No. 716,522. Patented Dec. 23, 1902.

M. D. CONVERSE.

MITER BOX.

(Application filed June 18, 1902.)

(No Model.) 2 Sheets—Sheet 1.

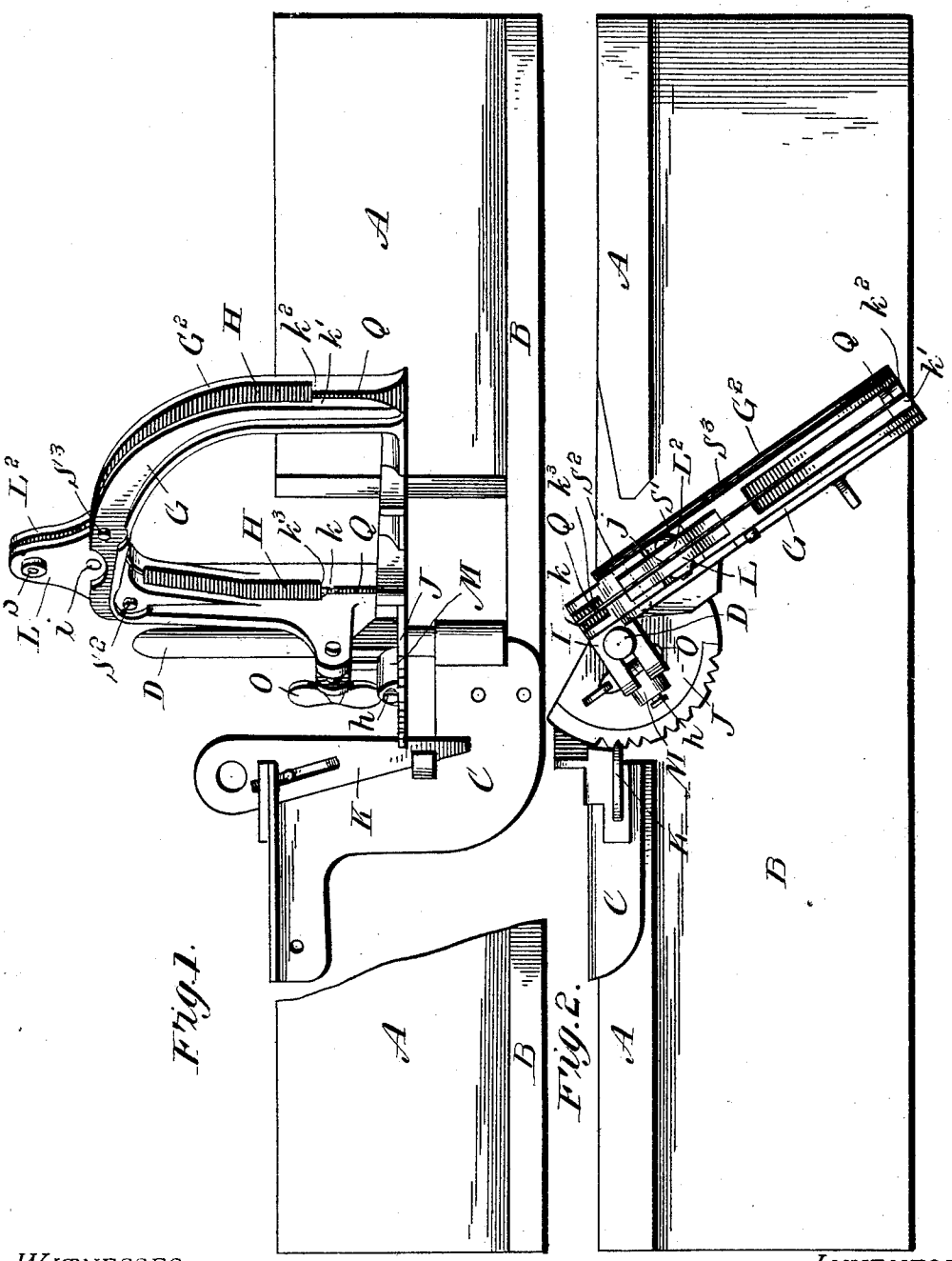


Fig. 1.

Fig. 2.

WITNESSES:

W. F. Doyle

E. R. Ruppert.

INVENTOR

M. D. Converse

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 716,522. Patented Dec. 23, 1902.

M. D. CONVERSE.

MITER BOX.

(Application filed June 18, 1902.)

(No Model.) 2 Sheets—Sheet 2.

Fig. 3.

