

No. 745,407.

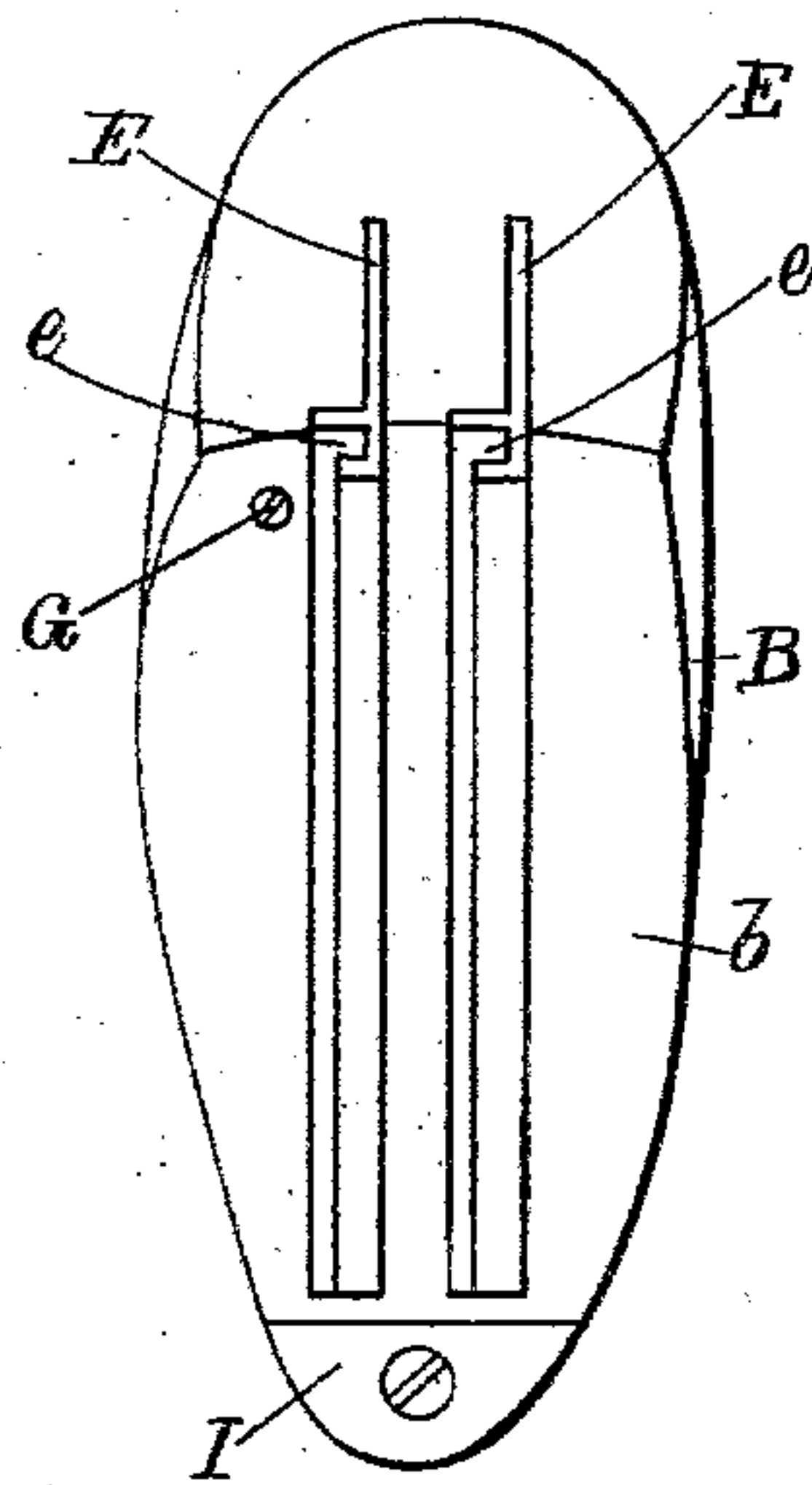
