

(No Model.)

C. A. WILLIAMS.

MITER BOX.

No. 352,846.

Patented Nov. 16, 1886.

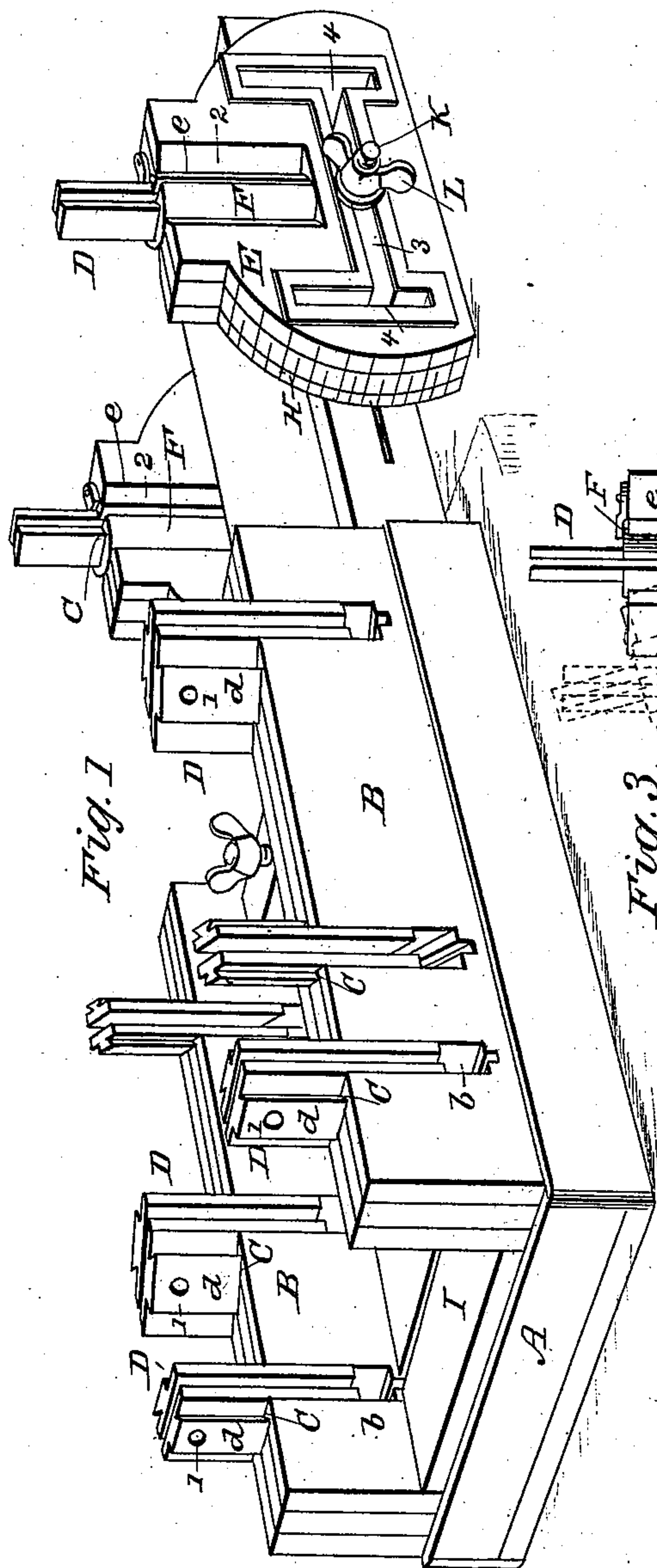


Fig. 1

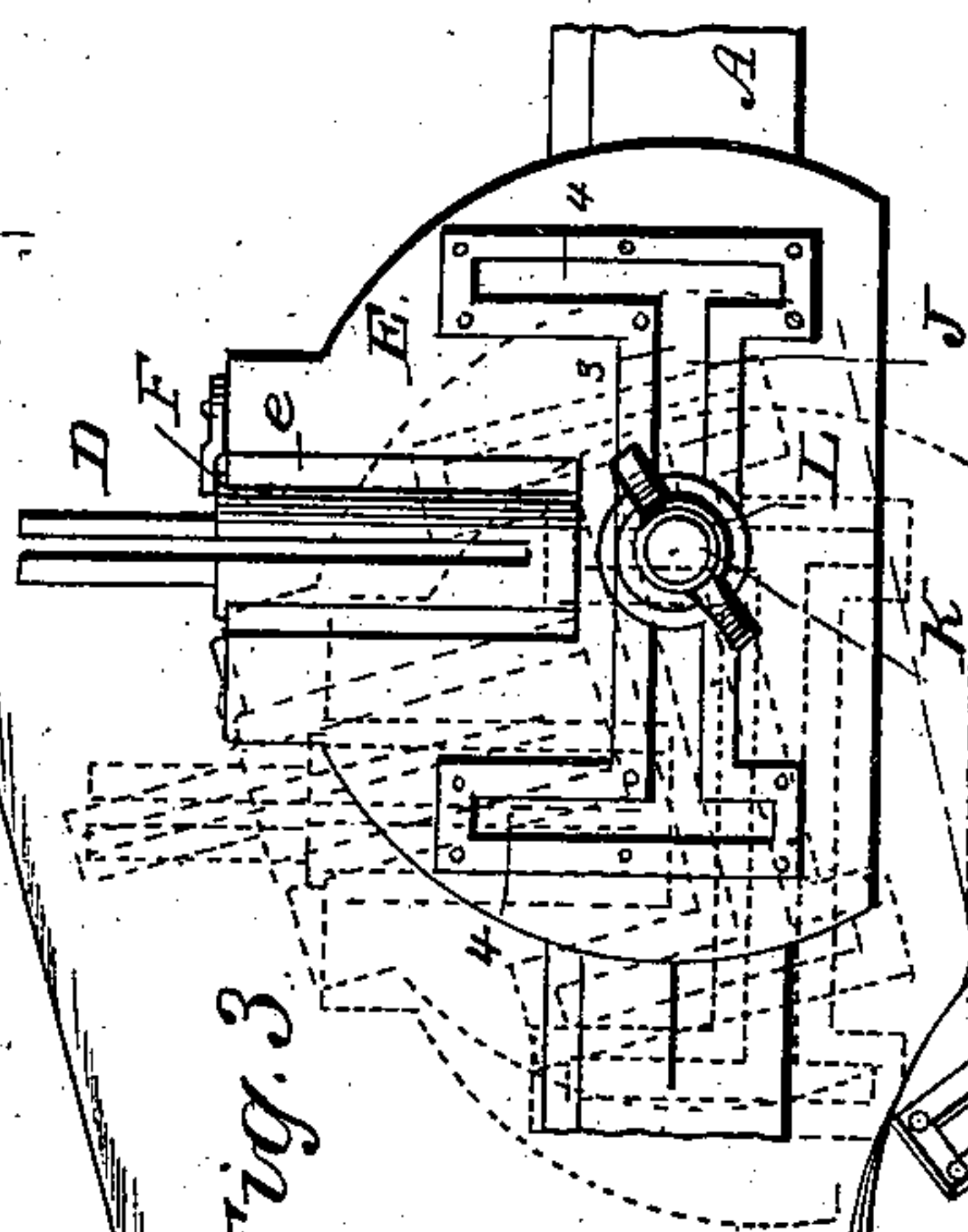


Fig. 3

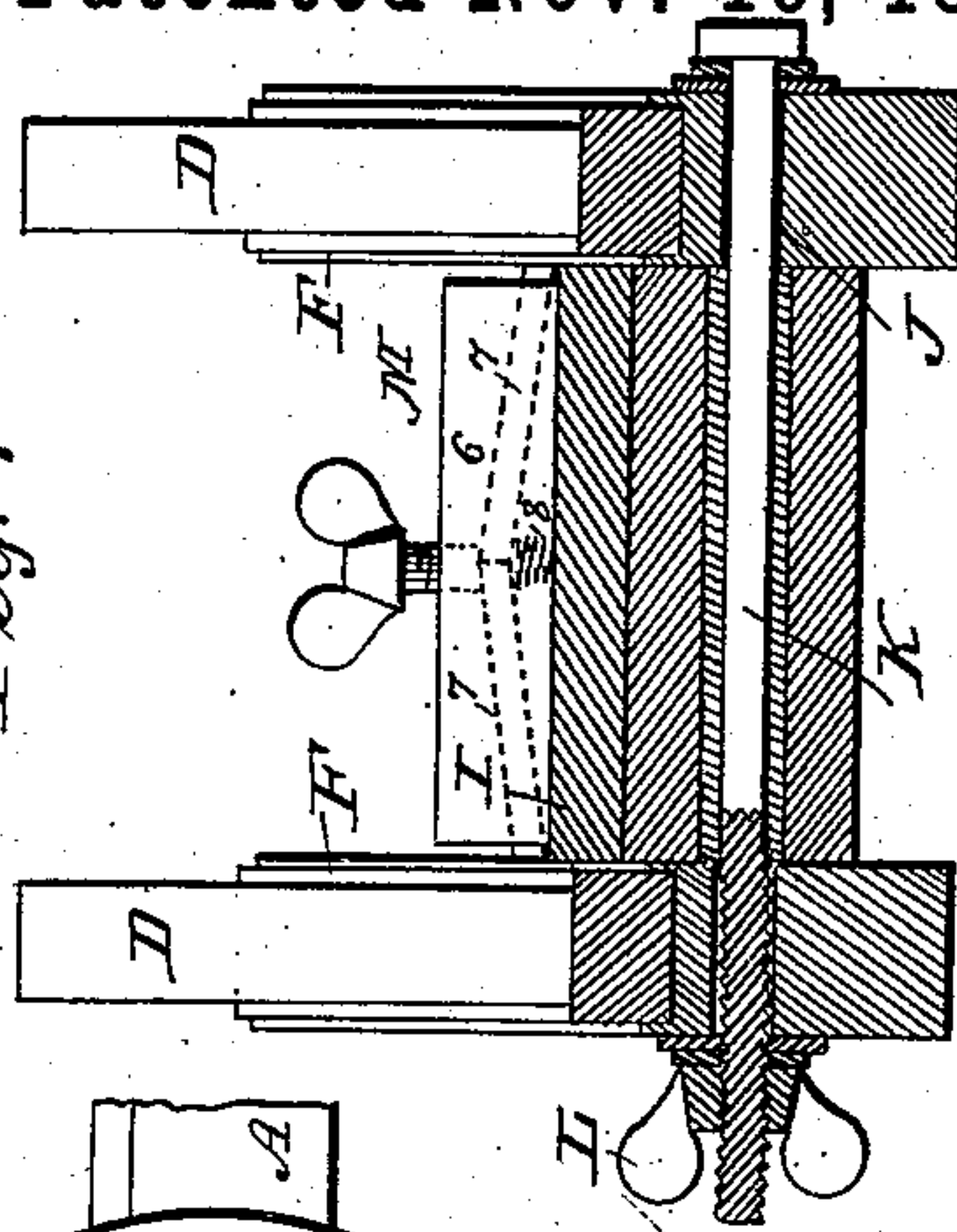


Fig. 4

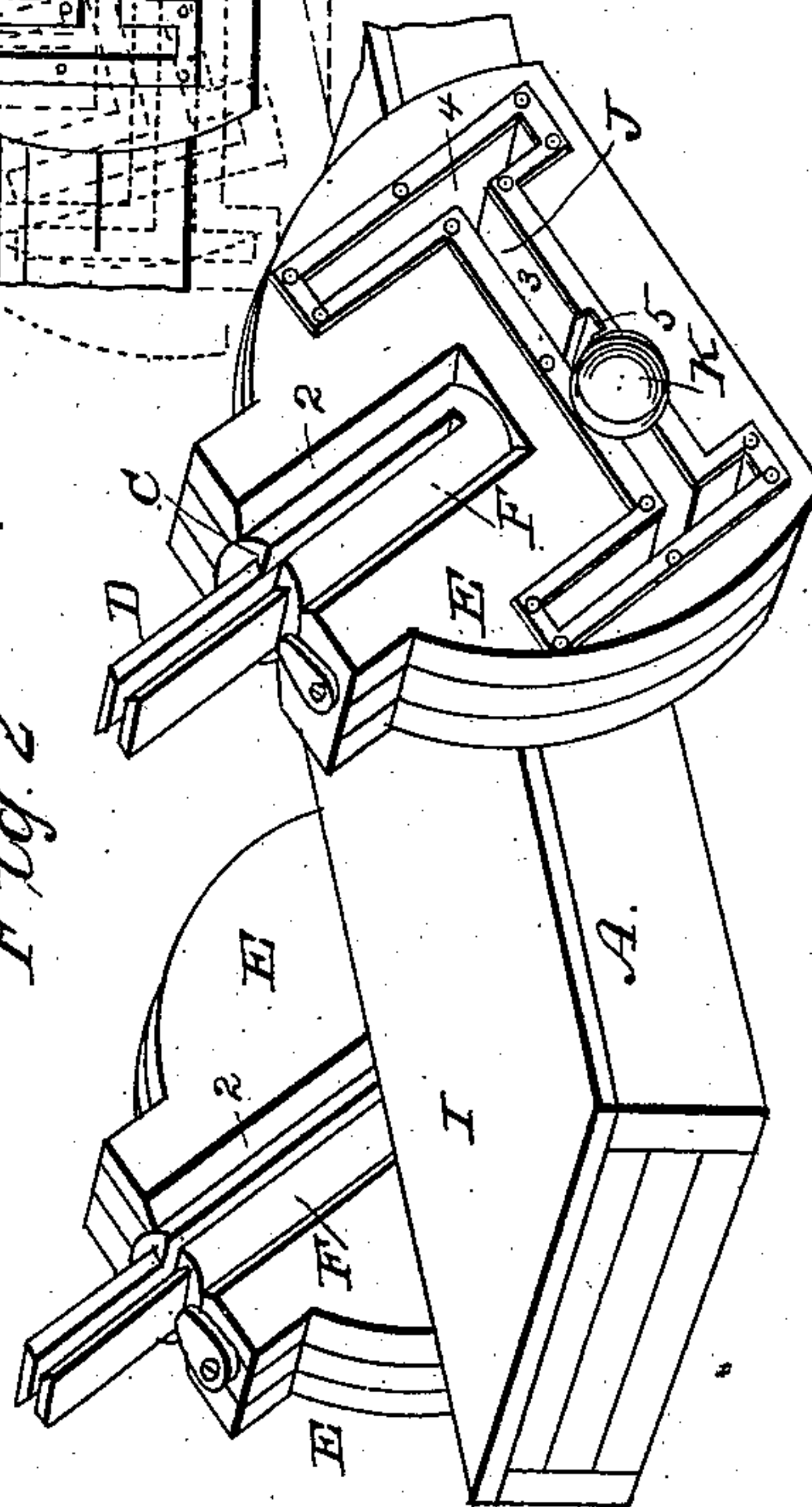


Fig. 2

WITNESSES:

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UNITED STATES PATENT OFFICE.

CLARENCE ADELBERT WILLIAMS, OF WEBSTER CITY, IOWA.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 352,846, dated November 16, 1886.

Application filed May 10, 1886. Serial No. 201,729. (No model.)