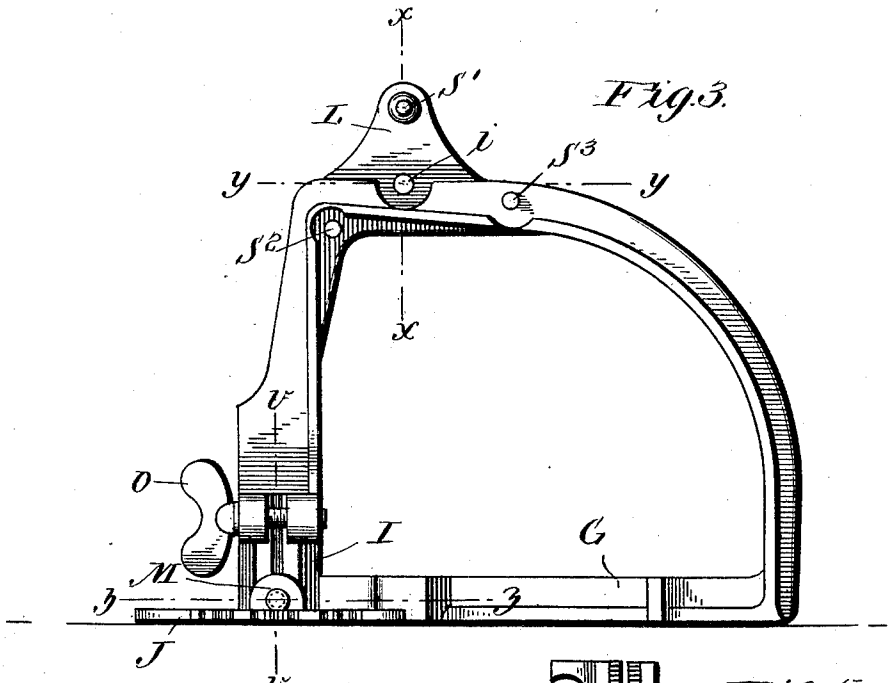


Fig. 4.

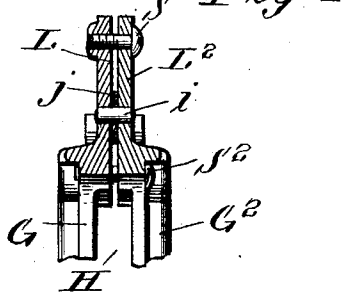


Fig. 5.

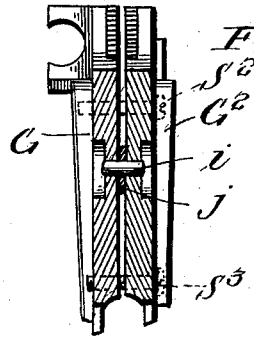


Fig. 6.

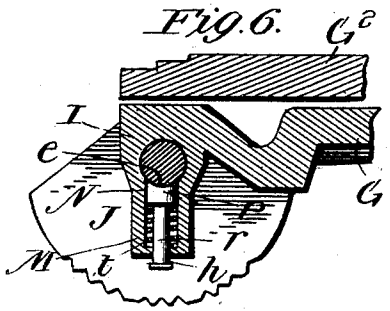
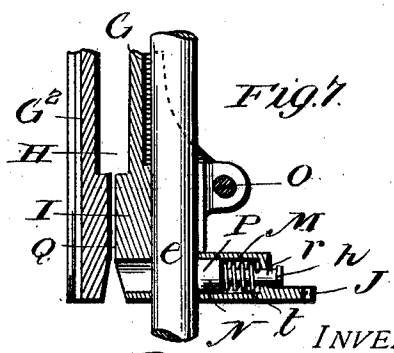


Fig. 7.



WITNESSES:

W. F. Boyle

E. R. Ruggles

INVENTOR

M. D. Converse

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

MASCHIL D. CONVERSE, OF NEW YORK, N. Y., ASSIGNOR TO JOHN J. TOWER, OF MONTCLAIR, NEW JERSEY.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 716,522, dated December 23, 1902.

Application filed June 18, 1902. Serial No. 112,194. (No model.)

To all whom it may concern:

Be it known that I, MASCHIL D. CONVERSE, a citizen of the United States, residing at New York city, borough of Manhattan, in the county of New York and State of New York, have invented certain new and useful Improvements in Miter-Boxes; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

My present invention relates to improvements in miter-boxes of the type described in a prior application for patent made by me, bearing Serial No. 80,318 and official file date October 28, 1901, and more particularly to means for keeping the saw-guide from sliding down on the pivotal post when it is desired to swing the former from one radial position to another to make two or more cuts of equal depth with a back-saw and to means for adjusting the guide to different gage or thickness of saws, the objects of the invention being to improve the efficiency of such tools, all which I accomplish by means of the devices hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a front elevation of a miter-box complete of the type referred to with a portion of the upright part, which is usually of wood, broken away, and Fig. 2 is a plan view of the same, both showing my present invention incorporated. Fig. 3 is a left-hand side elevation of the saw-guide removed from the pivotal post, further showing my present invention. Fig. 4 is a vertical transverse cross-section on line $x\,x$. Fig. 5 is a horizontal transverse cross-section on line $y\,y$, respectively, of Fig. 3. Fig. 6 is a horizontal transverse cross-section on line $z\,z$ of Fig. 3; and Fig. 7 is a vertical transverse cross-section on line $v\,v$ of the same figure, all illustrating the construction, application, and operation of my invention, as will be hereinafter more fully shown in detail.