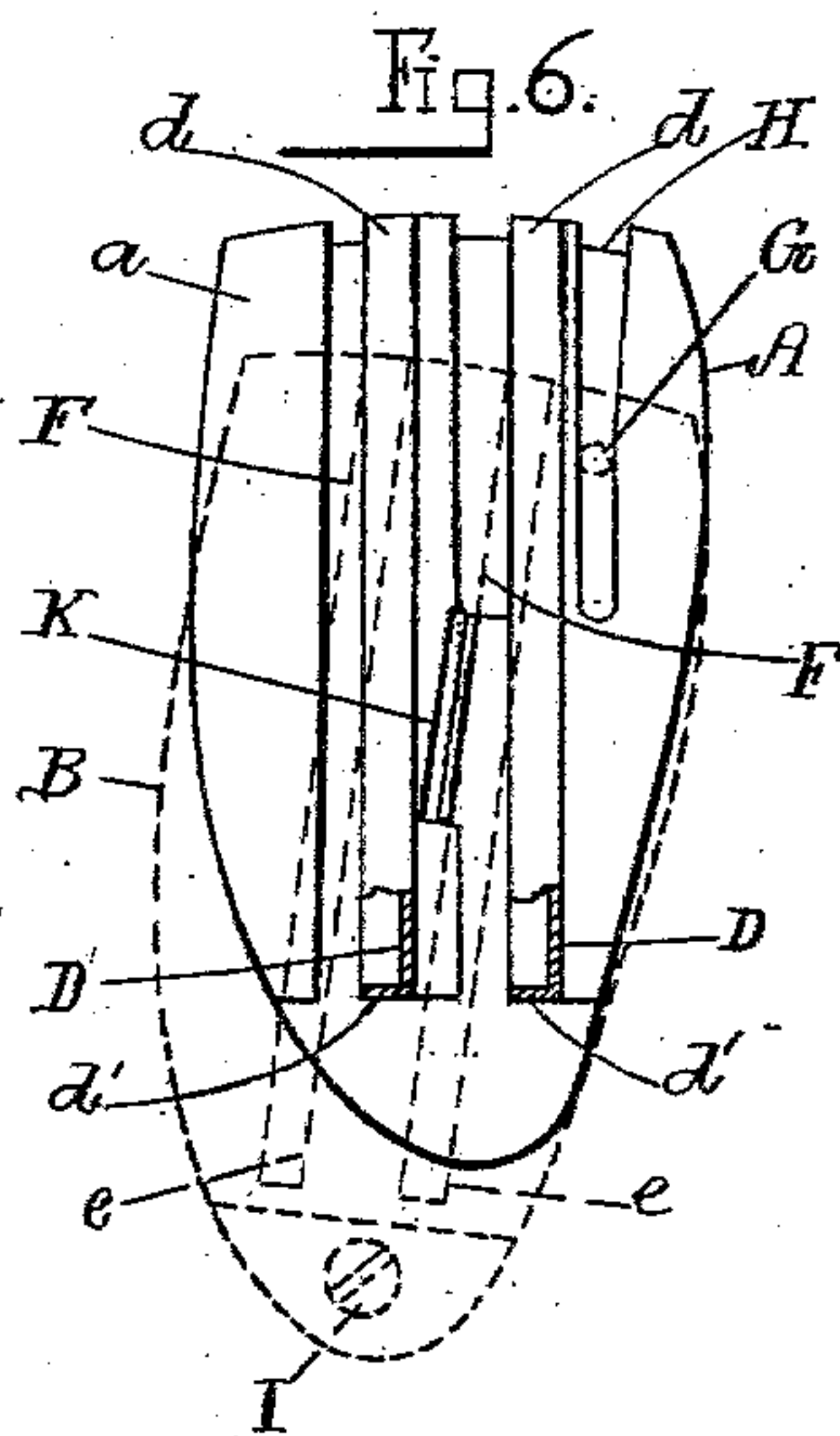
