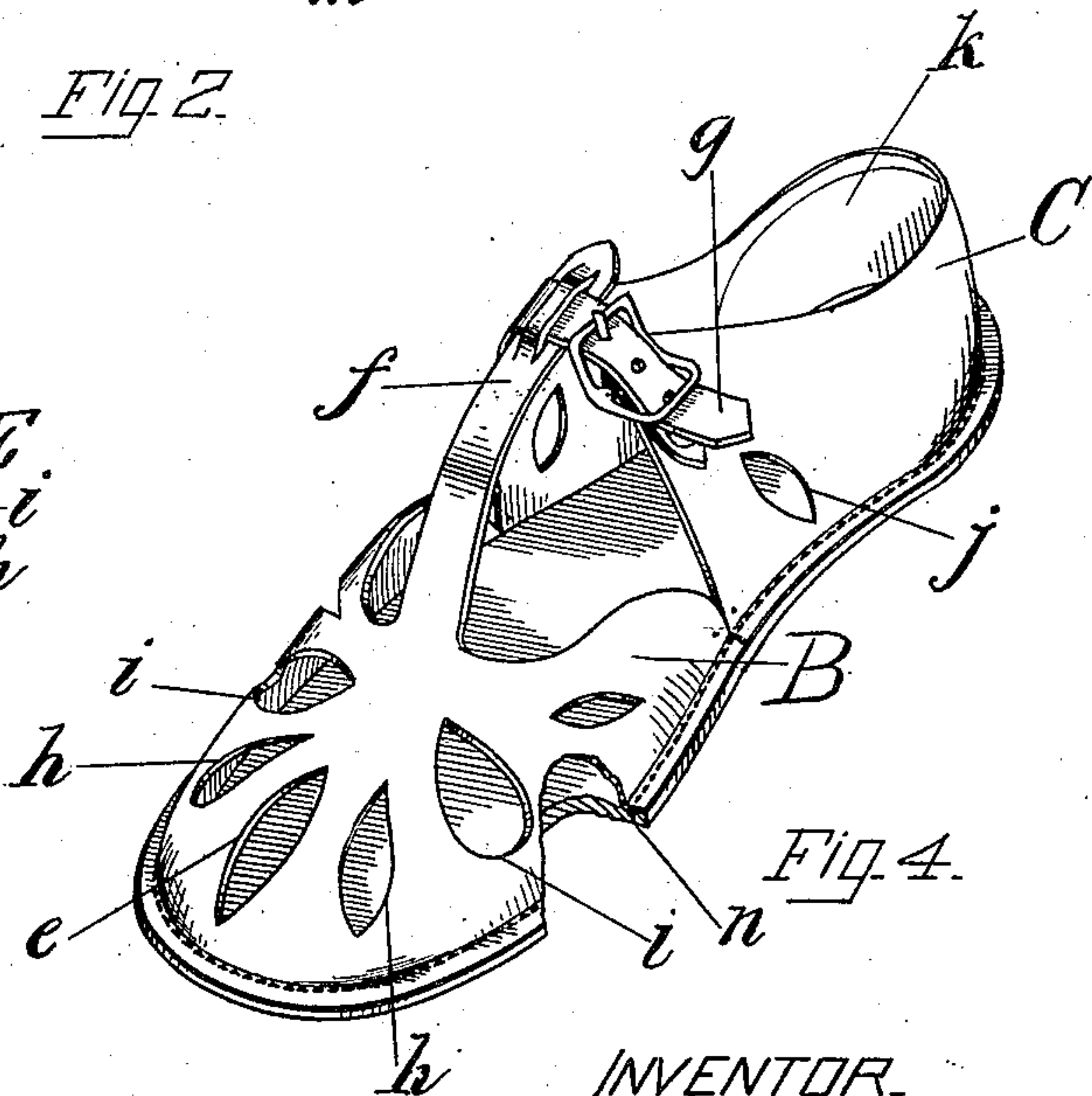
