

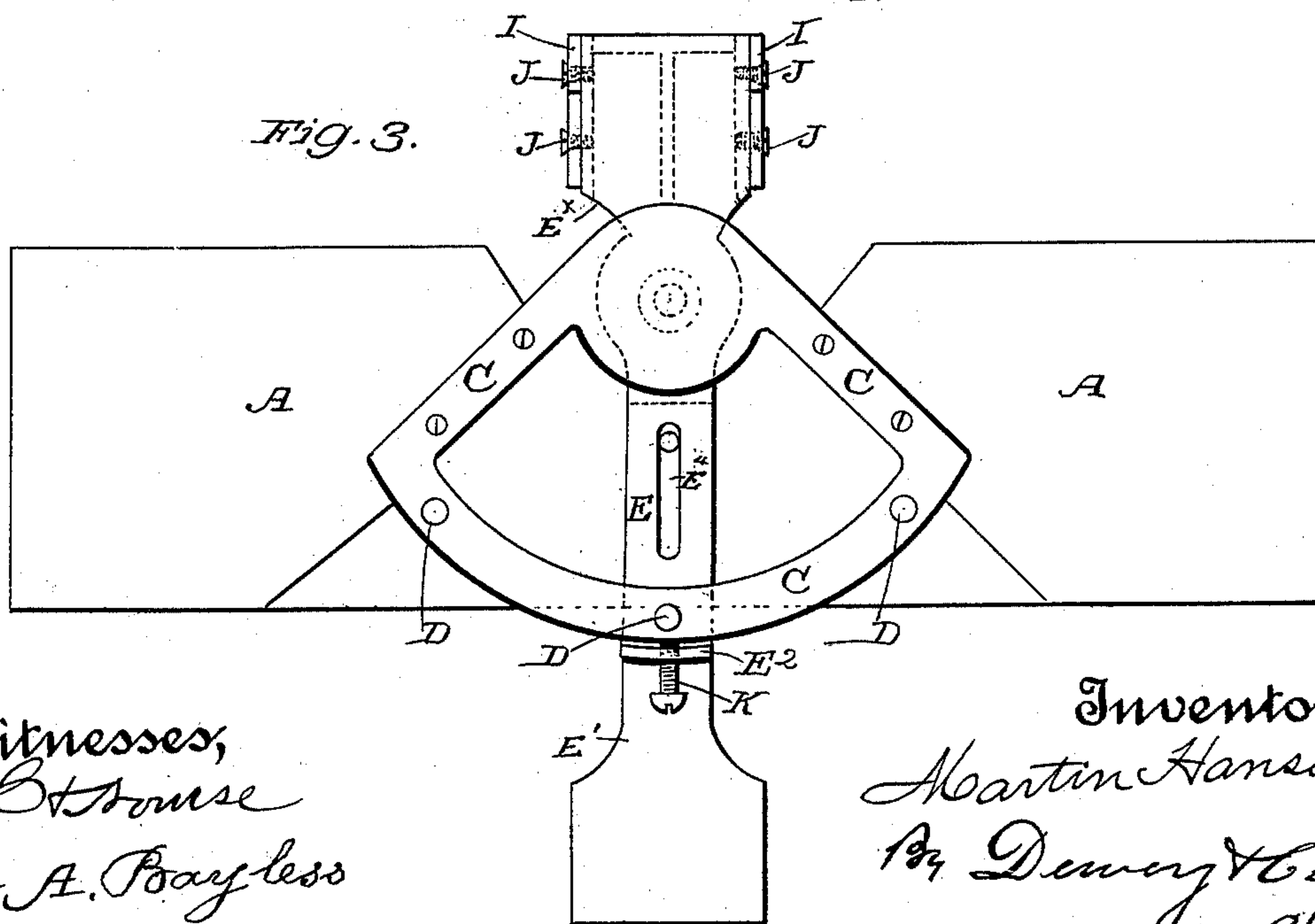
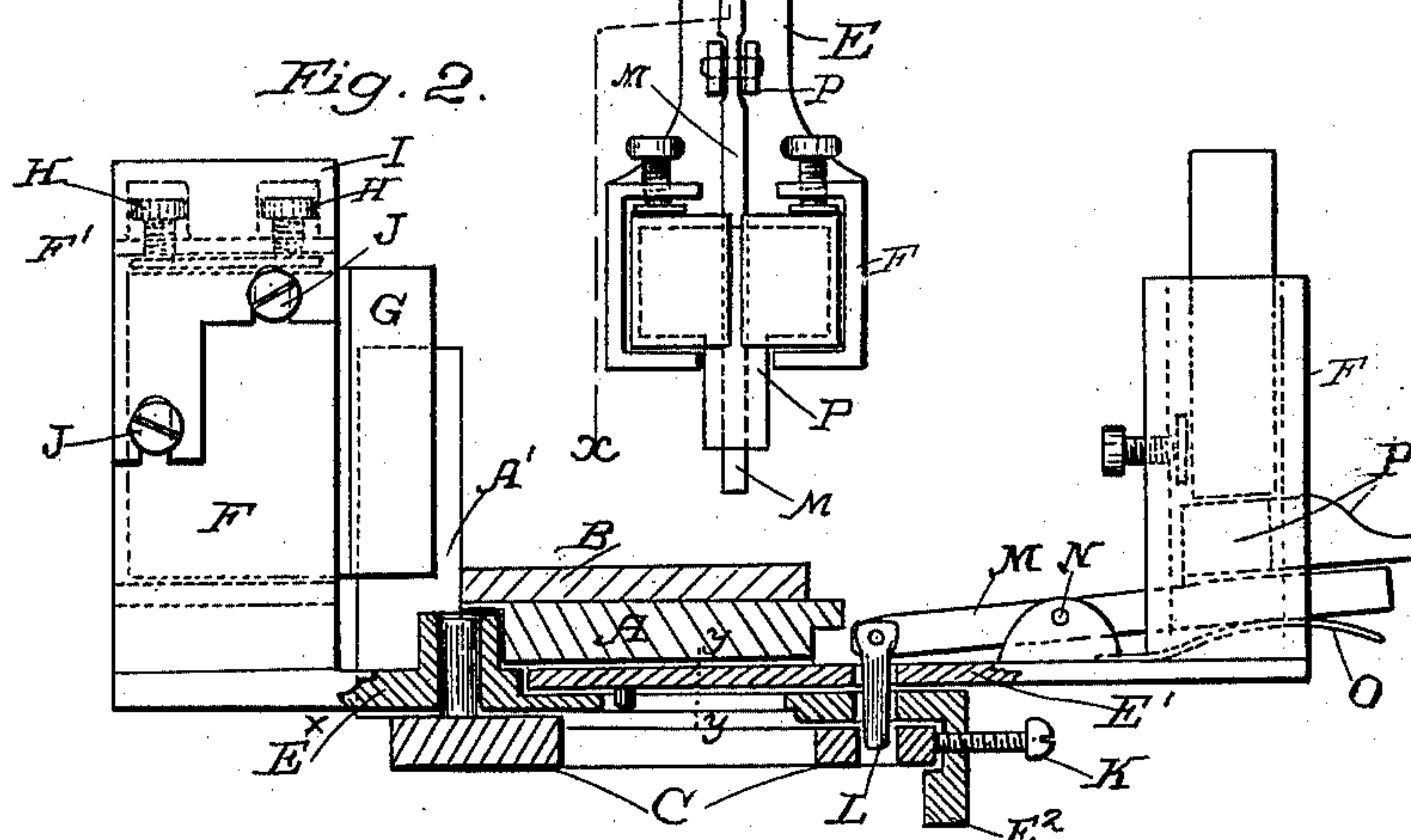