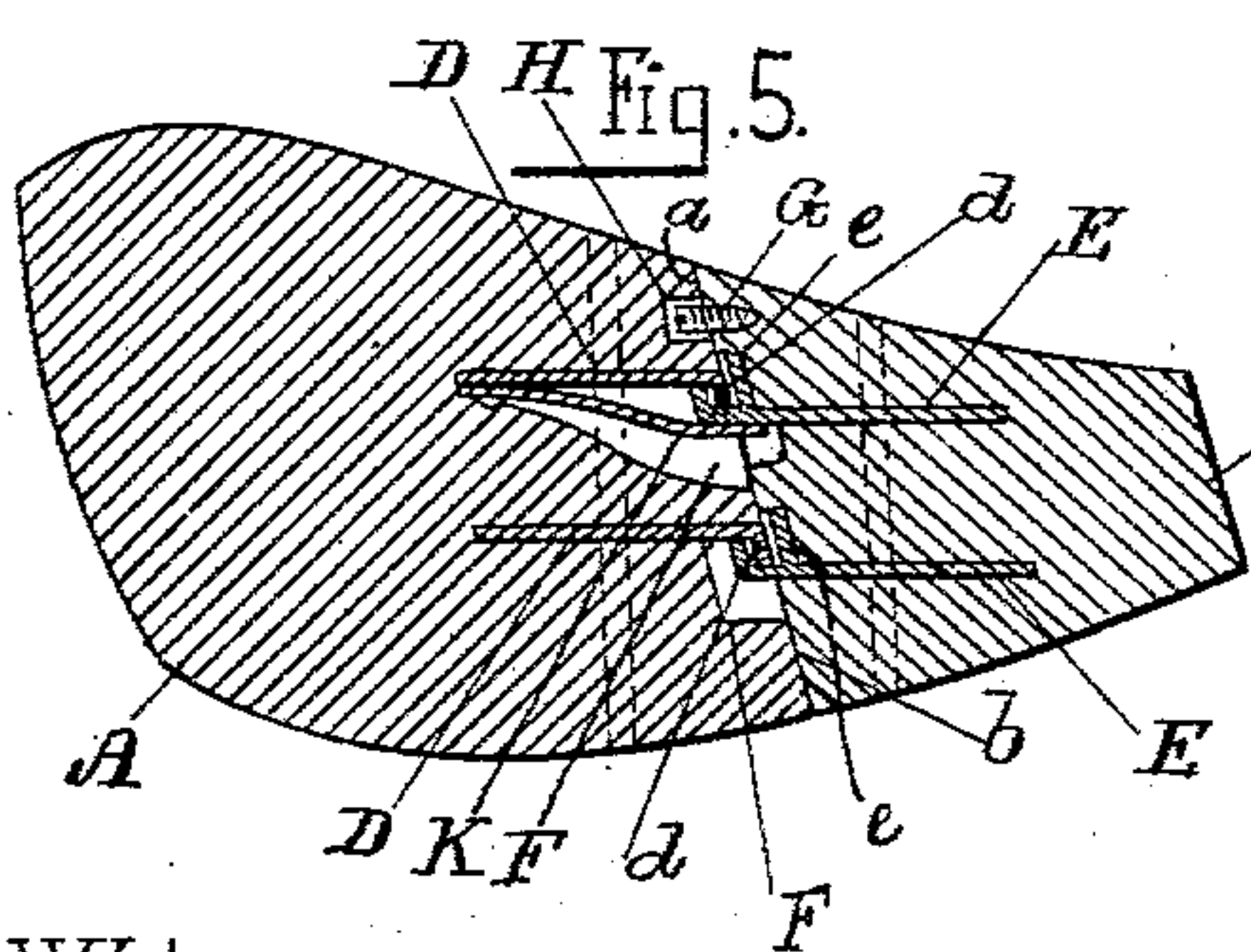
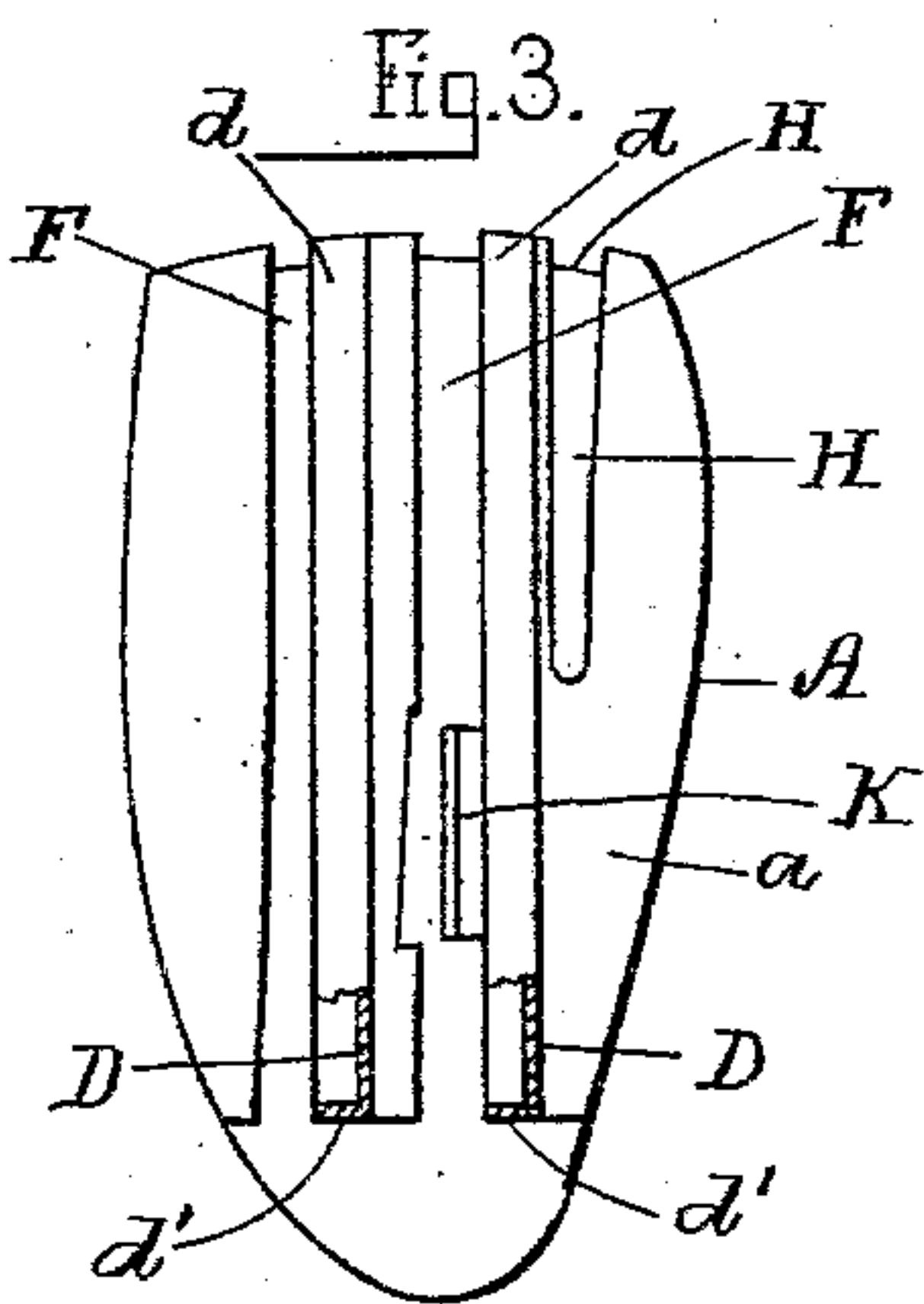