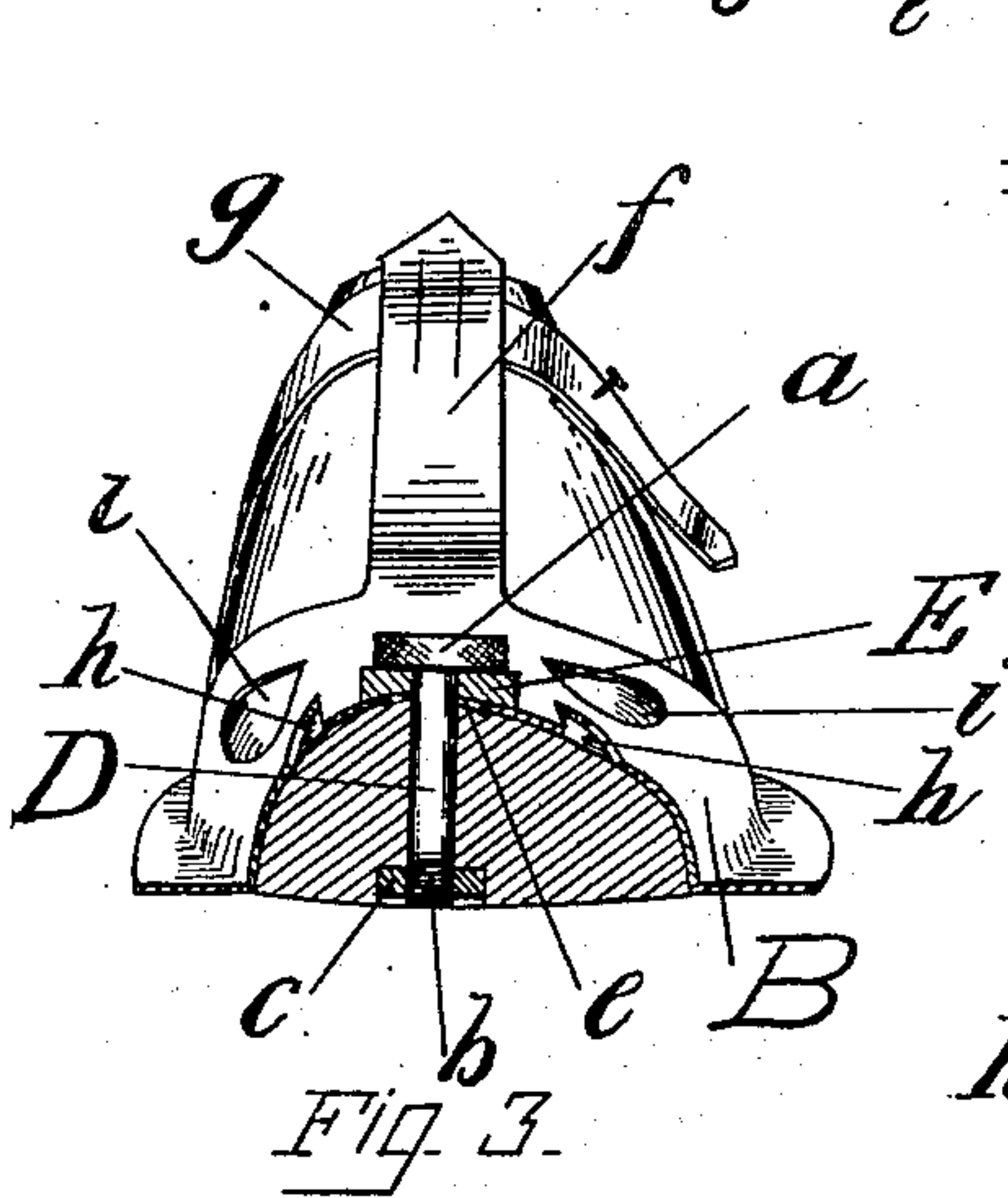
