

No. 764,894.

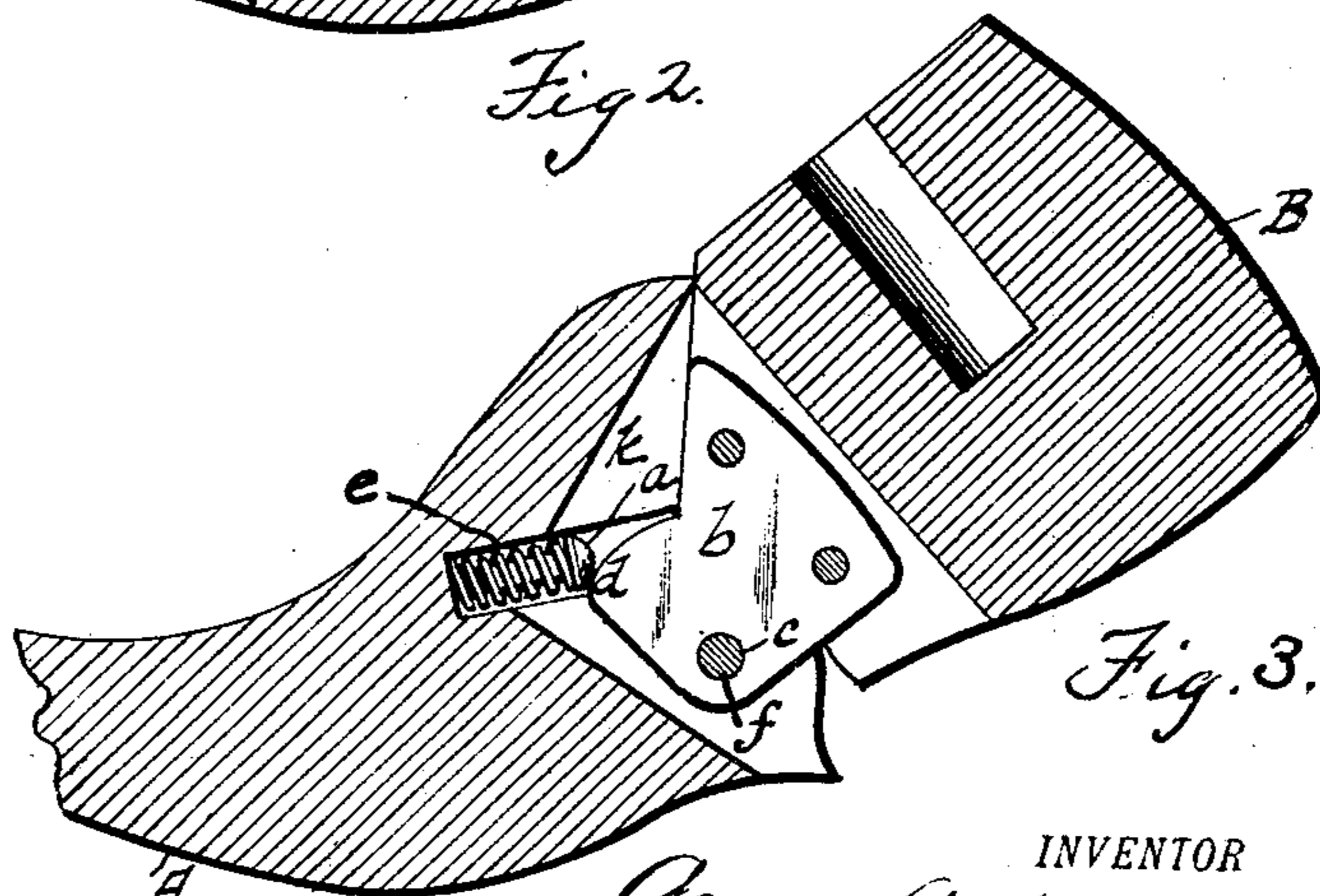
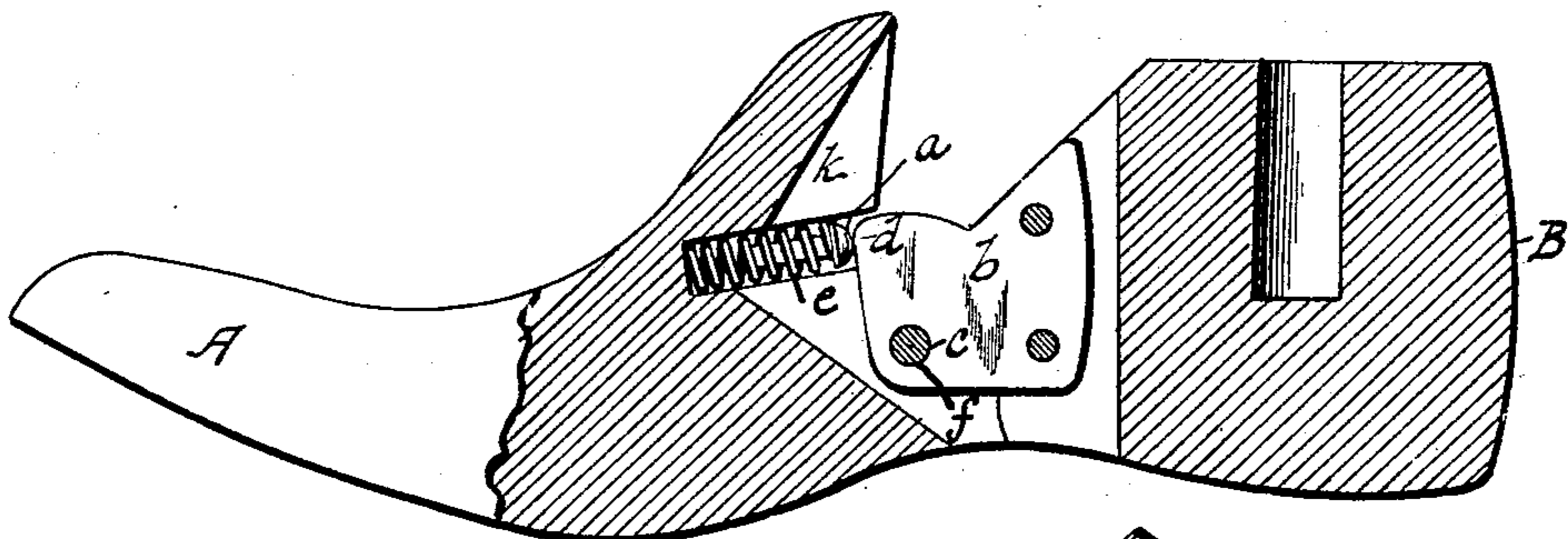
