

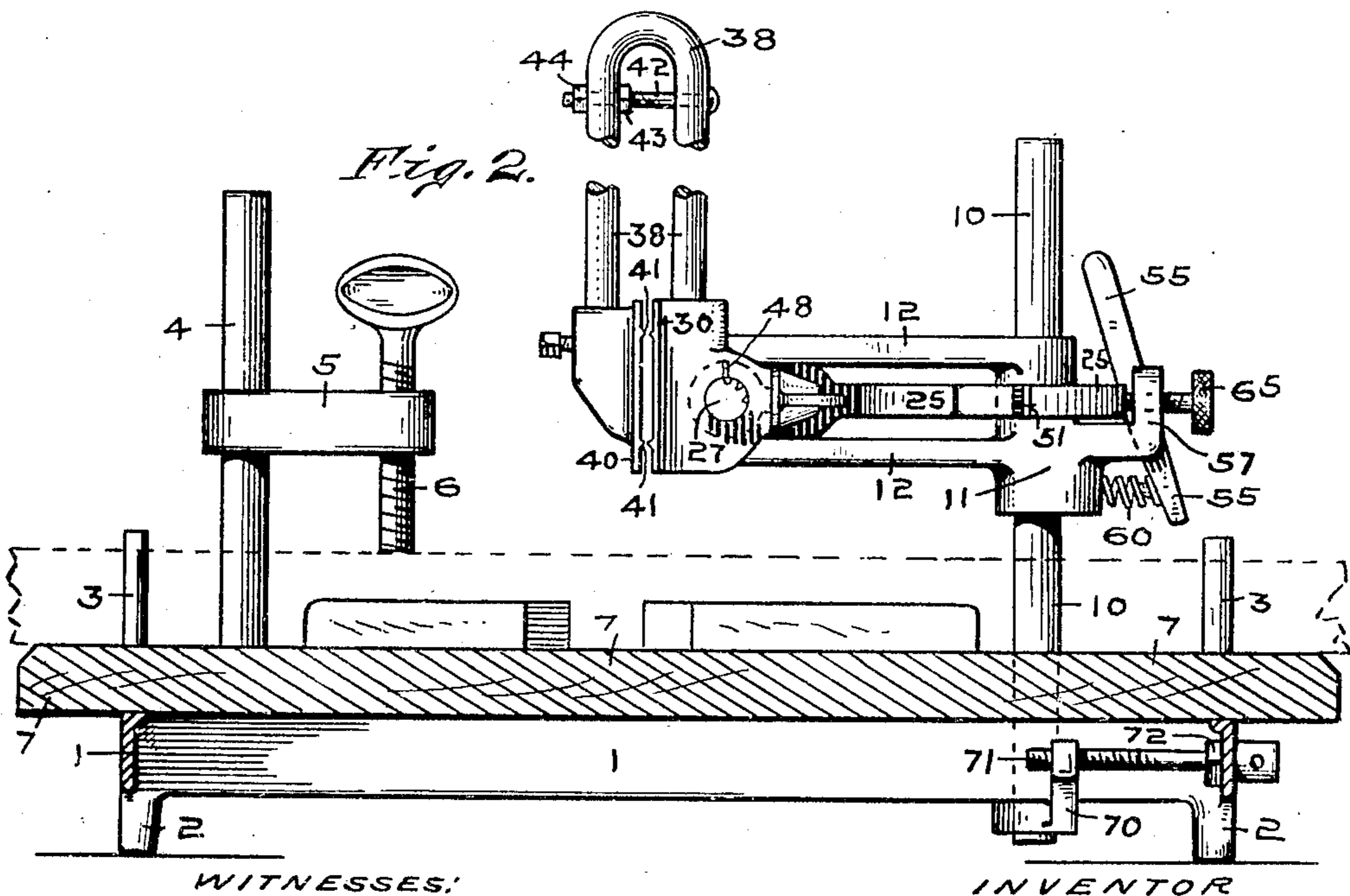
