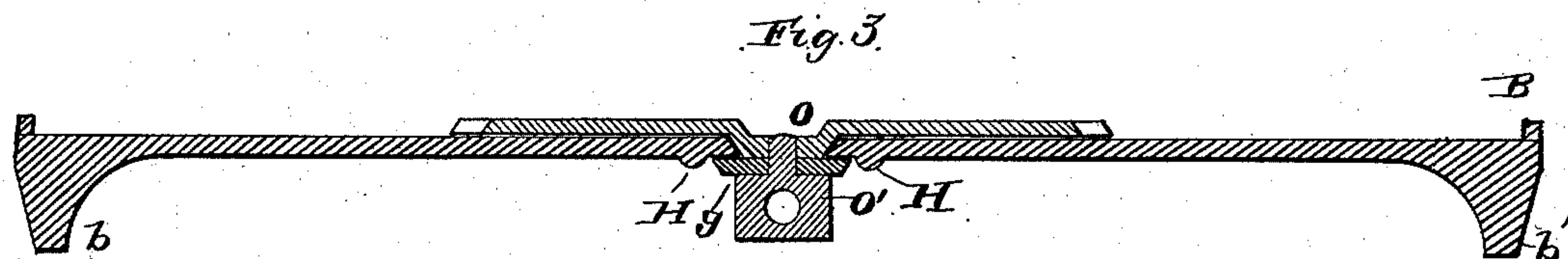
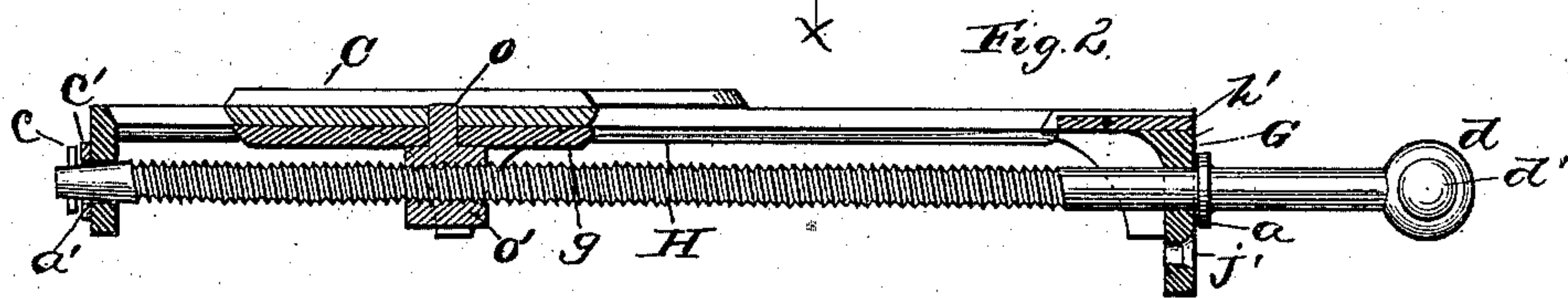
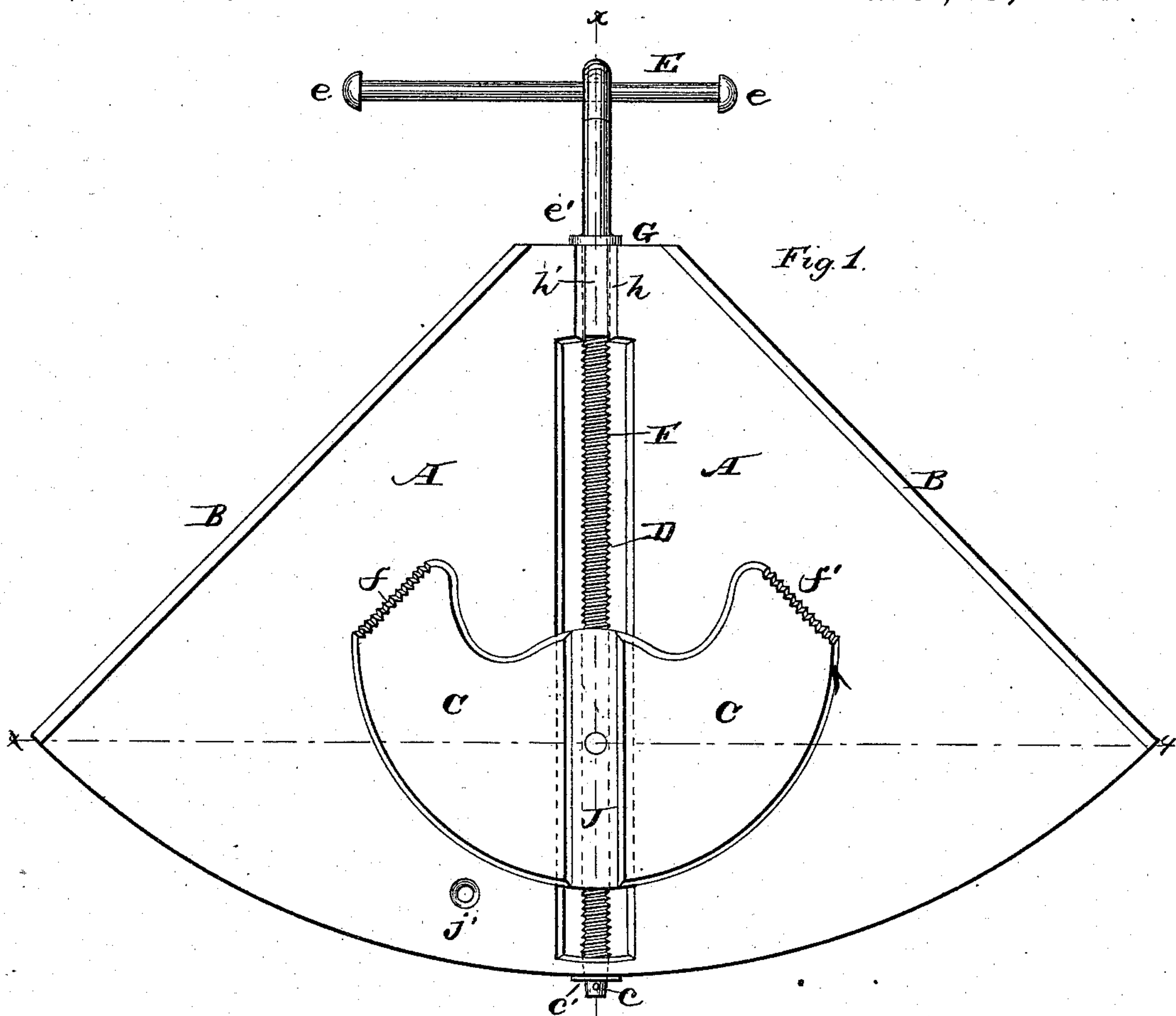