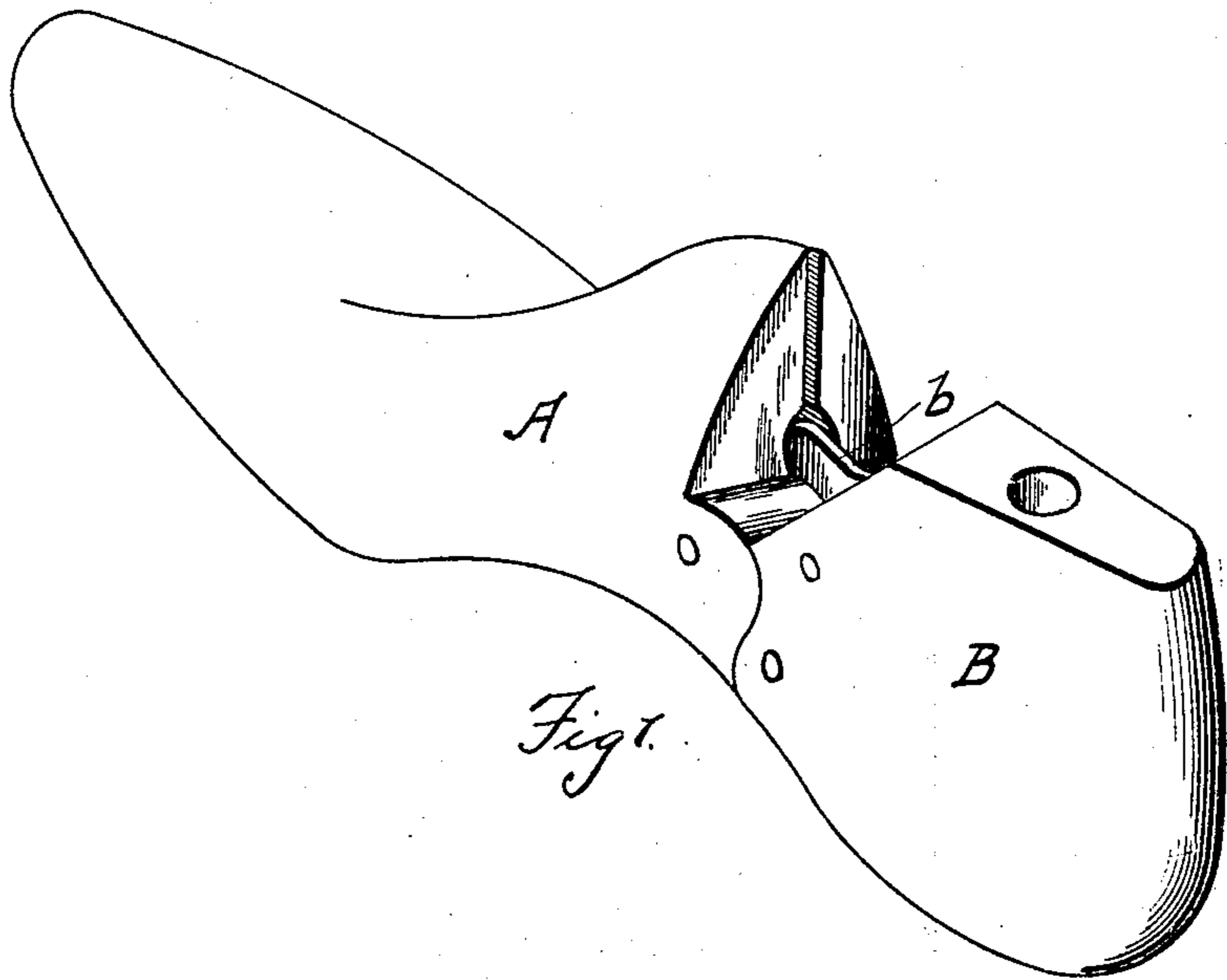
PATENTED JULY 12, 1904.