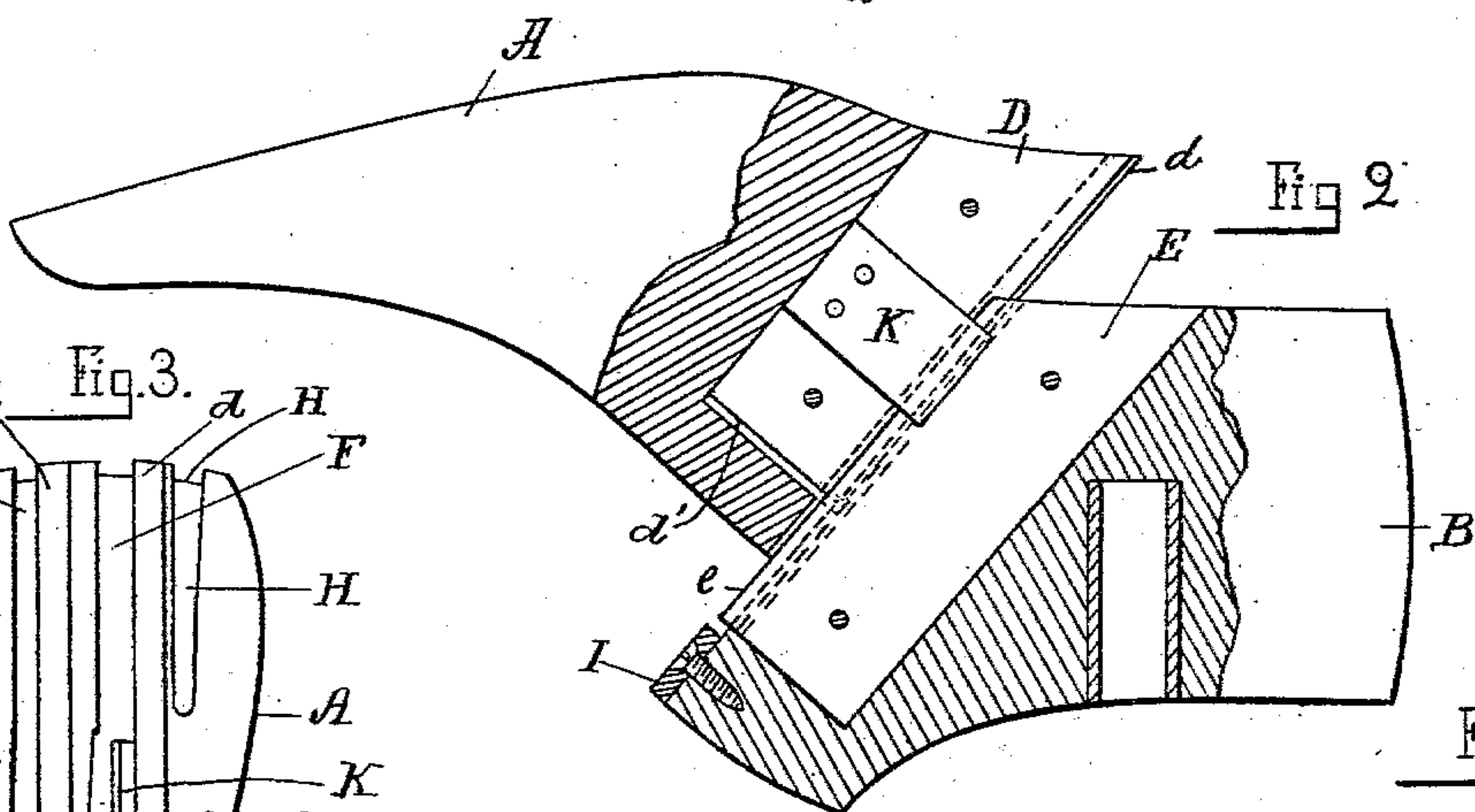