(Model.)

F. J. STEINBORN.
Miter Clamp.

No. 238,981.

Patented March 15, 1881.



Witnesses:

Geo. Newton
August Roesler

Inventor:

Ferdinand J. Steinborn

UNITED STATES PATENT OFFICE.

FERDINAND J. STEINBORN, OF HUSTISFORD, WISCONSIN.

MITER-CLAMP.

SPECIFICATION forming part of Letters Patent No. 238,981, dated March 15, 1881.

Application filed September 8, 1880. (Model.)

To all whom it may concern:

Be it known that I, FERDINAND J. STEINBORN, of Hustisford, Dodge county, Wisconsin, have invented certain Improvements in Picture-Frame Vises, of which the following is a specification.

The following is a description of my newly-invented picture-frame vise, which is in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains to make, construct, and use the same.

My invention relates to an improvement in miter-clamps, the object being to provide a device of this character of simple and durable construction, easily operated, efficient in use, and capable of being manufactured and supplied to the trade at a comparatively light cost.

With these ends in view my invention consists in certain details of construction and combination of parts, as will be hereinafter described, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a plan view of a miter-clamp constructed in accordance with my invention. Fig. 2 is a view taken through line *xx* of Fig. 1, and Fig. 3 is a view taken through line *xy* thereof.