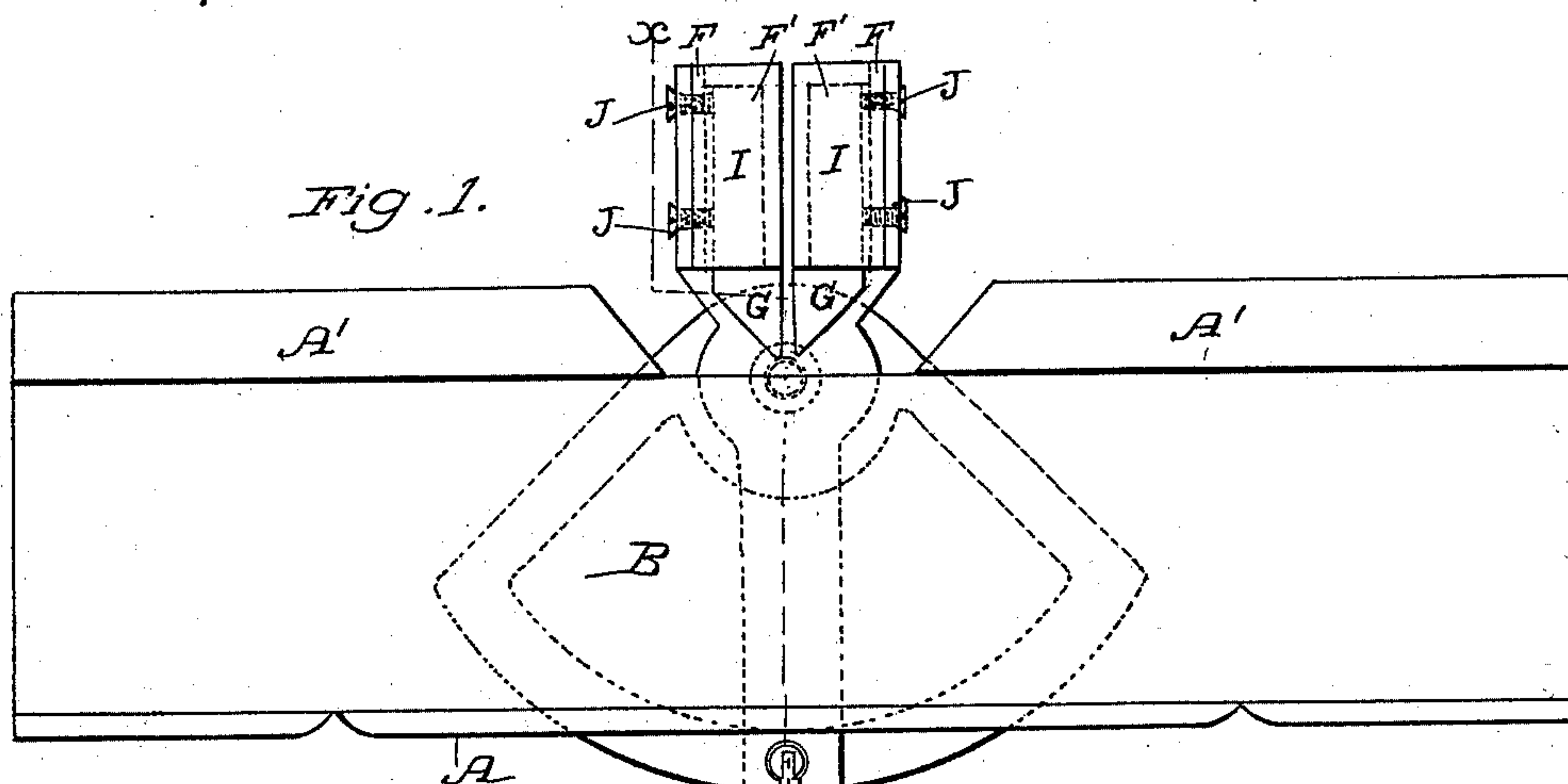
(No Model.)