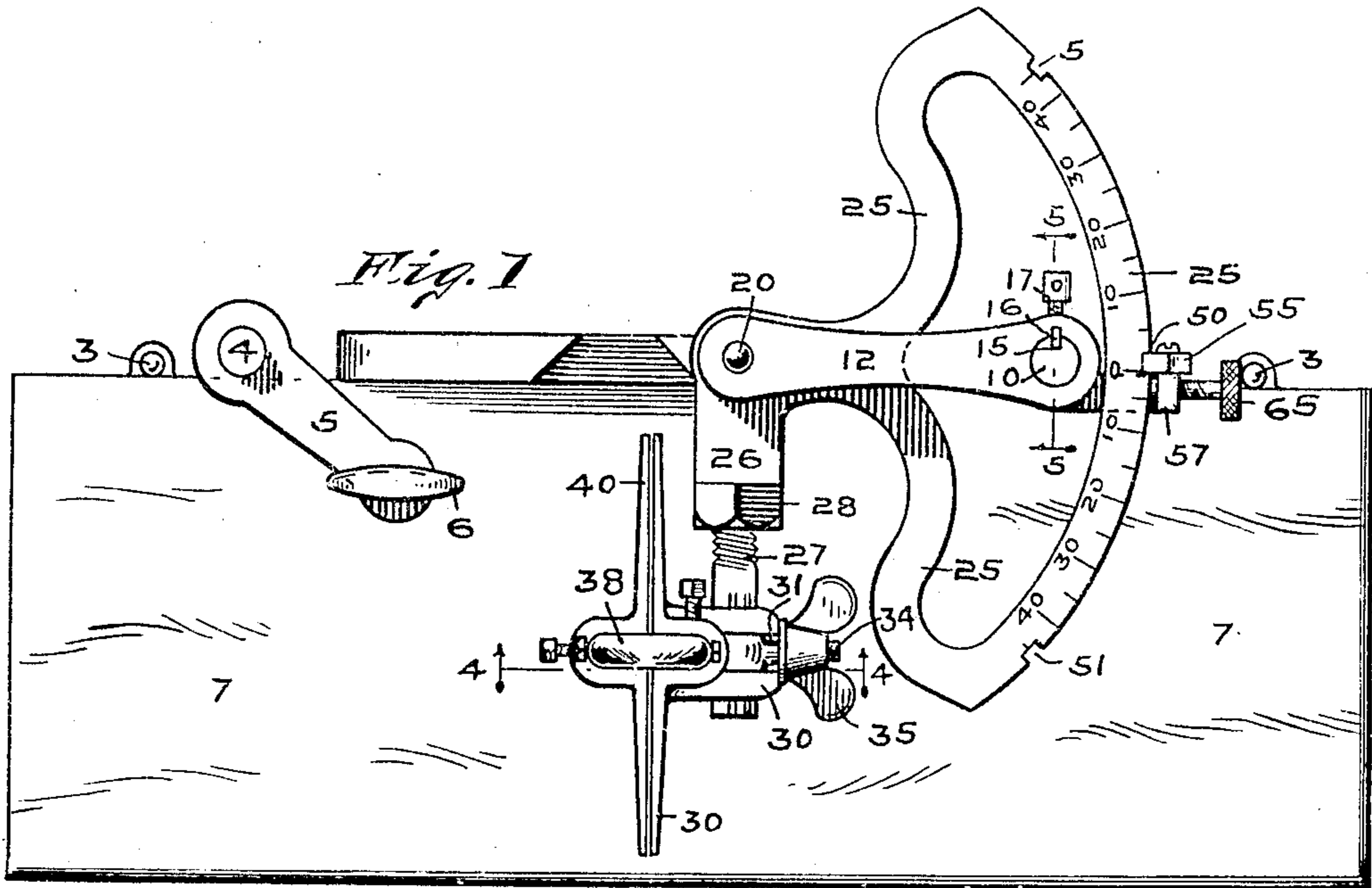
No. 875,819.

