

(No Model.)

E. & J. KLINGENBERG.
VISE.

No. 573,886.

Patented Dec. 29, 1896.

Fig. 1

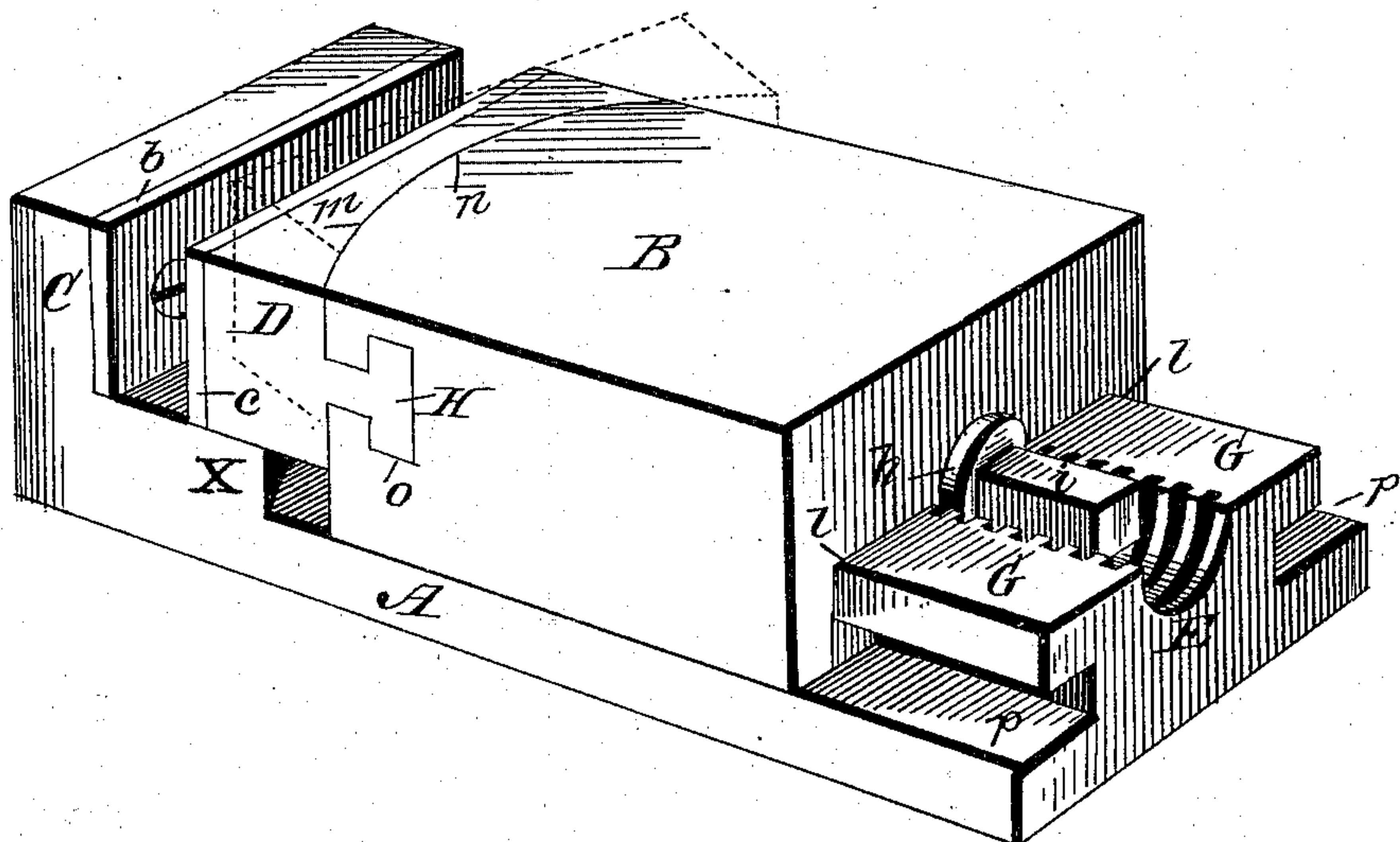


Fig. 2