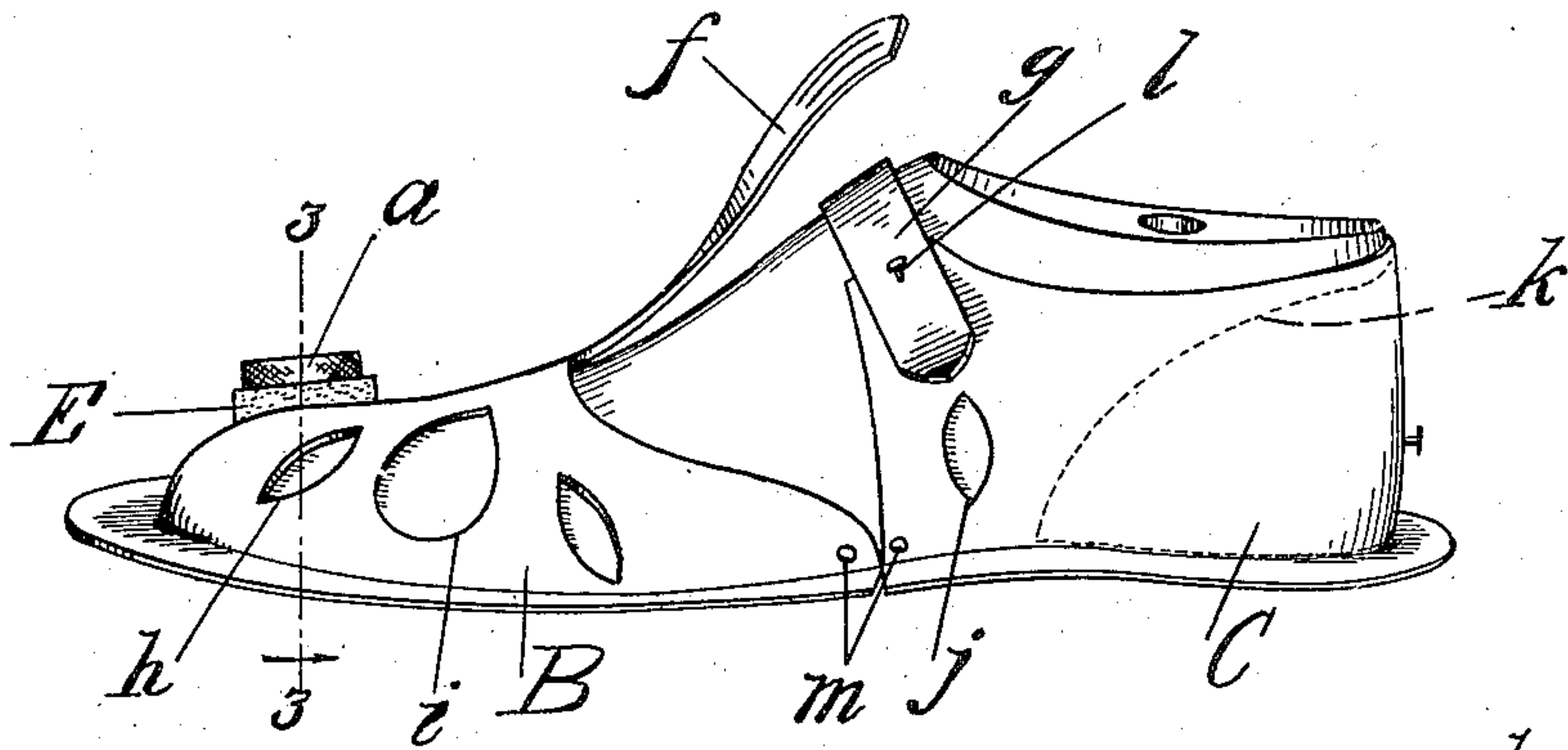