PATENTED JAN. 7, 1908.

A. D. HUGHES.
MITER BOX.

APPLICATION FILED JAN. 12, 1906.

2 SHEETS—SHEET 1.



WITNESSES:

J. C. Dyer
Wm. Hurte.

INVENTOR

Arthur D. Hughes,
By Minturn & Hoerner,
ATTORNEYS.

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2 SHEETS—SHEET 2.

Fig. 3.

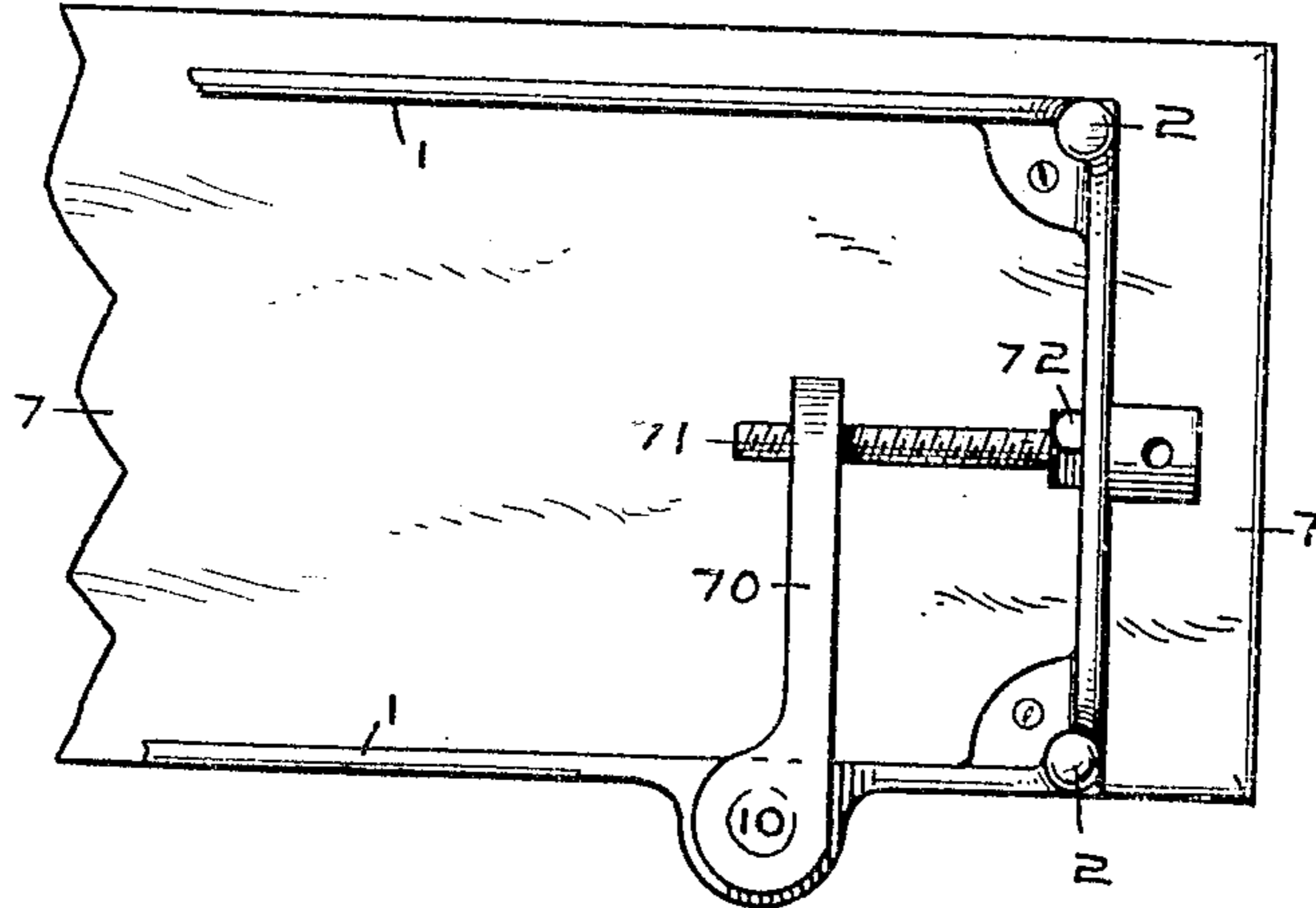


Fig. 5.