G. A. KRENTLER.

LAST.

APPLICATION FILED JAN. 11, 1901.

NO MODEL.



WITNESSES

Nat Massey
May E. Kott.

INVENTOR

George A Krentler
By Parker & Benton
Attorneys.

UNITED STATES PATENT OFFICE.

GEORGE A. KRENTLER, OF DETROIT, MICHIGAN, ASSIGNOR TO KRENTLER-ARNOLD HINGE LAST COMPANY, OF DETROIT, MICHIGAN, A CORPORATION OF WEST VIRGINIA.

LAST.

SPECIFICATION forming part of Letters Patent No. 764,894, dated July 12, 1904.

Application filed January 11, 1901. Serial No. 42,839. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. KRENTLER, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Lasts; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to lasts, and has for its object improvements in that class of lasts of which the lasts are made in two parts hinged together at the hollow of the last, the special object of the improvement being to apply to such hinged last a locking attachment arranged to hold the last locked in either its "broken" or "unbroken" position.

In the drawings, Figure 1 shows the last in perspective. Fig. 2 is a longitudinal section showing the leaf of the hinge and the locking attachment. In this figure the last is shown in its unbroken position. Fig. 3 is a longitudinal section showing the same parts; but the last is shown in its broken position.

A and B indicate the toe and heel part of a two-part last in which the knuckle of the part A extends to the rear and is rounded to engage with a concave face of the heel part B. The knuckle on the toe part A is provided with a notch or kerf *k*, into which projects a plate *b*, that is secured to the heel part B. The plate *b* is preferably of metal and is provided above the pintle-hole *c* with a corner *d*, that projects into the kerf *k* and engages against the head of a pin *a*, that is inserted in a spring *e*, and the spring is inserted in a suitable seat in the toe part A of the last. The pressure of the pin pushed by the spring *e* is exerted against the corner *d* of the plate *b* and tends to hold the parts firmly in either of two positions. When the last is unbroken, as shown in Fig. 2, the pin *a* is forced by the spring against the plate, and the tension presses the plate to the rear, whereby it tends to rotate around the pintle *f*.

The principle upon which the locking device operates is the crowding or wedging of one part past another part when the heel part is turned on its pivot, and, as shown, one of these parts (the pin *a*) is made yielding and the other part is made angular, so that it will act to crowd or offer resistance when being moved from either position of rest and will tend to maintain or lock the last parts in said positions of rest. If the wedging or moving part were made concentric with the pintle *f*, there would be no point of special resistance; but by making it eccentric or providing it with a corner or angularity it coöperates with the opposing resisting-surface to lock the last in operative position.

