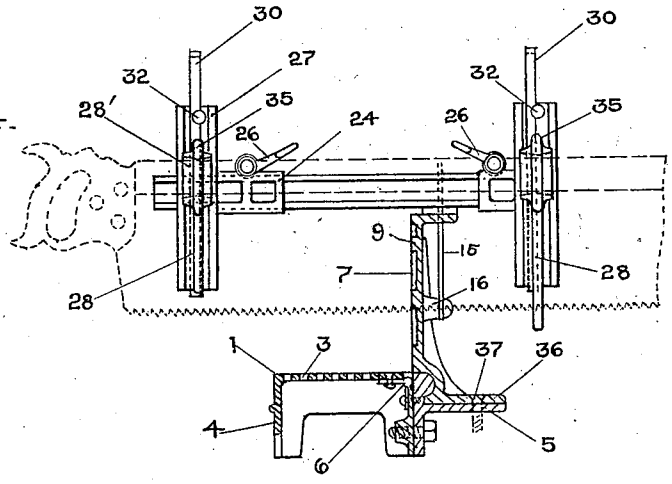


FIG. 4.



WITNESSES

George. I. Tribe

L. L. Nabashjian

INVENTOR

EDWIN W. WHITMORE

BY ATTY Oscar A. Taft

THE NORRIS PETERS CO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EDWIN W. WHITMORE, OF WORCESTER, MASSACHUSETTS.

MITER-BOX.

No. 914,543. Specification of Letters Patent. Patented March 9, 1909.

Application filed September 16, 1907. Serial No. 393,004.

To all whom it may concern:

Be it known that I, EDWIN W. WHITMORE, of Worcester, in the county of Worcester and State of Massachusetts, 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 the same.

This invention relates to new and useful improvements in miter boxes and has primarily for its object to provide a novel device of this character which may be readily folded in order that the same may be made into a compact package for shipping or for carrying.

It is also an object of the invention to provide in combination with a device of this character novel means for engaging and holding the saw in position.

It is also an object of the invention to provide a novel gage for the saw, said gage acting in conjunction with the saw holding mechanism.

It is also an object of the invention to provide a novel arrangement whereby a saw may be adjusted to the various angles required.

It is furthermore, an object of the invention to provide a novel device of this character which will prove an efficient and practically convenient mechanism for the use of wood workers in the sawing of bevels, angles, and other various cuts required in the fitting of lumber and joinery, said mechanism proving at the same time economical and comparatively inexpensive to manufacture.

With the foregoing and other objects in view, the invention consists in the details of construction and in the arrangement and combination of parts to be hereinafter more fully set forth and claimed.

In describing the invention in detail, reference will be had to the accompanying drawings forming part of this specification wherein like characters denote corresponding parts in the several views, in which—

Figure 1, is a view in elevation of the invention; Fig. 2, is a view in top plan; Fig. 3, is a view in rear elevation of the device; Fig. 4, is a view partly in elevation and partly in section of the invention illustrating in dotted lines a saw in position; and Figs. 5 and 6, are views illustrating certain details of the invention.

Referring to the drawings 1, denotes the base having adjacent one end the cut-away portion 2, in which is intended to be fitted a block of wood with which the saw teeth will contact in order to protect said saw teeth from injury. This base plate is also provided with a plurality of longitudinal openings 3, which lighten the weight thereof and also prevent the accumulation of waste material more especially of sawdust. This base plate is preferably formed of metal and is provided along its edges with the depending flanges 4, which form a support therefor. Projecting outwardly from the rear flange approximately centrally thereof and preferably formed therewith is a shelf 5, more particularly shown in Fig. 4.

Held along the rear edge of the base 1, by the hinge 6, is the back plate 7, said back plate being separated as at 8, adjacent the cut-away portion 2. This separation is to permit the reciprocation of the saw, as is, it is thought, obvious to those familiar with this class of invention. The main portion of the back plate 7, is provided with the diagonal or oblique rib 9, for the purpose of reinforcing or strengthening the plate for a purpose which is believed to be clearly apparent. Also to more firmly retain in position a board in contact with the base, should said board slip when coming in contact with the saw in motion, the oblique ribs 9, holding the material being sawed in the desired position; a slight pressure against said ribs 9, tending to impress the edge of said board or partly embed against the oblique ribs 9, which is thought will be fully understood.