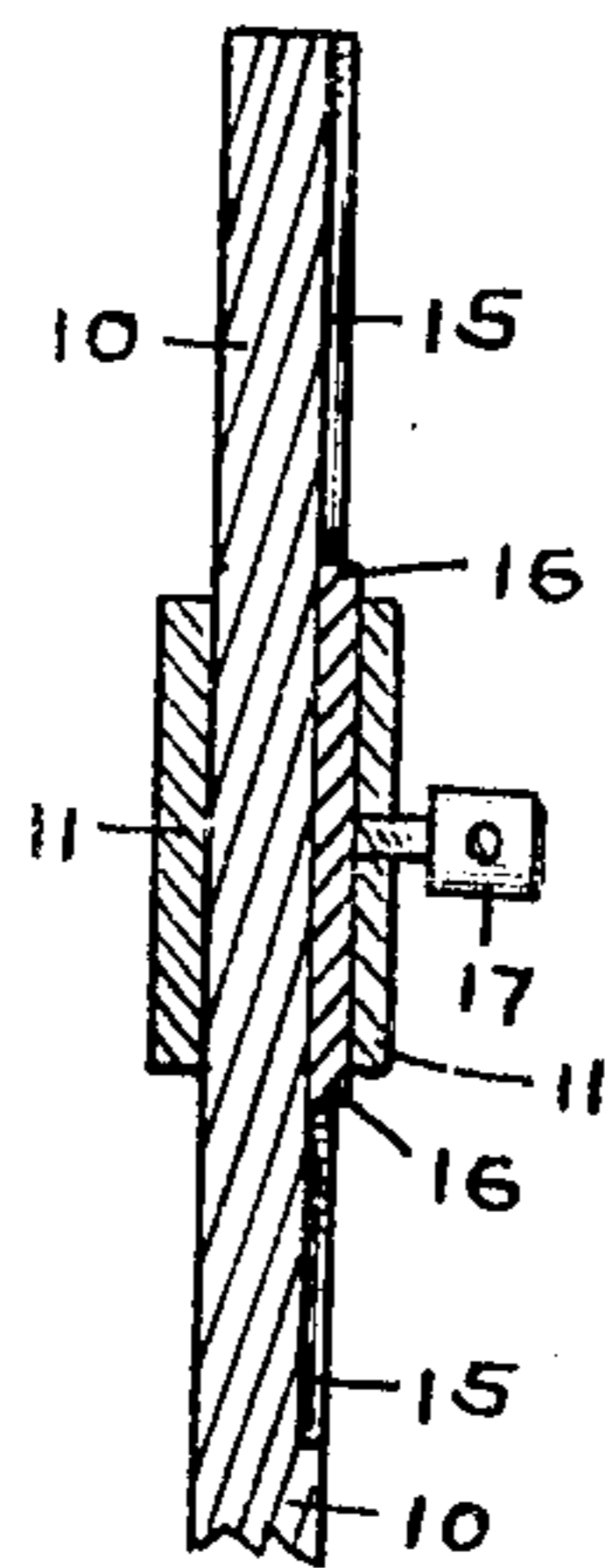