To all whom it may concern:

Be it known that I, CLARENCE ADELBERT WILLIAMS, of Webster City, in the county of Hamilton and State of Iowa, have invented a new and useful Improvement in Miter-Boxes, of which the following is a specification.

My invention is an improved miter-box; and it consists in certain features of construction and novel combinations of parts, as will be hereinafter more fully described.

In the drawings, Figure 1 is a perspective view of a box constructed according to my invention. Fig. 2 is a detail perspective view of one end of the apparatus, showing the movable side pieces set to cut a compound bevel. Fig. 3 is a detail side view illustrating the various positions to which the said side pieces may be adjusted, and Fig. 4 is a cross-sectional view drawn alongside of the rod for securing the movable side pieces in their several adjustments.

The base A and the fixed side pieces, B, may be made of metal; but, by preference, I form such parts of wood and laminated, as shown, to prevent warping and give strength to the construction. In the fixed side pieces I form saw passages or openings *b*, having their walls formed with dovetail grooves C. The saw-guides D are provided with dovetail ribs *d*, adapted to fit the dovetail grooves C, so the guides may be fitted thereinto and held, as will be obvious. Near their upper ends the guides are preferably formed with sockets or openings *l*, in which may be engaged the point of any suitable implement by which the guides may be elevated within the passages *b* to guide the saw for thicker work, or to enable the withdrawal of such guides when worn and when it is desired to replace them by new ones.