Projecting at right angles from the upper edge of the main section of the backing plate 7, adjacent the separation or space 8, is a flange 10, and pivoted to this flange 10, by the stud 11, is a segment 12, provided with the teeth 13, and the segmental slot 14. The teeth 13, determine the angle of adjustment of the segment and the segment is held in its adjustment by the spring pressed dog 15, which is pivoted to the boss 16, formed on the rear of the backing plate 7, by the pin 17. This dog engages the teeth 13, of the segment and is held in such engagement by the spring 18, which has one end passing through an opening in the flange 10, and its opposite end embedded within the dog. This spring is preferably bent into an approximately U-shape. While this specific form of spring has been illustrated, it is to be understood that any spring which will perform

the desired function with equal facility may be employed. After the segment has been given its desired adjustment, it is firmly held in such adjustment by the clamping nut 19, which is in engagement with the stud 20, projecting upwardly from the flange 10, and passing through the segmental slot 14. The side of the segment above the base 1, is provided with the extension 21, which has an edge flush with and in alinement with the straight edge of the segment 12. These alining edges are provided with the T-head 22, on which are movable longitudinally the saw holder 23. These saw holders are two in number, one being positioned on each side of the backing plate. Each saw holder comprises a longitudinal member 24, lipped or flanged as at 25, to engage the T-head 22. This member 24, is held against movement on the T-head by the cam 26, pivoted to the member 24, and engaging the T-head.

Carried by the member 24, and at right angles thereto is the guide-way 27, in which slides the saw holder proper 28. This saw holder 28, comprises a bifurcated member having its lower end free while the upper portion of the bifurcation is enlarged as at 29, to receive the bead of the miter saw. It is thought that it is obvious how the saw is inserted within the holder and it is to be stated that the bead thereof holds the same against displacement. The holders 28, are freely movable in their guide-ways to compensate for the action of the saw on the material to be cut, and are adjustable to the use of any length of saw within the scope of the movements of the saw holder. It is often necessary to limit the downward movement of these holders and for such purpose gage rods 30, are employed. One of these rods is slidably held by each of the guide-ways 27, and is provided on its lower end with a lug or hook 31, which contacts with the lower end of the saw holder proper 28. The gage rod is held in its various adjustments by a screw 32, which is provided with a slot 33, through which the gage rod passes. This screw in turn is engaged by a nut 34, bearing against the guide-way 27, and thereby so binding the gage rod against movement as is more particularly shown in Fig. 6. As there is much strain on the saw holder proper 28, the said saw holder 28, is provided at 28' with edges of the upper portion of the bifurcation 29, extending longitudinally of the sides of the saw holder, together with the reinforcing ribs 35. This with the enlargement of the saw holder affords the required rigidity to the saw holder and permits the use of saws without a bead, and also the use of any saw commonly used by wood workers.

The back plate 7, is provided along its lower edge with a flange 36, which is adapted to contact with the shelf 5, when the device is in assembled position, and passing through flange 36, and shelf 5, are the screws 37, which may engage a frame or other support.

It is thought that it is clearly understood how the backing plate and base can be folded one with relation to the other when it is desired that the device be moved, shipped or stored. It may be also further stated that the dog 15, which engages the segment 12, is provided with a finger piece 38, to facilitate the movement thereof.

What I claim is—

1. A miter box comprising a base plate, a backing plate carried thereby, a pivoted supporting member carried by the backing plate, and a saw engaging means for said supporting member, said saw engaging means being adjustable longitudinally of the supporting member.

2. A miter box comprising a base plate, a backing plate pivotally secured thereto and provided with oblique reinforcing ribs, a flange on the backing plate, a supporting member pivotally carried by the flange, and a saw engaging means on the supporting member, said saw engaging means comprising bifurcated members having reinforced heads.

3. A miter box comprising a base plate, a backing plate pivotally secured thereto, a supporting member pivotally carried by the backing plate, means for holding said supporting member in its adjusted position, and a saw engaging means carried by the supporting member on each side of the backing plate, each of said saw engaging means being independently adjustable longitudinally of the supporting member.

EDWIN W. WHITMORE.

Witnesses:

OSCAR A. TAFT,

THOMAS A. MCAVOY.