Like letters indicate corresponding parts throughout the several figures.

A is an upright member, usually of wood, one edge of which is secured to a horizontal base B, also usually of wood, so as to be at exact right angles to the latter. To this upright is secured, by means of screws or otherwise, a bracket C, and in the base of this bracket an upright cylindrical pivotal post D is fixed firmly. Upon the post D the saw-guide is pivoted, as shown, by passing the former through a vertical hole in the enlarged portion of the same at I. The saw-guide is composed of two quite similar halves G and G^2 and in my present invention are adjustably secured together instead of rigidly by the following means: A pin or rivet i is passed laterally through two halves in the upper part of the saw-guide and a washer j between. At a point just about central of the bases of two upwardly-extended ears L L^2 and below the level of this rivet or pin i are inserted, preferably from the right hand, a screw s^2 forward and another, s^3, rearward and near the top of the extensions L and L^2 a third, s', all passing through holes in the right-hand half with a clearance fit and all screwed into screw-threaded holes (opposite the former) in the left-hand half of the saw-guide, these three screws s', s^2, and s^3 being consequently located at triangular positions about the rivet or pin i. (See Figs. 1 and 3.) The saw-guide has the opening H H and the shoulders $k\,k'$ $k^2\,k^3$ at its lower margin for guidance of a back-saw.

On the upper side of the segment J, underneath the bifurcated clamp through which the thumb-screw o passes, I have in my present invention cast or formed a cylinder, the bore N of which intersects the pivotal-post hole and into which bore is inserted and secured, with free fit and slight longitudinal play, a plunger-pin P, having its enlarged end concave-shaped at e to correspond with the circumferential lines of the post D and provided with a rearward stem r, of reduced diameter, which is passed through the coils of a powerful compression-spring t within said bore and presses firmly against the plunger and the end wall of the bore, so as to force the concave end of the former firmly against the surface of the post D, as seen in Figs. 6 and 7. This plunger is kept in place against loss or disarrangement by slightly riveting the end of the stem

projection on the external side of the hole in the end wall of the bore through which it passes, forming a head *h*.

In the use of miter-boxes of the type to which my present invention relates it has been found that when saws of different gage or thickness are inserted in the guide there is no means of adjusting the guide to a proper tension on the saw. Now it will be clear to those skilled in the art that in the case of my present invention the opening Q (see Figs. 1 and 2) can be enlarged or diminished at will and quickly by manipulating the peculiarly-located screws s', s^2, and s^3, since the washer *j*, through which the pin or rivet *i* passes, separates the halves of the guides lightly and forms a fulcrum-bearing, upon which the right-hand half G^2 of the saw-guide can be rocked—as, for illustration, by loosening screws s^2 and s^3 and then tightening screw s' the opening Q would be enlarged, and vice versa, and by loosening one and tightening the other of the screws s^2 or s^3 the opening Q from front to back may be kept uniform of dimension. It has also been found in the use of this type of miter-boxes when it is required to make two or more cuts of equal depth at different angles transversely of the work that after adjusting the saw-guide at the proper height on the post D to gage the required depth of cut and having secured the saw-guide and finished the first cut upon loosening the thumb-screw *o* and lifting up the wedge-key K, both being necessary operations to enable the saw-guide to be swung to the new position, the latter would of its own weight slide down on the post D, and thus the proper-depth gage would be lost. It will be seen that by my present invention I overcome this difficulty, for in these operations the concave end *e* of the plunger-pin P is pressed against the post with such tension by the spring that the saw-guide cannot slide down, but is supported at correct height while the latter is successively swung to and clamped in the position required.

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

1. In a miter-box of the type described, a bracket, an upright cylindrical post fixed therein and a saw-guide pivoted on said post, in combination with a frictional spring-actuated tension device carried by said saw-guide and in frictional engagement with said pivotal post.

2. In a miter-box of the type described, a bracket, an upright cylindrical post fixed thereto, and a saw-guide pivoted on said post, in combination with a spring-actuated plunger carried by said saw-guide and provided with a concave recess in its end in engagement with the surface of said post.

3. In a miter-box of the type described, an adjustment mechanism comprising a transverse rivet in the upper portion of the saw-guide, a washer or equivalent surrounding said rivet and between the halves of said guide, in combination with three transverse adjusting-screws triangularly disposed about said rivet.

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

MASCHIL D. CONVERSE.

Witnesses:

J. ALBERT SHOEMAKER,

JAMES A. MORAN.