2 Sheets—Sheet 1.

M. HANSON.
MITER BOX.

No. 509,736.

Patented Nov. 28, 1893.



Witnesses,
J. A. Poyless

Inventor,
Martin Hanson
By Dewey & Co.
attys

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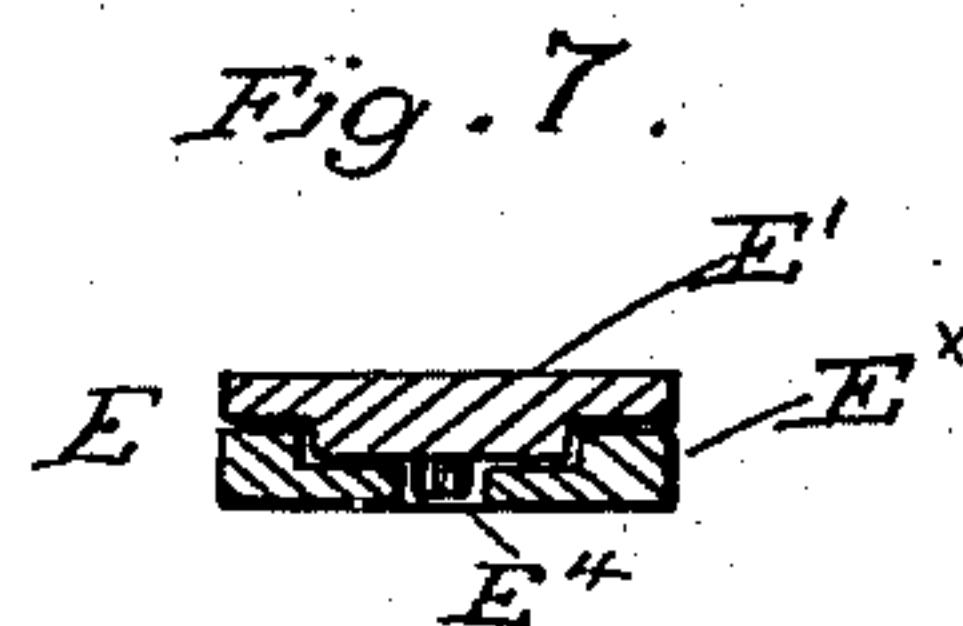