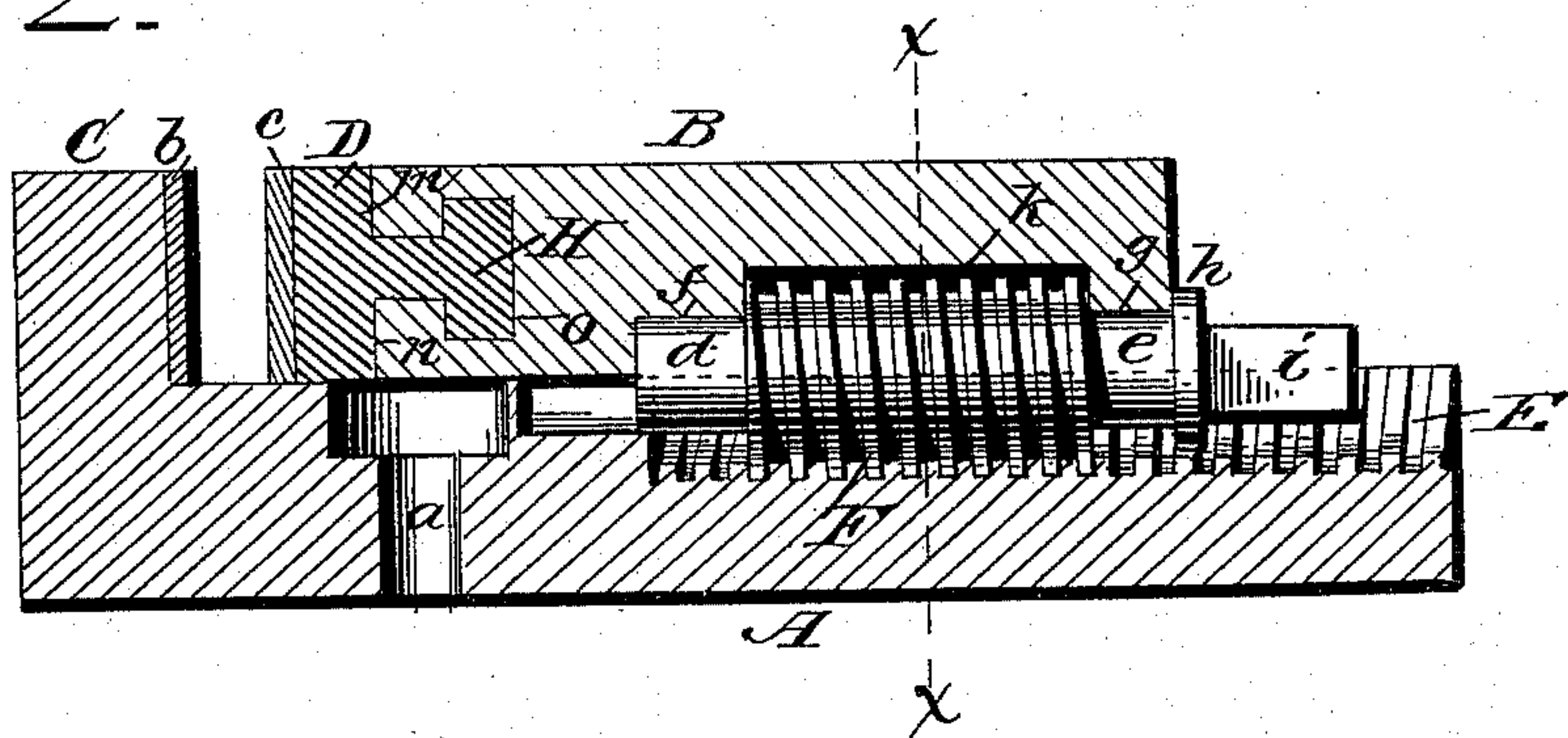
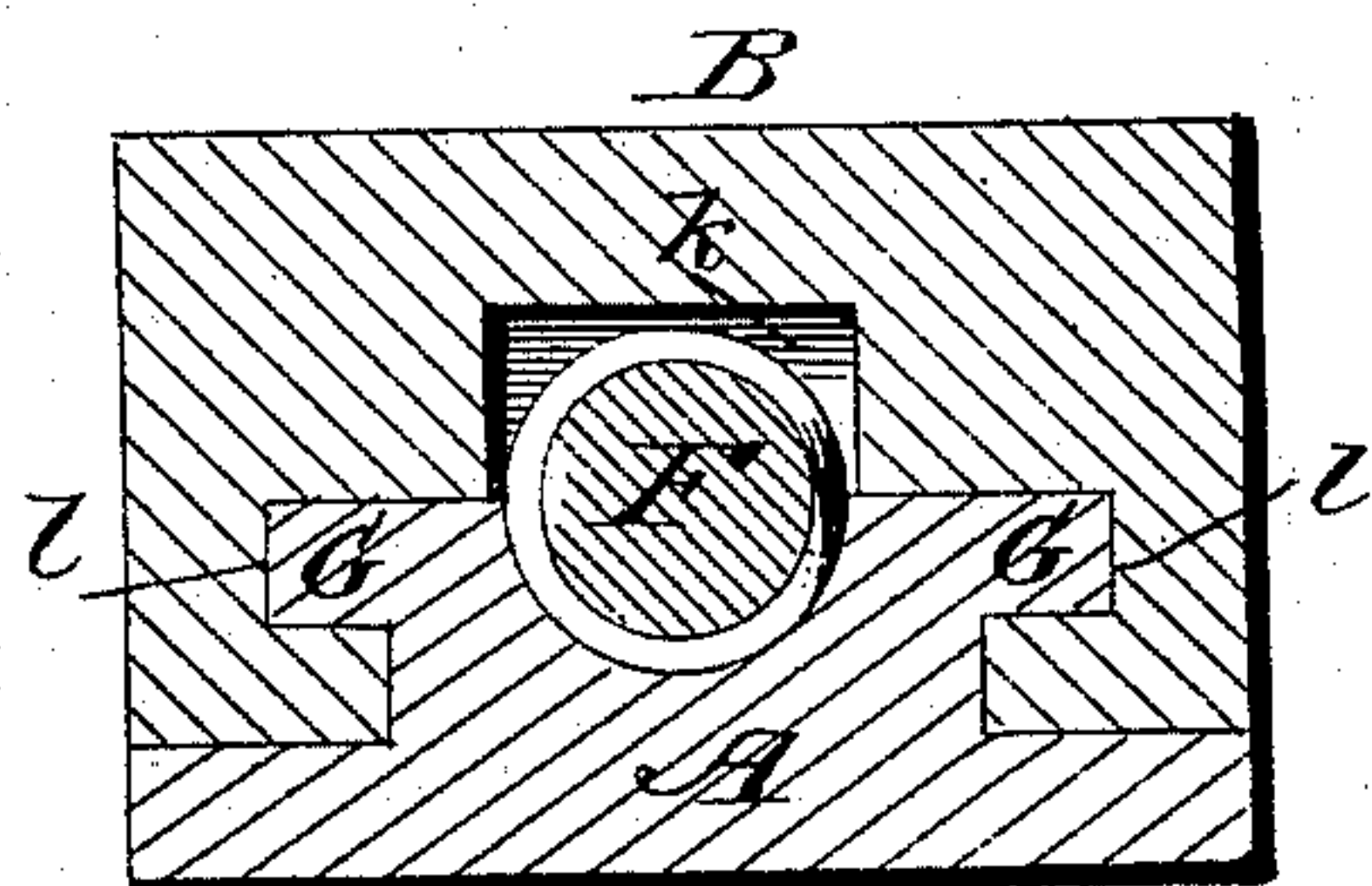