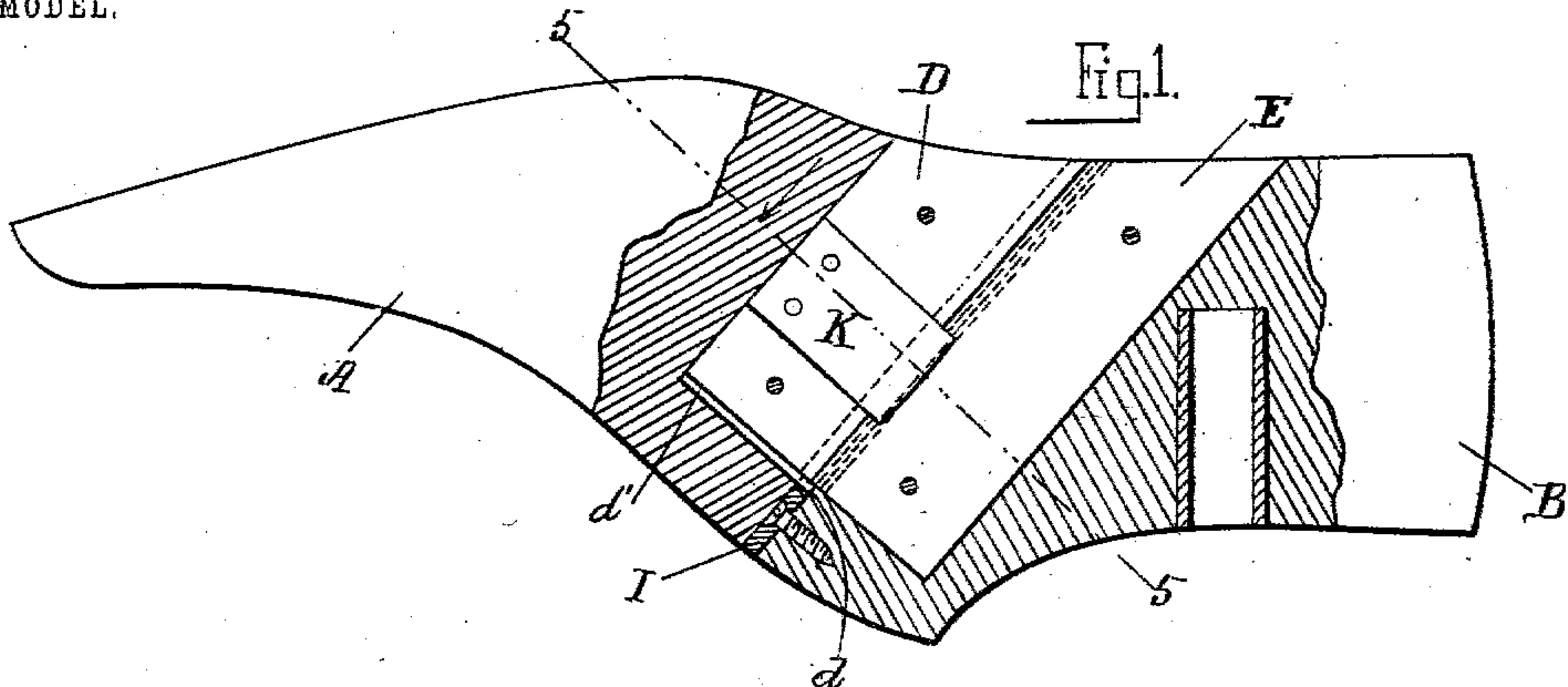
PATENTED DEC. 1, 1903.

