

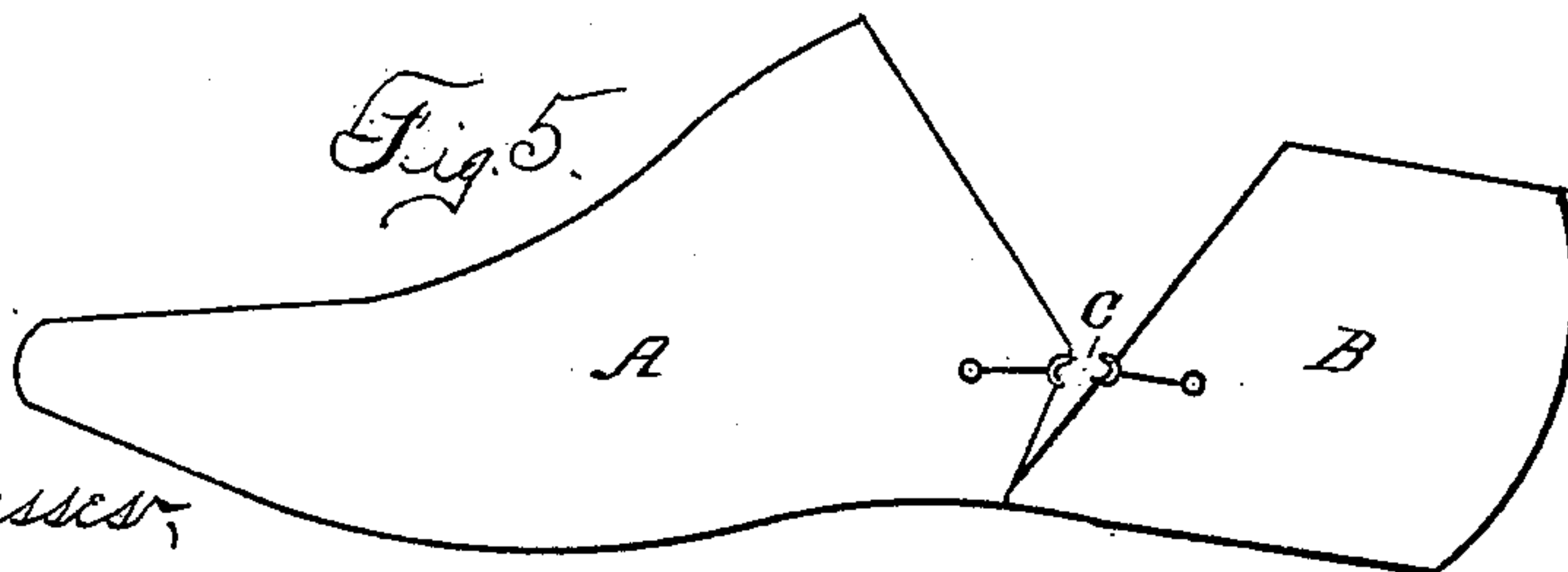
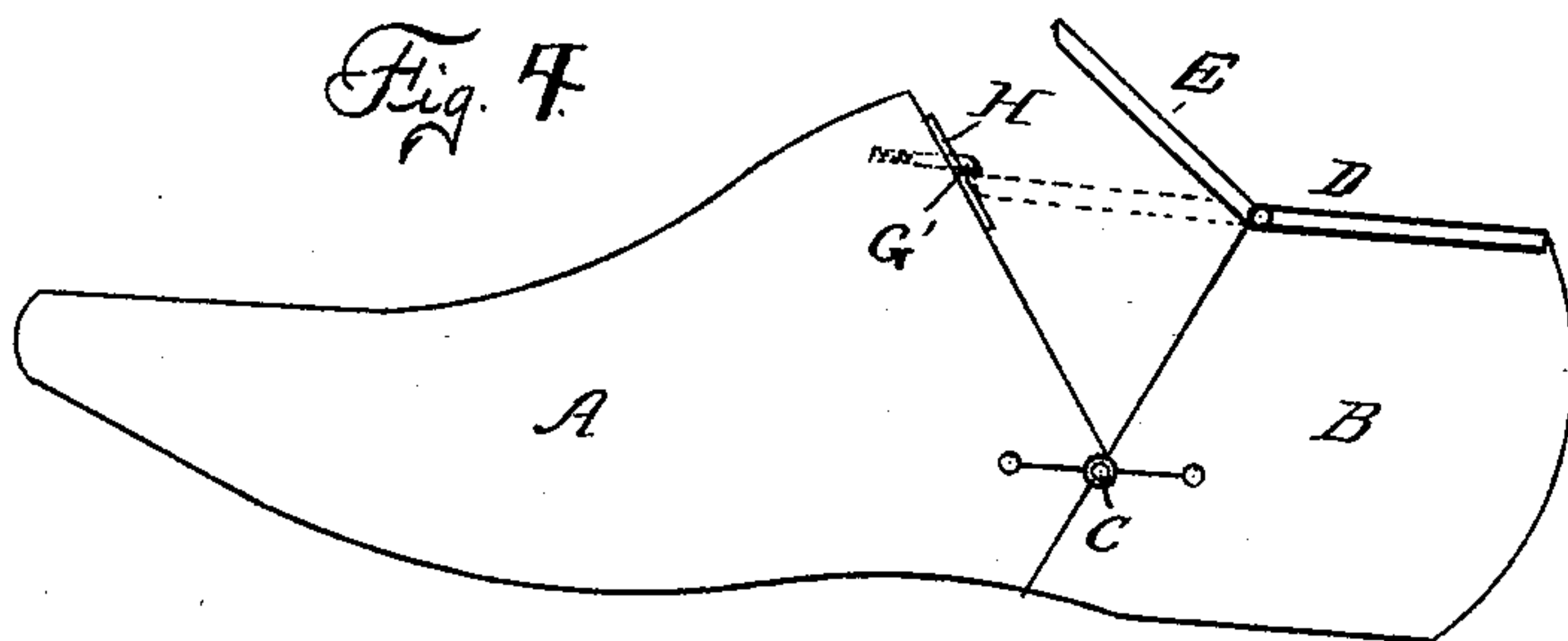