It is not necessary that the same amount of force be required to straighten the last that it required to break it, the only strength of lock required to hold the last in its broken position being simply enough to prevent it from dropping freely back to its straight position, while it is better that it require considerable force to break the last from its straight position, the straight position being the one it takes when in a shoe in use for lasting purposes and the broken position being a position assumed when it is being inserted in the shoe.

The corner or oblique-angled projection is located at such an intermediate position that it resists movement when the last is being moved from lengthened or from collapsed position, the least resistance being offered when at the very beginning of said movement and said resistance increasing as the last is moved from lengthened or collapsed position toward the intermediate position and the resistance decreasing in moving from an intermediate position toward either completely collapsed or lengthened position, and because of this construction and operation the two coöperating wedging or resisting surfaces have what I term a "position of rest" when the heel part has been moved to an extreme position in either direction and the last is entirely collapsed or entirely lengthened. By the term "positions of rest" I mean those positions at

the extreme limits of movement in moving toward which the heel part and fore part have decreasing resistance, and hence tend to stay in said positions instead of tending to move therefrom.

The plate *b* constitutes a pivotal union for hinging the toe part and heel part together with the adjacent faces in sliding contact capable of moving into lengthened relation, as shown in Fig. 2, and into shortened relation, as shown in Fig. 3, the projection *d* of said union cooperating with the spring-actuated pin or plunger *a*, projecting in its path and tending to move in a direction outside of the pivot-point of said union, so that the parts of the last are automatically and yieldingly locked both in lengthened relation and in shortened relation.

While I have herein described the preferred embodiment of my invention, as required by law to do, I am aware that it is capable of being embodied in many other forms and arrangement of parts included within the spirit and scope of my invention, and accordingly I do not intend to limit myself otherwise than as expressed in the appended claims.

What I claim is—

1. In a two-part last, in combination with a toe and a heel part hinged together, a plate secured to one of said parts and extending a corner toward the other of said parts, a spring-impelled pin secured to the last-mentioned part and pressing against the edge of said plate, said corner and pin being constructed to offer yielding and increasing resistance in moving away from lengthened position.

2. In a last having a relatively movable toe and heel part, having oppositely-located kerfs in the adjacent faces, a plate rigidly secured in one of said kerfs and provided with a corner extending into the other of said kerfs, said plate being pivoted to the part of the last to which it is not rigidly secured, a spring-impelled pin located in a cavity adjoining the kerf in the last-named part and pressing against the edge of said plate, and said corner and pin being constructed for the pin to pass yieldingly with increasing resistance over said corner as the parts are moved away from collapsed position and from lengthened position.

3. In a last, having a heel part arranged to turn on a fore part, means for locking said parts in operative position, comprising two cooperating surfaces sliding on each other, one on each part, one of said surfaces having

an obtuse-angled projection extending rigidly from one of said last parts to engage with the other of said cooperating surfaces, said surfaces being constructed to offer increasing resistance in moving away from lengthened position, said heel part and said fore part being rigidly held thereby when in lengthened position.

4. In a last, having a heel part arranged to turn on a fore part, means for locking said parts in operative position, comprising an angular wedging-surface moving when one part moves, and a resisting-surface on the other part against which said angular surface bears, one of said surfaces sliding over the other as the parts are turned relatively to each other and constructed to offer increasing resistance in moving away from fully-turned position, said parts being rigidly held thereby when in fully-turned position.

5. In a last, having a heel part arranged to turn on a fore part, means for locking said parts in extended position and in collapsed position, comprising a wedging-surface moving rigidly with one part, and a resisting-surface on the other part, one surface having an obtuse-angled projection and engaging the other surface, said surfaces having a position of rest for automatically holding the last collapsed, and a position of rest for automatically holding the last lengthened, and constructed to offer decreasing resistance in moving from an intermediate position toward either collapsed or lengthened position, and increasing resistance in moving away from collapsed or lengthened position.

6. A transversely-divided last, having adjacent contacting faces, a union pivotally connecting the parts for movement into lengthened relation and into shortened relation, a projection on one end of the union extending out beyond the pivot-point, and a spring-actuated plunger positioned in the path of said projection tending to move in a direction outside the pivot-point, the arrangement of the plunger and projection relative to each other being such that the parts of the last are automatically and yieldingly locked in lengthened and in shortened relation.

In testimony whereof I sign this specification in the presence of two witnesses.

GEORGE A. KRENTLER

Witnesses:

CHARLES F. BURTON,
MAY E. KOTT.