J. D. WINCHESTER & C. W. GREENLAW.

LAST.

APPLICATION FILED MAY 27, 1903.

NO MODEL.



Witnesses

Lainette N. Moller
Mary C. Moller

Inventors.

James D. Winchester
and Charles W. Greenlaw.
by *Alban Judson* their atty.

UNITED STATES PATENT OFFICE.

JAMES D. WINCHESTER AND CHARLES W. GREENLAW, OF BEVERLY,
MASSACHUSETTS.

LAST.

SPECIFICATION forming part of Letters Patent No. 745,407, dated December 1, 1903.

Application filed May 27, 1903. Serial No. 158,994. (No model.)

To all whom it may concern:

Be it known that we, JAMES D. WINCHESTER and CHARLES W. GREENLAW, both citizens of the United States, and residents of Beverly, in the county of Essex and State of Massachusetts, have jointly invented certain new and useful Improvements in Lasts, of which the following is a specification.

This invention relates to improvements in transversely-divided lasts composed of two sections slidably and pivotally connected—namely, a fore-part section and a heel-section—one of which is movable on an inclined plane relative to the other, so as to cause the fore-part section when moved upwardly relative to the heel-part section to shorten the last, and thus enable the boot or shoe to be readily removed from the last while on the jack-spindle.

The invention has for its object to provide a last of this class in which the sections shall be permanently connected in such a manner that the movement of one section relative to the other shall be limited in both directions, thus preventing separation of the two sections; and the invention has also for its object to provide it with a locking device for holding the last distended within the shoe in its normal position and means for releasing such locking device preparatory to shortening the last, as will hereinafter be more fully shown and described, reference being had to the accompanying drawings, wherein—

Figure 1 is a partial side elevation and longitudinal section of the improved last, showing the parts in their normal distended and locked positions. Fig. 2 is a similar view showing the last-sections contracted. Fig. 3 is a rear elevation of the fore-part section. Fig. 4 is a front view of the heel-section. Fig. 5 is a cross-section on the line 5 5 shown in Fig. 1; and Fig. 6 is a rear elevation of the fore-part section, showing in dotted lines the heel-section, one of the said sections being shown as swung sidewise relative to the other section during the adjustment of the two sections.

Similar letters refer to similar parts wherever they occur on the different parts of the drawings.

In the drawings, A represents the fore-part

section, having an inclined rear face or end *a*. B represents the heel-section, having a corresponding inclined front face or end *b*, as is common in divided lasts of this kind. For slidably connecting the two sections we secure in a suitable manner to the fore-part section A, at or near its inclined face *a* preferably, a pair of parallel plates D D, having angular lips or side projections *d d* approximately in a line with the inclined face of the fore-part section A, as shown. Said lips *d d* are slidably connected to correspondingly-shaped parallel grooved guide-ribs *e e* in the outer ends of the plates E E, secured in a suitable manner to the face end *b* of the heel-section B, as shown.

By reference to Fig. 5 it will be seen that the lips *d d* on the plates D D of the fore-part section are received and guided in the grooved ribs *e e* on the plates E E of the heel-section, so as to hold said sections connected together, while at the same time they are capable of adjustment one relative to the other during the expansion and contraction of the two sections comprising the last.