Let A represent the frame-plate, having flanges B B formed integral therewith and at right angles thereto, and C a clamping-plate adapted to be actuated in forward and backward movement in the slot D, formed in the vise-plate, by means of the lever E and through the mediumship of screw F. The plate A has the form of a sector of a circle having its inner end, G, cut off by a plane at right angles to a plane passing through the screw F, which latter has its inner and outer ends respectively mounted in depending flanges *a a'* formed at the end G of the plate A, and at a point on the outer face thereof equidistant from the two supporting-feet *b b'*. The outer end of the screw F is provided with a key, *c*, and washer *c'*, while the inner end thereof projects through flange *a*, and has its extreme end *d* enlarged and perforated at *d'* for the reception of a cylindrical rod or lever, E, said lever being provided at each end with knobs *e*, whereby the lever is allowed free movement in the perforation *d'* and yet retained therein. The longitudinal movement of the screw F is further guarded against by an annular flange, *e'*, at-

tached to the screw or formed integral therewith at such point thereon that it will fit snugly against the face G of the plate A, the keying device heretofore described, together with this flange, operating to lock the screw in position and against longitudinal motion. Segmental clamping-plate C, having two serrated clamping-edges, *f f'*, respectively parallel with the edges of the frame-plate, to which they are adjacent, is moved forward and backward on the said plate A by means of the screw F, with which it is connected by a bolt, *o*, the upper end of which is received in the plate C, while the lower end thereof is provided with a head, *o'*, having an internally screw-threaded aperture to receive the screw F. It will follow, now, that when the screw is revolved from left to right the segmental plate will have a forward motion imparted to it, while a reverse motion of the screw will cause a reverse motion of the clamping-plate. The longitudinal movement of the clamping-plate is rendered even and steady and the strain between the bolt and plate is greatly lessened by a bearing-plate, *g*, interposed between the bolt-head *o'* and the plate C, said bearing-plate having broad bearing on that portion of the under face of the frame-plate which is contained between the edges of the slot D and the ribs or bosses H, parallel with each other and with the screw F. The office of these ribs or bosses is to guide the bearing-plate *g* and to prevent it from turning or twisting.

My invention is particularly designed to be used in the construction of picture-frames, and as it will be often necessary to use a saw to perfect the joint or connection after the pieces have already been prepared to be joined together on the clamp, and in order that a saw used for such purpose may not be dulled on the metallic frame thereof, I have formed a slot, *h*, in which a wedge-shaped piece of wood, *h'*, is inserted, and which may be easily replaced when worn out. To further guard the saw, I have constructed the segmental plate C with a longitudinal slot, J.

Supporting-feet *b b'* and flanges *a a'* support the frame above a table or bench, to which it is secured by screws passing through the plate, as at *j*, and into the edge of the bench through a continuation, *j'*, of the depending flange *a*.

If desired to place the vise-plate in direct

contact with the table, the feet *b b'* may be dispensed with and the table recessed to admit the screw *F* and its attached parts. I prefer to form the plate *A*, flanges *B B*, *a a'*, and *j*, and feet *b b'* in one single piece of casting; but if found desirable the parts may be formed separately and connected in any suitable manner.

The operation of the device is too apparent to need but a short description to a complete understanding thereof.

Two pieces of molding, suitably cut to form a miter-joint, are placed on the surface-plate in position to be joined together. The lever is then manipulated in such manner that the segmental clamping-plate is moved forward until it engages with the inner edge of the picture-molding, the outer faces thereof being held against the flanges *B B*, formed integral with and at right angles to the vise-plate. The miter-joint formed by the combination of the two pieces of molding may now be per-

fectured by glue or cement or nails, or in any other way that may be desirable.

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

In a miter-clamp, the combination, with a supporting-frame having an elongated slot provided with beveled sides, of a clamping-plate provided with serrated clamping-edges, the central portion of said plate being depressed to fit within the elongated slot in the supporting-frame, a traveling nut secured to the clamping-plate and a bearing-plate interposed between the nut and clamping-plate, and an operating-screw journaled in bearings on opposite ends of the supporting-plate, substantially as set forth.

FERDINAND J. STEINBORN.

Witnesses:

GEO. NEWTON,
AUGUST ROESLER.