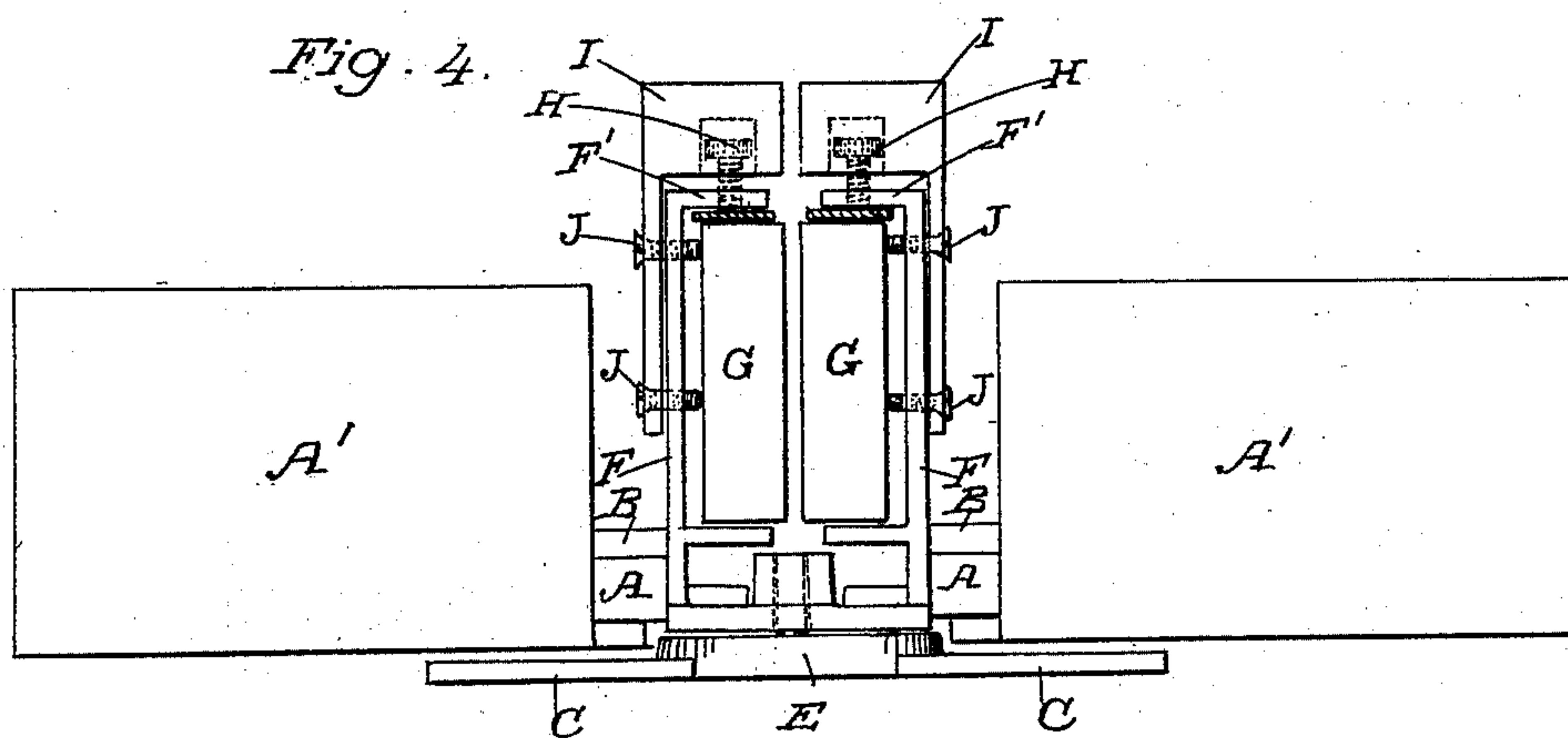
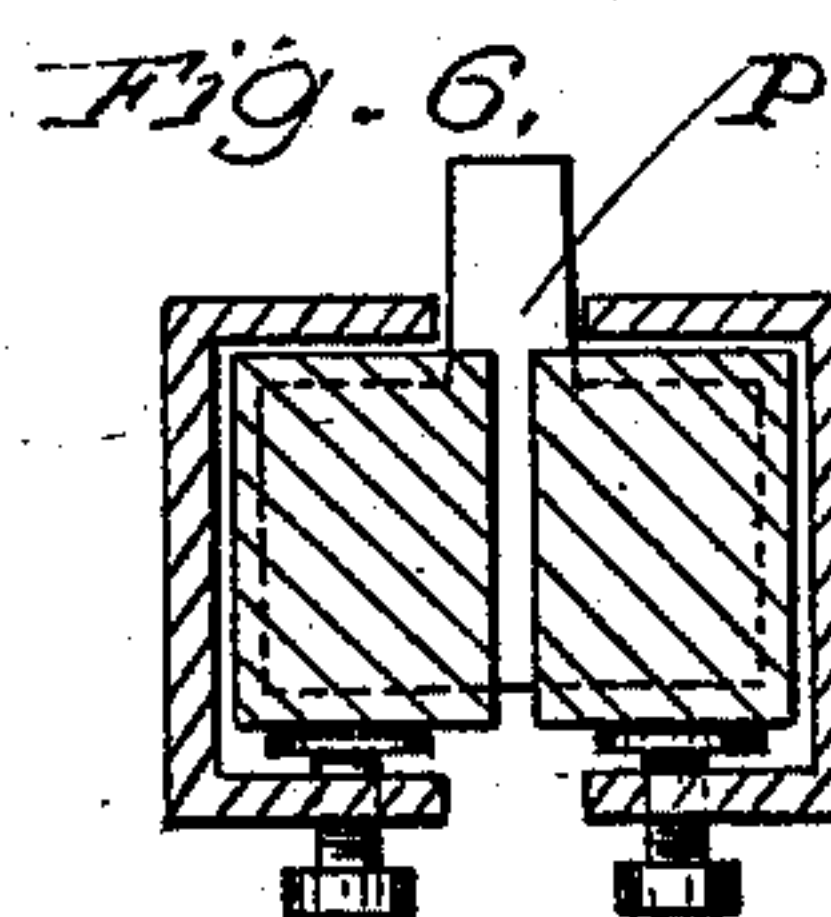
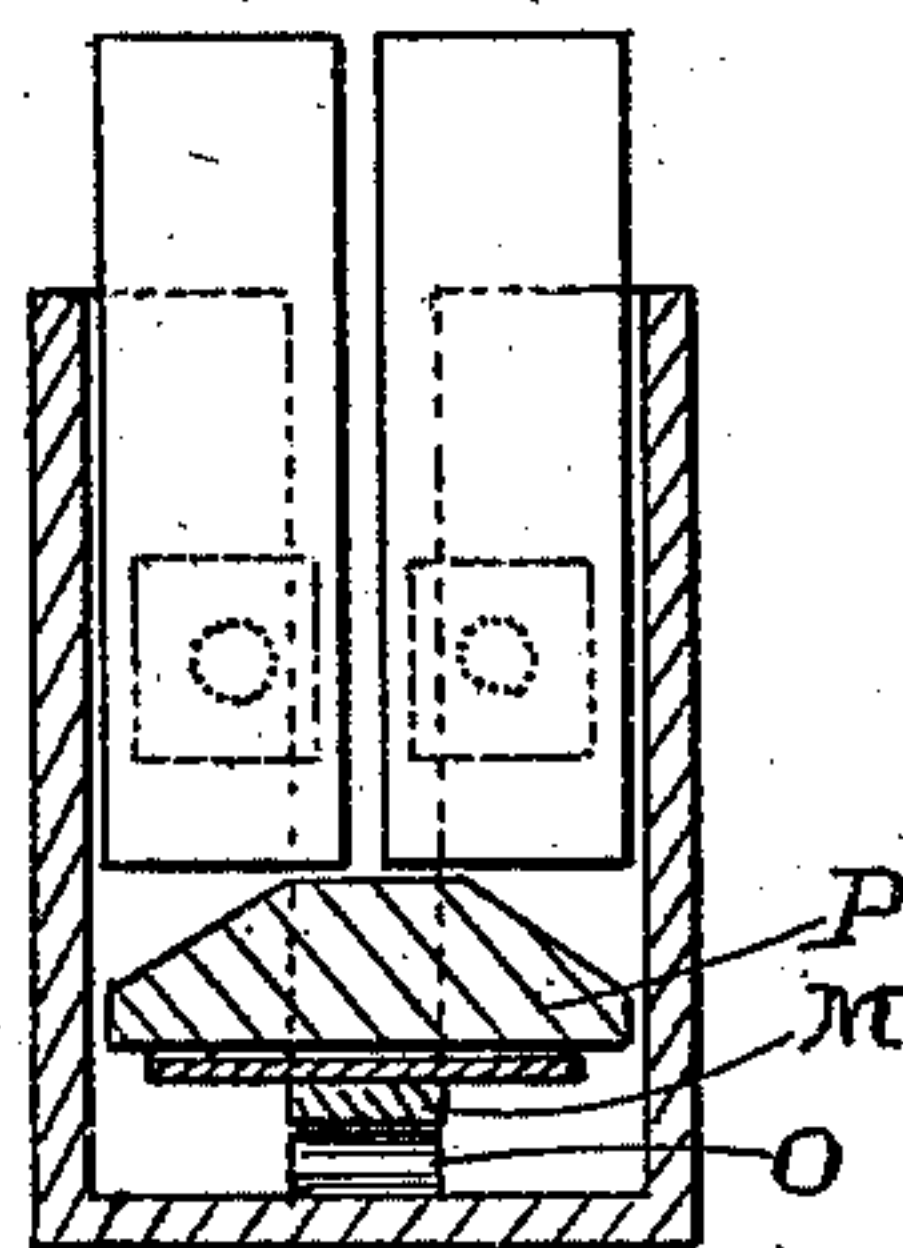