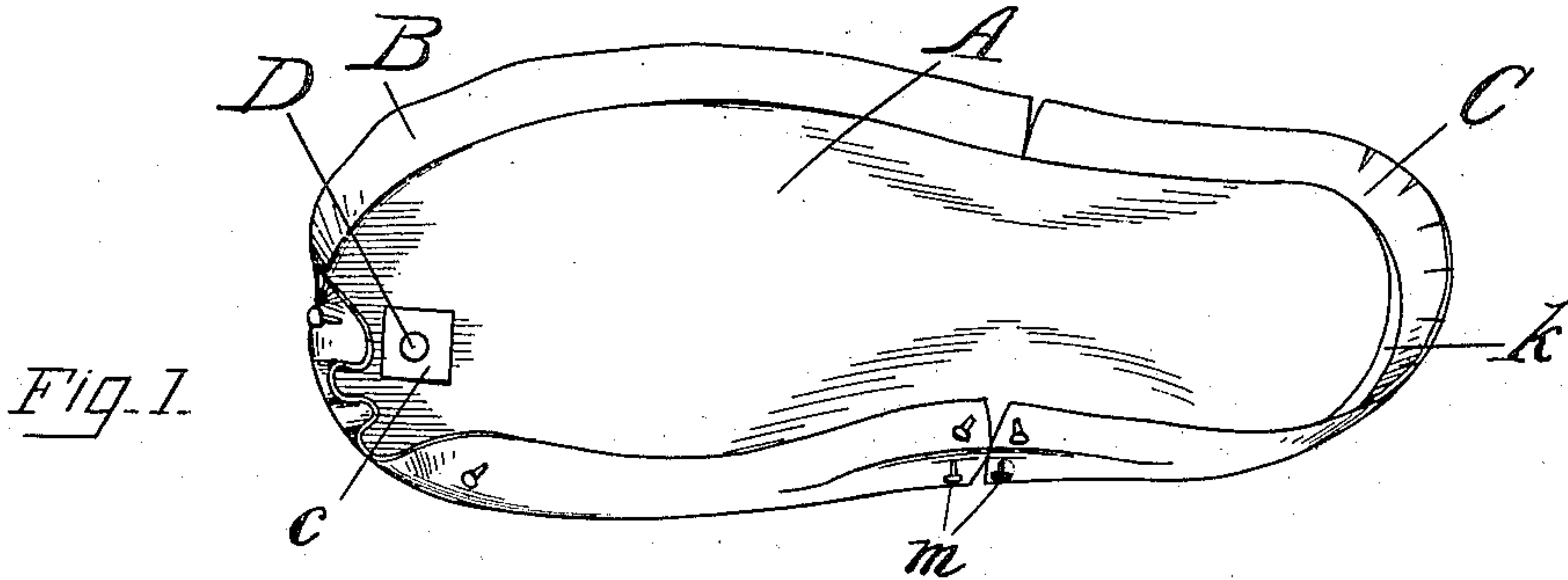