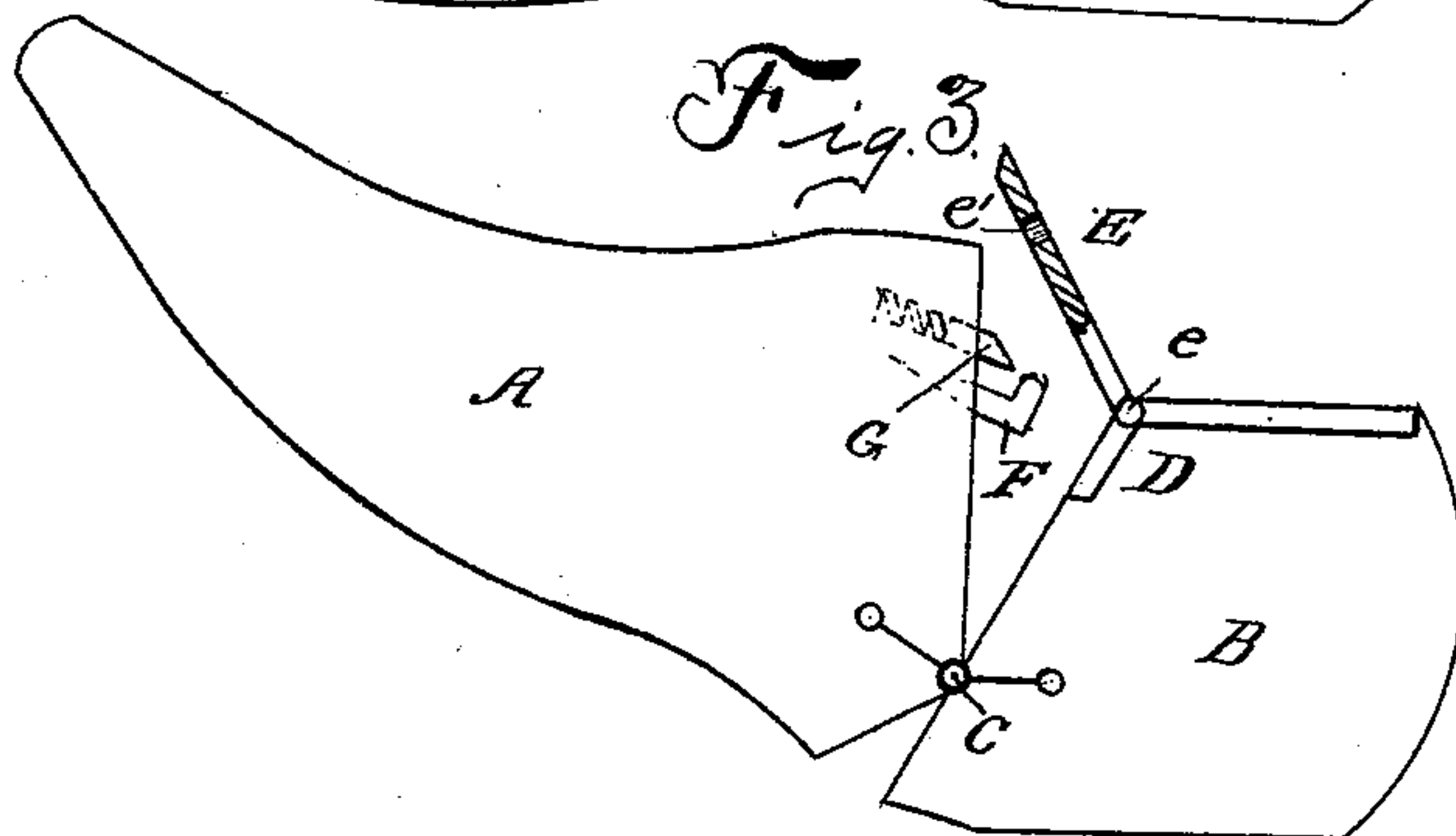
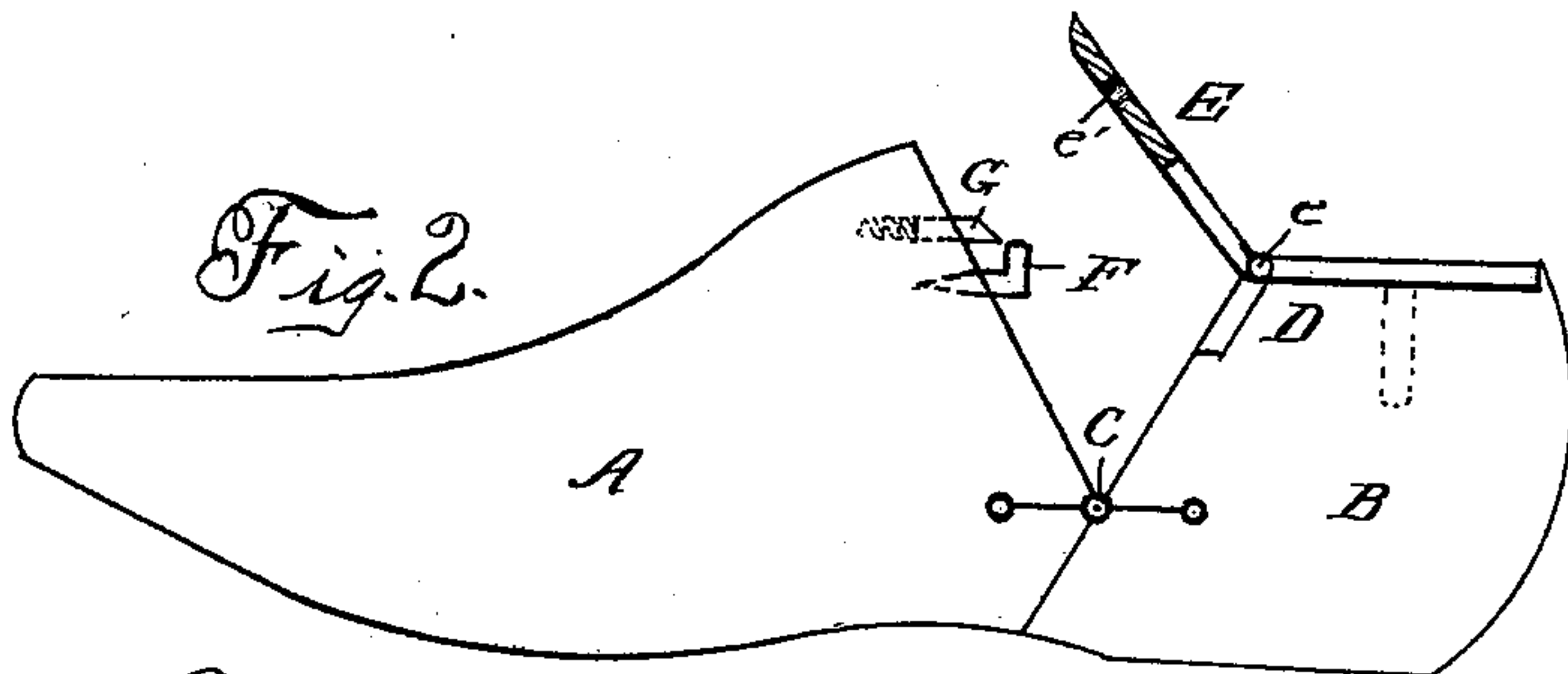