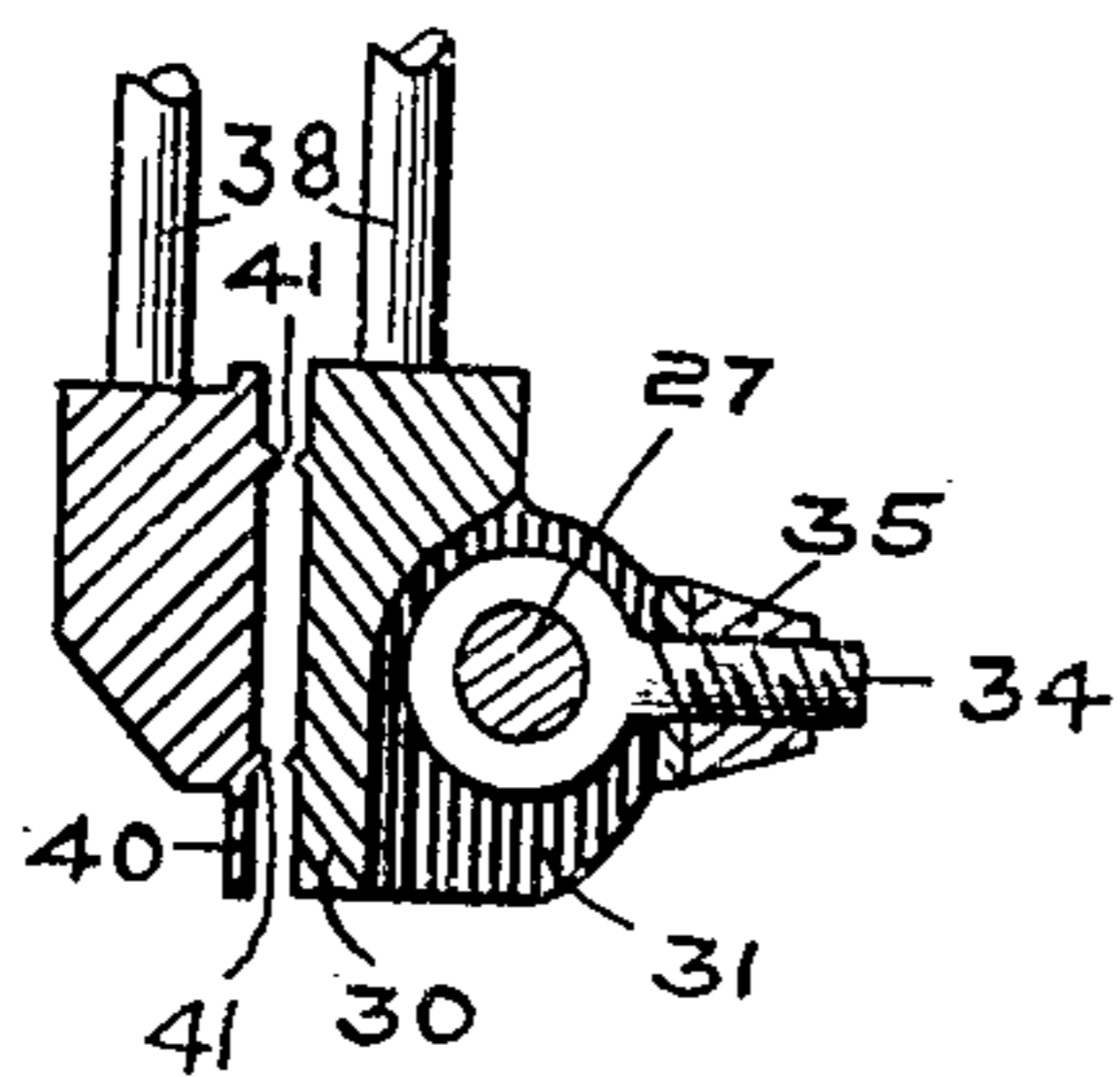


Fig. 4.