S. A. BAKER.
METHOD OF MAKING SHOES.
APPLICATION FILED FEB. 3, 1906.

914,377.

Patented Mar. 9, 1909.



WITNESSES.

Bertha L. Hannah
Lawrence C. Janney.

INVENTOR.

Sanford A. Baker
By his Attorney,
Nelson W. Howard

UNITED STATES PATENT OFFICE.

SANFORD A. BAKER, OF ROCHESTER, NEW YORK, ASSIGNOR TO UNITED SHOE MACHINERY COMPANY, OF PATERSON, NEW JERSEY, A CORPORATION OF NEW JERSEY.

METHOD OF MAKING SHOES.

No. 914,377.

Specification of Letters Patent.

Patented March 9, 1909.

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To all whom it may concern:

Be it known that I, SANFORD A. BAKER, a citizen of the United States, residing at Rochester, in the county of Monroe and State of New York, have invented certain Improvements in Methods of Making Shoes, of which the following description, in connection with the accompanying drawings, is a specification, like reference characters on the drawings indicating like parts in the several figures.

This invention relates to a method of making shoes, and pertains more particularly to the manner of treating an upper preparatory to the sole-attaching operation.

Prior to this invention, it has been a common practice to shape or stretch a shoe upper over a last, and to secure it in position by applying fastening means near the bottom of the last on its lateral surface. For example, one method which has been hitherto proposed contemplates stretching the upper over the last and driving tacks through the upper into the lateral surface of the last near its bottom edge, the tacks being distributed at intervals along the lower portion of the forepart of the vamp, and near the bottom of the shank-portions of the upper. The tacks so arranged may serve to determine a line on which the extreme edge of the upper, projecting beyond said tacks, might be turned for attachment to a sole, as for example in making a stitch-down shoe (*i. e.* a shoe in which the edge of the upper is turned outwardly to form a substantially horizontal strip which serves as a medium for attaching the shoe sole). The employment of tacks and similar fasteners in the forepart of a vamp is disadvantageous since they frequently perforate the vamp in conspicuous places, and are also likely to leave disfiguring stains in light or tan-colored leathers. The shank-portions of the upper, which immediately overlie the shank of the shoe on opposite sides, are less conspicuous than the forepart of a vamp, and consequently the same objection cannot be urged so strongly against the insertion of tacks through said shank-portions. This is also true of the extreme rear of the heel-portion of an upper.

This invention, in part, is designed to avoid blemishing conspicuous parts of a

shoe upper; and to this end an important feature of the invention consists in a method of securing an upper on a last which is characterized by pressing a portion of a shoe upper against a last at a point remote from the bottom of the last without blemishing said portion of the upper, and, further securing the upper by passing a fastening through a normal aperture in the upper.

If tacks or similar fasteners are distributed around the lateral surface of a last near its bottom edge to secure an upper in place, they are likely, unless previously withdrawn, to interfere with the sole-attaching operation, as by obstructing the action of the needle when a sole is being stitched to the upper; and consequently it is the usual custom to draw such tacks before a sole is attached. Thereupon the upper is left comparatively loose without adequate provision for centering it on the last. An object of this invention is to avoid this looseness of the upper on the last and at the same time to provide a method of holding the upper in place so as not to interfere with the sole-attaching operation.

At some parts of an upper it may be important to secure the upper in place by applying a fastener near the bottom of the last; for example, the concavity on one side of the shank-portion of a last may demand that the adjacent portion of the upper be secured thereto near the bottom of the last in order to preserve a concave form of the upper in this vicinity; but a fastener at this portion alone would not suffice to insure proper centering of the upper on the last. A more specific feature of the invention, therefore, consists in a method of securing an upper on a last which is characterized by pressing the upper against the last at a point remote from the bottom of the last, and fastening a shank-portion of the upper to the lateral surface of the last near its bottom edge.

It is preferable that a method embodying certain features of this invention be practiced in connection with fastening means which are attached, or are capable of attachment, to a last, so that said fastening means and last, collectively, shall constitute a substantially unitary contrivance which may be conveniently handled. To the end that the

fastening means may be conveniently attached to the last at a point near where it is intended to press the upper (thereby securing a more positive and effective pressure) and to the end that the fastening means may act on the upper without blemishing it, the present improved method contemplates projecting a portion of the fastening means through a normal aperture of the upper, such, for example, as a vamp-aperture in an open-work barefoot-sandal. A feature of this invention consists, therefore, in a method of holding an upper on a last which is characterized by projecting fastening means through a normal aperture in the upper and pressing a portion of said fastening means on the upper to hold it against the last. The expression "normal aperture" is used to designate an opening in a shoe upper which serves purposes of utility or ornamentation which are distinct from the mere purpose of providing for the reception of fastening means. A vamp-aperture in a barefoot-sandal, and the opening between the flaps of a shoe-fly, are illustrations of normal apertures.