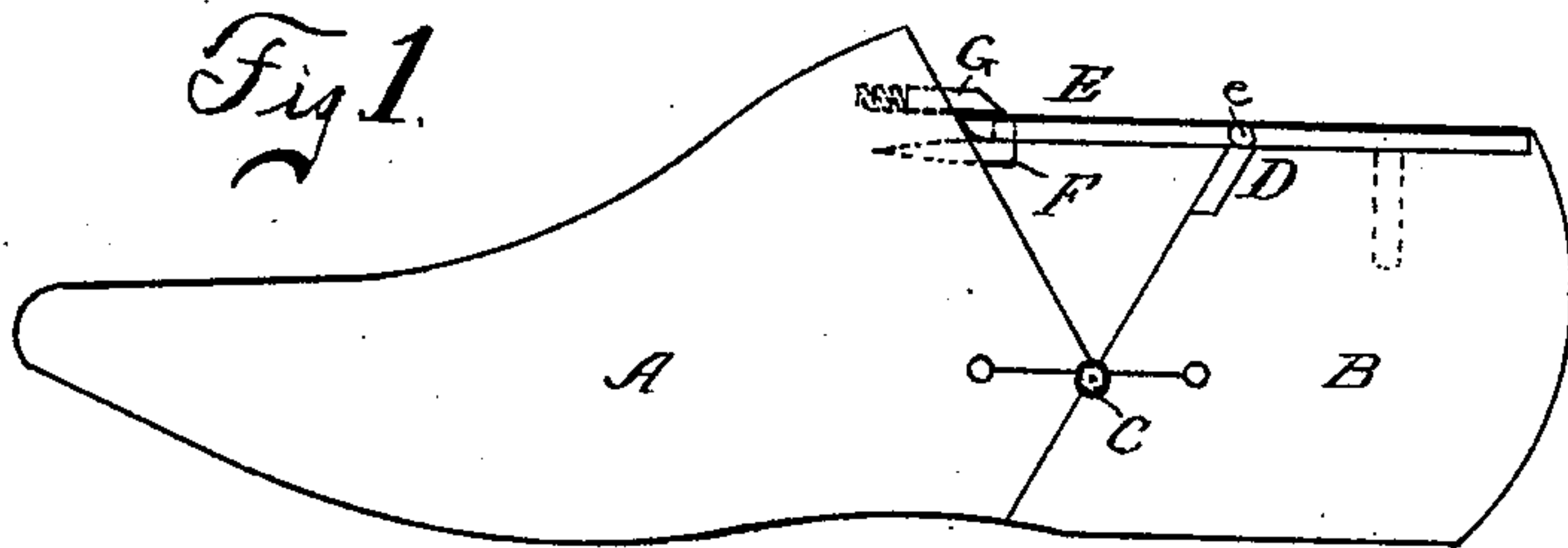
No. 636,055.