Fig. 3



Witnesses
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UNITED STATES PATENT OFFICE.

EMIL KLINGENBERG AND JOHN KLINGENBERG, OF COMMONWEALTH,
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VICE.

SPECIFICATION forming part of Letters Patent No. 573,886, dated December 29, 1896.

Application filed May 25, 1896. Serial No. 592,941. (No model.)

To all whom it may concern:

Be it known that we, EMIL KLINGENBERG and JOHN KLINGENBERG, citizens of the United States, residing at Commonwealth, in the county of Florence and State of Wisconsin, have invented certain new and useful Improvements in Vises; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the annexed drawings, making a part of this specification, and to the letters of reference marked thereon.

The present invention has for its object to provide a vise especially adapted to be used in connection with milling and planing machines, but may be employed wherever a vise of the present character would be found useful; and it consists in the several details of construction, substantially as shown in the drawings and hereinafter described and claimed.

Figure 1 of the drawings is a perspective view of a vise constructed in accordance with our invention; Fig. 2, a longitudinal central section thereof, showing the screw-shaft in elevation; Fig. 3, a transverse section taken on line *x x* of Fig. 2.

In the accompanying drawings, A represents the stationary bed-plate upon which is supported the movable block B, said bed-plate and block being of any suitable size and thickness found best adapted to the purpose.

The bed-plate A is provided with a suitable bolt-hole *a* for the reception of a bolt with which the plate may be securely fastened to a table or other object upon which the plate is to rest, or any other suitable and well-known means may be employed for such purpose as would be found most convenient. The bed-plate A is provided with an upwardly-extending fixed or stationary jaw C, and the movable block B is provided with an adjustable and removable jaw D, which jaws may have connected to their faces suitable plates *b c*, respectively.

Upon the top of the bed-plate is formed the shoulder X, which is not as high as the jaw C, but is much wider and forms a support for the jaw D as it is moved back and forth, and causes the jaw to move evenly and true, a very necessary thing when small articles are to be clamped. As the vise is seldom

opened to a greater width than this shoulder X, the jaw practically always rests upon it. The shoulder X also forms a stop to the forward motion of the block B and serves to brace it in position when forced forward.

The bed-plate A has a longitudinal screw-threaded concavity E, with which engages a screw-shaft F, the extremities or journals *d e* of the shaft being seated in the bearings *f g*, respectively. These bearings are formed on the under side of the block B, and to assist in holding the shaft in position the journal *e* thereof terminates in a collar *h*, and beyond this collar is a flat-sided stem *i*, with which may engage a suitable crank, key, or other device for turning the screw-shaft F to move the block B back or forth, as the case may be.

It should be understood that the screw-shaft F does not engage any screw-threads on the block B, and as the screw-threaded portion of the shaft is of greater diameter than the journals thereof a mortised chamber *k* is provided to make room for the free rotation of the screw-shaft.

The screw-threaded concavity E is above the plane of the base-plate A, and at the sides of said concavity are laterally-projecting guides G, which extend longitudinally thereof, said guides engaging with correspondingly-formed grooves *l* upon the under side of the block B.

The adjustable and removable jaw D has a concave inner face *m* to conform to the convex face *n* upon the end of the block B, the concave and the convex faces describing the segment of a circle and allowing the jaw D to be moved laterally upon the arc thereof. The jaw D is adjustably and removably connected to the block B by means of a T-shaped tongue H on the concave portion of the jaw, which engages with a correspondingly-formed groove *o* in the convex end of the block B.

The concave on the bearing-face of the jaw D and the correspondingly-formed convexity of the end of the block B enables the jaw to be adjusted on the arc of a circle to adapt itself to the varying thickness or any irregularity in the plate of metal or other object placed between the jaws.

The T-shaped tongue H provides a very perfect guide for the jaw, as well as holding it in

its adjusted position by frictional contact with the surface of the groove *o*, the frictional surface being increased by the T-shaped form of the tongue. The shape of the tongue H also prevents the jaw D from being disconnected except by moving the jaw endwise and removing it from the side of the block.

The screw-threaded concavity E being above the plane of the base-plate A a double guide is provided for the movable block B by means of the grooves *p* below the guides G.

As there are no screw-threads on the movable block B and no screw-threaded opening through which the screw-shaft passes, a much simpler constructed and operating vise is provided in which the parts may be conveniently disconnected and separated should any of the parts become worn, thereby materially enhancing the value of a vise of the within-described character.

Having now fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

In a vise, bed-plate A, provided with the

raised central portion in which the screw-threaded concavity E is made, and which has the two lateral guides G formed on its opposite edges; the shoulder X and jaw C made as integral parts of the bed-plate, upon one end; and sliding block B, placed upon the bed-plate and provided with a recess in its under side to receive the screw, and having grooves *l* to receive the guides, and a transverse groove *o* in its front end, combined with the jaw D adjustable upon the grooved end of the block; and the screw F journaled on the under side of the block, and provided with a collar or flange *h*, which bears against the end of the block; the sliding jaw being supported in its movement by the shoulder X, substantially as shown.

In testimony that we claim the above we have hereunto subscribed our names in the presence of two witnesses.

EMIL KLINGENBERG.
JOHN KLINGENBERG.

Witnesses:

CHAS. H. SCOTT,
CHAS. D. MASON.