An arrangement of fasteners disposed around the lateral surface of a last near its bottom edge was to a certain extent advantageous (especially in making stitch-down shoes), since the tacks served to determine a line on which the edge of the upper might be turned.

This invention, besides obviating the disadvantages of employing blemishing fasteners, also supplies a superior method of determining the turning line of the edge of the upper.

In this connection the invention comprises a method of making shoes wherein an upper is centered on a last by pressing the former against the latter at a point remote from the bottom of the last; and the edge of the upper which projects beyond the bottom of the last is beaten out in a plane which is substantially flush with the bottom of the last. In the usual performance of this method care is taken that the upper be subjected to the beating operation only on that part of its edge which projects beyond the line of the bottom edge of the last, the beating in this manner serving to turn the edge of the upper along a line which is more effectively defined and more readily altered in the event of an error, than in the case of an edge which is determined by fasteners positioned proximate to the bottom edge of the last.

Other features of the invention will be described hereinafter and will be defined in the claims.

In the accompanying drawings, Figure 1 is a bottom view of a last showing the edge of an upper for a stitch-down shoe partly lasted and partly beaten out; Fig. 2 is a side elevation of the upper of a stitch-down bare-

foot-sandal, said upper being secured on a last in condition for the sole-attaching operation; Fig. 3 is a section on the line 3—3 of Fig. 2; Fig. 4 is a perspective of a finished stitch-down barefoot-sandal, having a part broken away to show a manner of attaching a sole.

The accompanying drawings show a last A, a vamp B and a heel-portion C. The principal fastening means, (constituting a preferred agency through which certain features of this invention may be practiced) comprise a screw D having a milled head *a*, and a threaded shank *b* which is arranged to engage with a nut *c* non-rotatably secured in a recess in the last. As shown in Fig. 3 the shank of said screw passes through a vamp-aperture *e* and screws into the nut *c* so that the head *a* may act to press the upper against the last adjacent to the aperture *e*. Preferably a cushion or washer E, having a relatively soft or yielding lower surface, is interposed between the head *a* and the adjacent portion of the upper as precaution against mutilating the upper. The vamp B has an integral tongue *f*. The heel-portion C has a strap *g* conveniently integral with one side of the heel-portion, which is arranged to pass over the instep of the wearer's foot and to be secured by means of a buckle or the like to the opposite side of the heel-portion (see Fig. 4). It is convenient to have the strap *g* pass through parallel slots near the top of the tongue *f* whereby the shoe may be securely and comfortably fastened upon the foot. The vamp is preferably formed with apertures *e*, *h*, *h*, and *i* *i* and the heel-portion may have one or more apertures *j* (see Fig. 4). A barefoot sandal is not intended to fit the foot closely but is preferred to be loose and give the foot considerable freedom; consequently it is permissible, in order to provide against the destructive wear to which such a shoe is subjected, to make the upper of comparatively thick and heavy leather, though this is by no means essential.

A preferred method constituting a single embodiment of this invention will be described herein, for purposes of illustration, as practiced in making a stitch-down open-work barefoot sandal from the materials and using the devices already specifically referred to. The first step of this preferred method consists in cutting out or otherwise forming a vamp B and a heel-portion C. If desired a counter *k* may be stitched to the heel-portion (see Figs. 1, 2 and 4). In order to soften the leather and render it pliable (when heavy leather is used) it is preferably soaked or otherwise moistened. Thereupon the vamp and heel-portion, which may be termed collectively the upper, are assembled on the last. The vamp is preliminarily secured in place by means of a screw

D. The heel-portion may be fastened to the last by means of a tack *l* passing through the strap *g* and an underlying part of the heel-portion, and by a tack driven through the extreme rear of the heel-portion (see Fig. 2). With the upper thus positioned upon the last the operation of lasting or shaping the upper on the last is begun. It will be noted in this connection, that the invention contemplates pressing a portion of the upper against a last at a point remote from the bottom of the last (as for example by using the screw D) and lasting the upper over the last.