Fig. 5



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UNITED STATES PATENT OFFICE.

MARTIN HANSON, OF SAN FRANCISCO, CALIFORNIA.

MITER-BOX.

SPECIFICATION forming part of Letters Patent No. 509,736, dated November 28, 1893.

Application filed January 31, 1893. Serial No. 460,444. (No model.)

To all whom it may concern:

Be it known that I, MARTIN HANSON, a subject of the King of Sweden and Norway, residing in the city and county of San Francisco, State of California, have invented an Improvement in Miter-Boxes and I hereby declare the following to be a full, clear, and exact description of the same.

My invention relates to an adjustable miter-box for sawing wood at different angles.

It consists in certain details of construction which will be more fully explained by reference to the accompanying drawings, in which—

Figure 1 is a plan view. Fig. 2 is a partial side view and transverse section taken on the line $x-x$ of Fig. 1. Fig. 3 is a bottom view. Fig. 4 is a rear view of the rear guide holders and guides. Fig. 5 is a vertical section of the front guides. Fig. 6 is a horizontal section of the front guides. Fig. 7 is a vertical section of the line $y-y$ of Fig. 2.

The miter-box frame proper consists of a base or horizontal table A and a vertical back A'. The horizontal table may be made of wood or metal, and has fixed upon its surface a board B which serves to receive the teeth of the saw after they have cut through the piece to be sawed, and this surface board can be removed and replaced at any time when desired. Beneath the table A is fixed a segmental rack C having holes D made in it for the reception of a locking pin which is connected with the movable swinging bar E. These holes are made so that the guides are locked at right angles with the lumber support, at an angle of forty-five degrees, or at any other desired angle. Upon a common center with this segment, and between it and the bottom of the plate A, is fulcrumed a bar E which carries the saw-guides. This bar is fulcrumed and turns upon a pin which projects upwardly from the center of the segment, and in line with the rear edge of the table A, the pin being so placed that its axis, if continued, would fall exactly along the rear edge of the table A, which is the center about which the guides are turned. To the rear of this bar is fixed the upwardly projecting metal plates F having inwardly projecting plates F' which serve to support and hold the saw-guides proper. These latter are wooden blocks