J. F. McLAUGHLIN.  
LAST.

Patented Oct. 31, 1899.

(Application filed Feb. 28, 1898.)

(No Model.)



Witnesses,  
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# UNITED STATES PATENT OFFICE.

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## LAST.

SPECIFICATION forming part of Letters Patent No. 636,055, dated October 31, 1899.

Application filed February 28, 1898. Serial No. 672,004. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN F. McLAUGHLIN, a citizen of the United States, residing at Portsmouth, in the county of Scioto and State of Ohio, have invented certain new and useful Improvements in Lasts, of which the following is a specification.

My invention has for its object to provide a two-part hinged last with improved means whereby the two parts may be locked or held rigidly in their operative or working positions and whereby the hinge which unites the two parts is largely relieved from strain and danger of becoming broken; and to this end it consists of the combination, with a two-part last, of a novel lock or brace, as will be hereinafter described.

In the drawings, wherein preferred forms of my invention are illustrated, Figure 1 is a side elevation of a last provided with one form of my improvements, the parts being shown in working or locked position. Fig. 2 is a similar view, the parts being unlocked. Fig. 3 shows the parts unlocked and bent or inclined from their working position, as when the last is being inserted into or withdrawn from a shoe. Fig. 4 is a side view of a last provided with a different form of my invention from that illustrated in the other views. Fig. 5 is a view of a common form of last broken at the hinge.