WITNESSES:

F. C. Dyer
Wm. Hurte

INVENTOR

Arthur D. Hughes,

By McIntire & Horner
ATTORNEYS.

UNITED STATES PATENT OFFICE.

ARTHUR D. HUGHES, OF LAKETON, INDIANA.

MITER-BOX.

No. 875,819.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed January 12, 1906. Serial No. 295,754.

To all whom it may concern:

Be it known that I, ARTHUR D. HUGHES, a citizen of the United States, residing at Laketon, in the county of Wabash and State of Indiana, have invented certain new and useful Improvements in Miter-Boxes, of which the following is a specification.

This invention relates to a miter box, and the object is to produce such a box whereby miters can be cut any desired degree from both the perpendicular or horizontal, thus performing doubly the work usually attained by the old and well known miter boxes.

A miter box embodying the several features whereby the advantages sought are attained will first be fully described in the annexed specification and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings which are made a part hereof, and on which similar numerals of reference indicate similar parts, Figure 1, is a top or plan view of a miter box embodying my invention. Fig. 2 is a side elevation of the construction shown in Fig. 1. Fig. 3 is a fragmentary detail underside view of one end of the miter box, showing the means for rectifying the device. Fig. 4 is a fragmentary detail in section, as seen from the dotted line 4—4 in Fig. 1. Fig. 5 is a fragmentary detail sectional view as seen from the dotted line 5—5 in Fig. 1.

In the drawings, 1 comprises the lower skeleton frame of the miter box, which is usually metal, and is provided with the integral legs 2, on which the device rests. The frame 1 is also provided with the vertical posts 3, which form stops for edging the material to be cut. The frame 1 is, also, provided with the vertical post 4, which is rigidly secured thereto. The post 4 forms a bearing for the arm 5 which is movably mounted thereon and is provided with the thumb-screw 6. The arm 5, carrying the thumb-screw 6, may readily be raised or lowered on the post 4 or be rotated around same, so as to bring the said thumb-screw into contact with the surface of the material to be cut, when the same is firmly set.

A vertical shaft 10 is movably mounted in the frame 1, and supports the sleeve 11, having the horizontal parallel extending arms 12. The shaft 10 is provided with the longitudinal groove or key-way 15 and registers with a corresponding groove in the sleeve 11, and the two parts are secured

together by means of the key 16. A set-screw 17 passes through the wall of the sleeve 11 and seats itself on the key 16 (see Fig. 5,) so that by said means the sleeve 11 may be moved along the shaft 10 and thus elevate or lower the saw and its guide to conform to the thickness of the material to be cut.

Pivotally mounted between the outer ends of the horizontal extending arms 12, by means of the pivot 20, is the segment 25. The segment 25 has the lateral extension 26 that forms a seat for the stud shaft 27 that is tapped into said extension and is held in rigid position by means of the jam-nut 28. A guide-jaw 30 is provided with an aperture that engages the stud-shaft 27, so that the jaw may be moved circumferentially. The jaw 30 is provided with a transverse recess 31 that intersects the aperture through which the stud-shaft 27 passes. A screw-bolt 34 has an eye that engages the transverse recess 31 in the jaw 30. The stud-shaft 27 passes through the eye in the screw-bolt 34, in passing through the aperture in said jaw. A wing-nut 35 screws down on the screw-bolt 34 and rests upon the jaw 30. The jaw 30 also carries the spring-bow 38 the other end of which supports the guide-jaw 40 that stands adjacent to the jaw 30, but sufficiently separated therefrom to permit the saw to move. The bow 38 exerts a tension upon the jaw 40, forcing the latter against the jaw 30, and to prevent pinching the saw blade, thus requiring more effort for its operation, I pass the transverse screw-bolt 42 through the upper end of the bow 38, and by means of the nuts 43 and 44, the tension of the jaws 30 and 40 upon the saw-blade may be regulated. To prevent too much frictional contact upon the saw blade by the jaws 30 and 40, I provide the latter with the longitudinal ribs 41, as shown in Fig. 2.