On the left-hand side of each of the lips *d d* is a longitudinal groove F in the face of the fore-part section adapted to freely receive the grooved ribs *e e* on the heel-section when the fore and heel parts are adjustably connected, as shown.

To the face *b* of the heel-section B is secured a pivot pin or projection G, adapted to be guided in a groove H, made in the face *a* of the fore-part section A, as shown in Figs. 3, 4, and 6. Said pin and groove serve to limit the upward motion of the fore-part section relative to the heel-section while the last is contracted and also enable the fore-part section to be swung sidewise on said pin while adjusting the relative positions of the sections. For limiting the motion of the fore part relative to the heel part in an opposite direction—namely, to the distended position shown in Fig. 1—we prefer to provide the lower face end of the heel part with a projection I adapted to come in contact with the lower ends of the lips *d d* on the fore-part section A when the sections are held interlocked in their normal positions, as represented in said Fig. 1.

In a recess in the fore-part section is secured a suitable spring K, the free end of which bears against one side of the grooved rib *e* and serves to hold the lips *d d* on the fore-part section properly within the grooved ribs *ee* on the heel-section, as shown in Fig. 5.

The lower end of each plate D is provided with a lateral stop-wall or limit projection *d'*, which serves to prevent the fore-part section A from being moved upward relative to the heel part as long as the lower end of the grooved ribs *e e* are held by the spring K against such stop projection *d' d'* when the last is in its distended position, as shown in Fig. 1.

To enable the fore-part section to be released and moved upward relative to the heel-section, it is only necessary to twist or turn the fore-part section a little to one side on the pivot G against the influence of the spring K, as shown in Fig. 6, until the lower ends of the grooved ribs *e e* are swung free of the stop projections *d' d'* on the ribs *d d*, when the fore-part section may be readily moved upward to the position shown in Fig. 2, causing the sections of the last to be shortened.

To distend the last after being contracted, it is only necessary to slide the fore-part section downward relative to the heel-section from the position shown in Fig. 2 to the position shown in Fig. 1, when the lips *d d* on the fore-part section are brought to a stop against the projection I on the lower end of the heel-section at the same time as the lower ends of the grooved ribs *e e* on the heel-section are automatically forced by the spring K into interlocking positions with the ribs *d d* on the fore-part section, in which position of the parts the projections *d' d'* on the fore-part section serve to prevent the fore-part section from being moved upward relative to the heel-section until the fore-part section is swung to one side relative to the heel-section, when the parts may again be contracted, and so on during the operation of the last. During the release movement of the fore-part section relative to the heel-section the pin G on the heel-section projecting into the groove H on the fore-part section serves as a fulcrum on which the fore part is swung against the influence of the spring K for the purpose of

releasing the grooved ribs *e e* from the stop projections *d' d'* on the fore-part section.

Having thus fully described the nature, construction, and operation of our invention, we wish to secure by Letters Patent and claim—

1. A transversely-divided last, comprising a fore-part section A, and a heel-section B, slidably connected said sections having interlocking guide-ribs *d, d, e, e*, a yielding spring K, attached to one of the sections for holding said guide-ribs yieldingly connected, a stop projection I, on the heel-section and stop projections *d', d'*, on one of the sections adapted to interlock with the ribs on the opposite section when the last is extended, substantially as and for the purpose set forth.

2. A transversely-divided last, comprising a fore-part section A, and a heel-section B, pivotally and slidably connected and having interlocking guide-ribs, a yielding spring interposed between said sections, means for limiting the movements of the sections, and a locking device for normally securing the sections together, substantially as specified.

3. A transversely-divided last, comprising a fore-part section and a heel-section, pivotally and slidably connected, said sections having interlocking guide-ribs, a spring for yieldingly holding said ribs connected, means for limiting the sliding movements of said sections and means for interlocking and securing said sections together when expanded substantially as and for the purpose set forth.

4. A transversely-divided last, comprising a pair of slidably-connected parts, pivotally connected, whereby one of the sections may be swung laterally relative to the other section, on such pivotal connection, preparatory to contracting the sections, means for limiting the sliding movements of the sections and a locking device for normally securing the sections together when expanded, substantially as set forth.

In testimony whereof we have affixed our signatures in presence of two witnesses.

JAMES D. WINCHESTER.
CHARLES W. GREENLAW.

Witnesses:

ALBAN ANDRÉN,
SAMUEL P. WHITE.