The lasting of the upper may be effected in any practicable manner. For example, the bottom edge of the upper may be drawn or stretched over the bottom of the last either by machine or hand pincers, and when properly positioned it may be temporarily secured in place by driving lasting tacks through the edge of the upper into the bottom of the last as illustrated in Fig. 1. It is also desirable to fasten the shank portions of the upper as by inserting tacks *m* (see Figs. 1 and 2).

When it is desired to make a stitch-down shoe from an upper lasted as just described, it is convenient to withdraw the lasting tacks a few at a time in order to free successive portions of the edge of the upper for the edge-turning operation, which is preferably performed by beating out the edge of the upper (as by using a welt-beating machine) in a plane substantially flush with the bottom of the last. Fig. 2 shows an upper on a last with the edge turned out in this manner. Thereafter the under face of said out-turned edge may be coated with cement, if desired, and a sole may be attached thereto by stitching through the edge of the upper and the edge portion of the sole as shown at *n* Fig. 4.

In the above detailed description, in connection with the accompanying drawings, it will be noted that this method is preferably practiced by projecting fastening means (exemplified by the screw D) through a normal aperture of the upper. The screw D passes through the normal vamp-aperture *e*, and the head *a* of the screw acts upon a cushion E which overlies adjacent portions of the upper surrounding the aperture *e*. Thus, when the head *a* is caused to press the cushion against the upper, the pressure is exerted in the direction of maximum effectiveness. The action of the screw-threads (exemplifying provision for causing the head *a* to perform its office) is particularly effective since it tends to draw the screw downward parallel to the direction in which the pressure on the upper is most advantageously applied, thereby obviating any material angular or torsional reaction on the screw which would impair its effectiveness.

While certain features of this invention are capable of use in various connections, it is to be understood that the invention relates primarily to a method of holding an upper on a last during the "lasting" of the upper (*i. e.* shaping the upper to the last) preparatory to the subsequent sole-attaching operation.

Having now described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:—

1. The method of lasting an upper having a normal aperture which consists in shaping the upper over the last and then securing the upper to the last by so passing a fastening through the normal aperture in the upper that a portion of the fastening bears upon the surface of the upper adjacent to the aperture.

2. The method of making a shoe having a normal aperture in its upper which consists in lasting the upper by shaping it over a last, attaching it to the last by passing a fastening through the normal aperture in such manner that a portion of the fastening bears upon the surface of the upper adjacent to the aperture and then stitching a sole to the upper while it is still upon the last.

3. The method of preparing an upper to receive a sole which consists in lasting the upper by shaping it over a last, attaching it to the last by passing a fastening through a normal aperture in the upper in such manner that a portion of the fastening bears upon the surface of the upper adjacent to the aperture and then turning out the portions of the upper projecting beyond the bottom of the last.

4. The method of making a shoe having a normal aperture in its upper which consists in centering the upper on a last by pressing the former against the latter at a point remote from the bottom of the last, passing a fastening through a normal aperture of the upper remote from the bottom of the last, turning out the edge of the upper which projects beyond the bottom of the last and then stitching a sole to the out-turned edge of the upper.

5. The method of lasting a shoe for free manual manipulation of the lasted shoe during the succeeding sole-attaching operation, which consists in pressing upon the corresponding part of the last a portion of the upper which is approximately opposite to the bottom of the last and in which there is a normal aperture, passing a fastening through said normal aperture to confine the upper upon the last, and then attaching a shank portion of the upper to its corresponding part of the last.

6. The method of making shoes which consists in centering an upper on a last by pressing the former against the latter at a

point remote from the bottom of the last; passing a fastening through a normal aperture of the upper remote from the bottom of the last, and beating the edge of the upper, which projects beyond the bottom of the last, in a plane which is substantially flush with the bottom of the last.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

SANFORD A. BAKER.

Witnesses:

THOMAS PIERCE,

FRED A. COLLINS.