It will be noticed that the adjacent faces of the saw-guides are arranged at angles, right and otherwise, as desired, to the length of the box. This is preferably effected by forming the passages in which they fit at the desired angles, as shown.

It will be noticed that by elevating the saw-guides the box may be fitted for accurately cutting bevels in thick work as well as in thin.

The adjustable side pieces, E, are provided with saw-passages, which, instead of being

formed directly in the bodies of the side pieces, as in the case of the pieces B, are formed, preferably, in rotatable pieces or carriers F, which are journaled in the side pieces and have dovetail grooves C to receive the guides, as shown. By preference, instead of forming these guides with tenons or ribs and having the dovetails formed on said ribs, I form the bodies of the guides dovetail, as will be seen.

It will be noticed that the walls of the openings *e* in the pieces E, in which the carriers F are journaled, are beveled at 2 to enable the saw to operate at any desired angle, as will be understood.

The pieces E are secured to the base A in such manner and by such means as to permit them to be adjusted, preferably, so they can be adjusted rotarily and longitudinally on the base-piece. By means of the rotary adjustment of such pieces when they are set opposite each other they may be employed to guide the saw in cutting at right angles to both the length and thickness of a board, or at right angles to its length and at any desired angle with reference to its thickness.

To enable the side pieces to be set rotarily, in order to accurately cut at any given angle with reference to the thickness thereof, I by preference provide one or both with graduations H, as shown, which register against a line or mark, as *x*, drawn radial to the pivot of the bolt.

By adjusting the pieces, one or both, longitudinally on the base, I am able to cut a board at any desired angle to its length, and by both the longitudinal and rotary adjustments I am able to cut a compound bevel, or one at angles to both the length and thickness of the board. It is usual to provide the box with a bottom, I, which may be removed when worn.

While the adjustment of the side pieces may be effected in various ways without departing from the broad principles of my invention, I preferably carry out this feature of the invention by the construction shown. To this end the pieces E are formed with H-shaped slots J, having main or cross wings 3 and end wings, 4, as shown. Midway their ends the wings 3 are provided with notches 5. A bolt, K, extends transversely through the base and

through the slots J, and having a head and a threaded end, the latter being adapted to receive the clamping thumb-screw L. By the slots the pieces E, when the nut L is eased up, 5 may be adjusted to any desired position and be secured thereat by clamping up the nut. The notches 5 serve to indicate, when opposite the bolt, that the two pieces E are opposite each other.

10 To avoid the driving of nails into the box to serve as stops for the lumber being sawed, I prefer to employ an adjustable stop, M, consisting of a block, 6; arms 7, a spring, 8, supporting said arms, and a set-screw, by which 15 the said arms may be adjusted to set their outer ends against the sides of the box, and thus clamp the stop at the desired point.

Having thus described my invention, what I claim as new is—

20 1. In combination with a miter box, a stop consisting of a block or support, arms held thereby and having their ends movable outward against the sides of the box, and a set-screw for adjusting said arms, substantially as 25 set forth.

2. The combination of the bottom, the side piece, E, having a slot formed with a cross-

wing, 3, and end wings, 4, and a bolt and nut for securing said side piece, the bolt being passed through the slot of the side piece, substantially as set forth. 30

3. The combination, in a miter-box, of the bottom, the side piece having its edge provided with graduations, said side piece being lapped against and adjustable rotarily in a 35 plane parallel with the side edge of said bottom, and securing means for fastening said side piece in any desired adjustment, substantially as set forth.

4. The combination, in a miter-box, of the 40 base or bottom, the side piece lapped against the side of and movable longitudinally along or rotarily on the bottom, and the screw and nut, substantially as set forth.

5. The combination of the bottom, a side 45 piece adjustable longitudinally along the same, and also rotarily in a plane in line with its direction of longitudinal movement, and a clamp for securing said side piece in any desired adjustment, substantially as set forth.

CLARENCE ADELBERT WILLIAMS.

Witnesses:

WILL VINCENT,
D. D. CHASE.