G which are set into the supporting frame F F', and are secured therein by set screws H extending through the top plates, and pressing upon the upper ends of the blocks, or upon intermediate iron plates against which the ends of the screws fit. The front edges of the rear guide blocks are beveled as shown, and these beveled edges stand adjacent to each other, just in line with the vertical continuation of the axis of the pin about which the supporting bar rotates. The blocks are separated just sufficiently to receive the thickness of the saw, and it is thus protected from all contact with the metal. The blocks are made of hard wood, and are readily removed and adjusted or replaced whenever sufficiently worn to require it. The saw is introduced into the guides from the top of the guides, and in order to protect the teeth of the saw from the top plates F', I have shown the supplemental blocks I having extensions which slide down upon the outer sides of the plates F and are guided by screws or pins J. These blocks extend over the top plates F' and have holes made in them to receive the heads of the screws H, and the inner edges of the two blocks lie adjacent to each other, with just sufficient space between them to allow the saw to be introduced and to guide the edge of the saw down between the guide blocks proper G.

The swinging bar E which carries the saw-guides, is made in two parts, the inner part E^x carrying the rear guide as previously described, and the outer part E' carrying the front guide which is made similar to the rear guide, previously described. These two parts are cut away at their meeting ends and overlap each other as shown, the inner one E^x having a channel made in its surface, and the outer one E' having a corresponding tongue which fits in this channel, the tongue and channel serving as a guide, so that when the two parts are moved over each other, they will move in a straight line. One of the plates has a longitudinal slot E⁴ made in it, and the other has a locking screw, or fastening by which the two may be held together at any point of adjustment desired. The object of this adjustment is to extend the bar, and to move the front saw guide away from the plate

A, so that a wider piece of lumber may be admitted into the box than could otherwise be accommodated, especially when the guides are turned so as to cut at an angle of forty-five degrees. It will be manifest that the front guide can be adjusted so as to just fit against the front of the lumber to be cut, and practically form an adjustable front to the box. The part E^x of the bar has a downwardly turned lug or flange E^2 which has a projecting lip at the bottom extending beneath the curved segment, and thus guiding the bar in its movements upon the segment and retaining it in close relation with the segment. K is a screw passing through this lug and pressing against the edge of the segment when it is screwed in. This screw serves to hold the bar at any desired position when the automatic locking devices are not employed, and in any case when the bar has been extended so that the locking device is drawn out too far to engage the holes in the segment. This locking device consists of a pin L pivoted to the inner end of a lever M, and this lever is fulcrumed, as shown at N, upon the part E' of the adjustable saw-guide support. The outer end of this lever passes between the supports F of the front saw-guide, and extends enough beyond them to present a point upon which the handle or rear part of the saw may be pressed so as to raise the pin out of the hole in which it may be engaged to allow the saw-guide to be swung around to either one side or the other. A spring O beneath the outer end of this bar presses it up and correspondingly presses the pin downwardly so that when it arrives opposite either of the holes in the segment, it will drop into the hole and lock the guide in place.

A wooden block P is fitted between the supports F of the front guides and rests on the top of the bar, the projecting handle by which the lever is moved extending out through the guides as shown. This block is beveled as shown in Fig. 5 so as to allow the saw-dust to escape freely.

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

A miter-box consisting of the horizontal table and vertical back, the swinging lever fulcrumed in line with the rear edge of the table and adapted to turn about said fulcrum pin, a spring-actuated locking pin and lever by which it is disengaged, so that the bar may be turned to any desired position, saw-guides supported upon the rear and front end respectively of the swinging bar, consisting of metallic inclosing supports, wooden blocks fitted within said supports and presenting adjacent surfaces between which the saw is guided, locking screws by which said blocks are adjusted and held in place, supplemental blocks I fitting over the top of the metallic supports with their adjacent meeting edges separated correspondingly with those of the guide-blocks, whereby the saw is introduced between the guide-blocks from above, without contact with the metallic plates of the support, substantially as herein described.

In witness whereof I have hereunto set my hand.

MARTIN HANSON.

Witnesses:

S. H. NOURSE,
J. A. BAYLESS.