The last itself may be of any usual or approved form, having a fore part A and a heel part or section B, these two being united by a hinge C and so shaped that they may articulate to a limited extent, as will be apparent from a comparison of Figs. 1 and 3. As this style of last is well known and in common use, a further description of its construction and operation is thought to be unnecessary.

Heretofore various locking means have been devised for holding the parts of such a last rigidly in working position and preventing them from folding or bending toward each other while the last is in a shoe; but such older forms of locking devices have been complicated in structure or difficult of operation, and one of the objects of my invention is to provide a more simple and easily-operated lock than has heretofore been in vogue. A

difficulty often met with in the use of these two-part lasts is the breaking of the hinge by reason of the last bending, as indicated in Fig. 5; and another object of my invention is to guard against this danger and relieve the hinge of unnecessary and dangerous strains.

D represents a plate, preferably of metal, secured to the upper face of the heel part B of the last, and E a plate or bar hinged at the front edge of the plate D and adapted to span the open space above the hinge between the two parts of the last when in their working position and to engage with the fore part A.

The engagement of the end of the locking-bar E with the fore part of the last may be direct or with a rubbing-plate H, secured thereto, as represented in Fig. 4. In this form of my invention a spring-actuated latch G' is employed to hold the bar in position to lock the last, the upper face of the latch being by preference beveled to permit the bar to be easily forced past the catch into place to lock the last. I prefer, however, the form of my invention shown in Figs. 1 to 3, wherein the locking-bar instead of bearing with its end directly against the fore part of the last and having only a thrust engagement therewith is so connected as to have both a pull and thrust engagement therewith, to effect which the forward end of the bar is perforated at e' and adapted to engage with a hook or pin F, carried by the part A of the last. A spring-latch G, under which the end of the bar E is situated when in engagement with the hook, serves to lock or hold the bar in position spanning the space between the two parts of the last. By pressing upon the spring it can be forced out of the way of the bar, so that the latter may be disengaged from the hook.

It will be seen that the engagement of the bar E with the fore part A, either directly or through the hook, operates to hold the two parts of the last rigidly in their extended or working position, and the spring-catch operates to prevent accidental disengagement of the bar and a breaking of the lock which it effects.

The bar E serves not only to lock the last parts in their working position, but it also



operates as a link or tension-bar between the two parts to relieve the hinge C of strain and to prevent the parts from being moved into the position represented in Fig. 5 and a consequent breaking of the hinge. It will also be observed that the hook F serves as an abutment which positively supports the outer or free end of the bar E against movement in one direction, and that the spring catch or latch G is so positioned relative to the hook that the end of the bar is between them, and it operates to positively prevent the movement of the bar away from the said abutment or support formed by the hook until the latch is intentionally moved, the bar being thus held, when in its working position, positively against accidental movement in either direction.

While the parts which constitute my invention are exceedingly simple in construction and arrangement, they are efficient in operation and attain results not heretofore accomplished in two-part hinged lasts. The lock can be easily manipulated with one hand whether to cause engagement or disengagement of the bar E.

It will be understood that the position of the parts constituting my invention might be reversed and the principle thereof be still retained. Thus the bar E might be hinged to the fore part of the last and have a detachable engagement with the rear part; but I prefer the arrangement shown.

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

1. In a two-part hinged last a link or tension-bar connecting the two parts whereby the hinge is relieved of strains tending to break it, substantially as set forth.

2. The combination with a last formed of two parts hinged together and arranged to have an open space between them above the hinge when in working position, of a tension-bar or link spanning such open space and connecting the two parts of the last, substantially as set forth.

3. The combination with a two-part hinged last, of a bar hinged to one of the parts and a hook or pin with which the bar engages carried by the other part, substantially as set forth.

4. The combination with a two-part hinged last, of a bar E hinged to one part of the last, a hook F carried by the other part of the last, with which the bar is adapted to engage, and a spring-latch which operates to hold the bar in engagement with the hook, substantially as set forth.

5. The combination with a last formed of two parts hinged together and arranged to have an open space between them on one side of the hinge when in working position, of a locking-bar hinged to one of the parts of the last and arranged to span said open space to hold the parts in working position, an abutment carried by the other part of the last and adapted to support the outer or free end of the said bar from movement in one direction, and a spring-latch arranged adjacent to said abutment and adapted to positively prevent the movement of the bar in the opposite direction when it is in position supported by the said abutment, substantially as set forth.

JOHN F. McLAUGHLIN.

Witnesses:

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