It will be readily seen by examining Fig. 2 that the saw, together with the bow 38, may be inclined in either direction from the perpendicular, thus permitting the material to be cut on the same inclinations. The jaw 30 is provided with a notch 48, while the end of the stud-shaft 27 is provided with similar notches at the 45 and 90 degree angles, so that these angles, which are generally employed, may be quickly and accurately secured.

The segment 25, as shown in Fig. 1, is provided on its upper face with a graduating

scale for indicating the degrees material may be cut from the right-angle, in a horizontal plane. A segment extending 90 degrees embraces all lines on which material is cut. The 90 degree and the 45 degree on either side thereof, are further indicated by means of the notches 50 and 51. A pawl 55 which is pivotally mounted on the integrally formed shoulder 57 on the sleeve 11, is held against the periphery of the segment by means of the spring 60, and as the notches 50 and 51 register with said pawl, the latter is forced into the former, thus automatically locking the segment against further rotation at the prime angles most generally employed. The intermediate degrees may be secured, however, and the segment 25 can be fixed at any desired angle, by means of the set-screw 65 that passes through the shoulder 57. The screw 65 may be turned until the end engages the periphery of the segment, when the latter is locked.

Examining Fig. 3 of the drawings, it will be seen that the lower end of the vertical shaft 10 is provided with a rigidly secured arm 70. A rectifying screw-bolt 71 passes through the frame 1 and engages a threaded aperture in the arm 70. This bolt 71 plays an important part, for should the pivoted end of the segment 25, and the jaws that carry the saw be moved slightly from the right-angle through wear or otherwise, it may be easily and accurately "trued" or rectified by the minute adjustment secured by the screw bolt 71. When the parts have once been accurately set, they may be locked by means of the jam-nut 72 on the screw-bolt 71.

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

1. In a miter box comprising a bed plate and supporting frame, a vertically disposed post mounted on said frame adjustably about its longitudinal axis, a saw guide supporting segment carried by said post, a saw guide supported by said segment, and means secured to said post to bring the saw guide at

right angles across the bed plate when the segment is set at zero. 50

2. In a miter box comprising a bed plate and supporting frame, a vertically disposed post mounted on said frame adjustably about its longitudinal axis, a yoke adjustably mounted on said post, means for holding said yoke against rotation, means for securing said yoke to the post, a segment pivotally mounted in said yoke, means to set the segment at given points, a saw guide adjustably secured in said segment, to permit said guide to be turned obliquely to the perpendicular, and means secured to the post to bring the parts at right angles with the plate back. 55 60

3. In a miter box comprising a bed plate and supporting frame, a vertically disposed post mounted on said frame adjustably about its longitudinal axis, a yoke adjustably mounted on said post, means to cause said yoke and post to rotate together, a segment pivotally mounted in said yoke, a shaft carried by said yoke, a saw guide adjustably secured to said shaft, and means permitting the jaws of said saw guide to be adjusted with relation to each other. 65 70 75

4. In a miter box comprising a bed plate and supporting frame, a vertically disposed post mounted on said frame adjustably about its longitudinal axis, a yoke vertically adjustably mounted on said post, means to cause said yoke and post to rotate together, a segment pivotally mounted in said yoke, a shaft carried by said yoke, a saw guide adjustably secured to said shaft, means permitting the jaws of said saw guide to be adjusted with relation to each other, and means secured to the vertical post to bring the parts at right angles with the plate back. 80 85

In witness whereof, I, have hereunto set my hand and seal at Wabash, Indiana, this 23rd day of December, A. D. one thousand nine hundred and five. 90

ARTHUR D. HUGHES. [L. S.]

Witnesses:

GEO. F. OGDEN,
HAROLD B. GIBSON.