

C. FUNK.
 BOOT AND LIKE STRETCHER.
 APPLICATION FILED JUNE 26, 1911.

1,032,597.

Patented July 16, 1912.

Fig. 1.

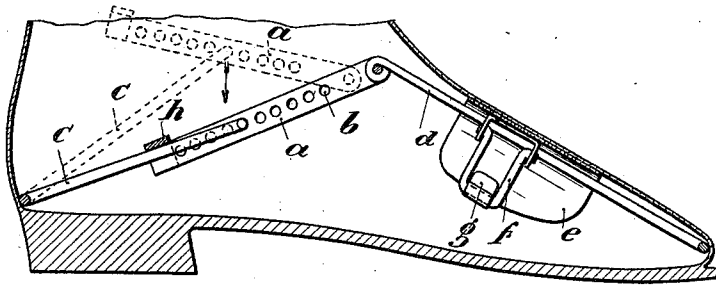


Fig. 2.

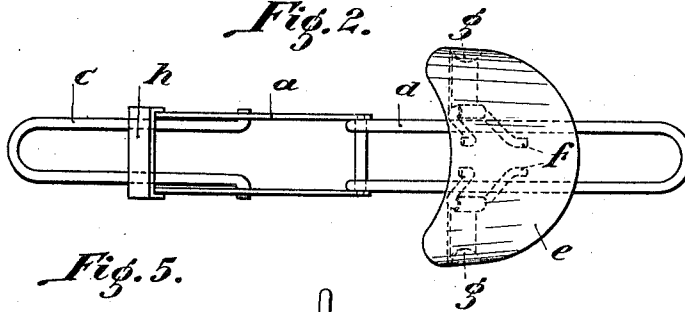


Fig. 5.

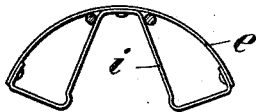


Fig. 3.

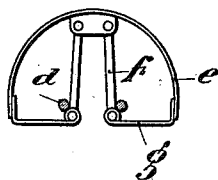
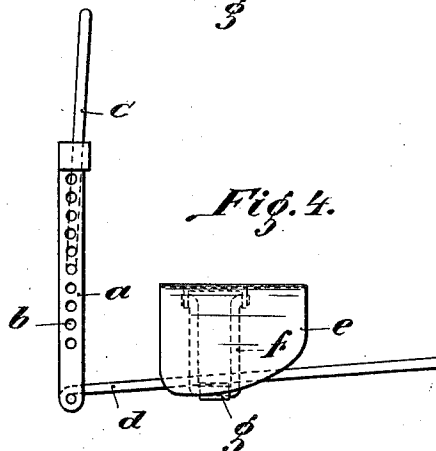


Fig. 4.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHRISTIAN FUNK, OF HEIDELBERG, GERMANY.

BOOT AND LIKE STRETCHER.

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To all whom it may concern:

Be it known that I, CHRISTIAN FUNK, a subject of the Emperor of Germany, and a resident of Heidelberg, Germany, have invented certain Improvements in Boot and Like Stretchers, of which the following is a specification.

The present invention relates to a device of the adjustable toggle mechanism type for stretching and forming boots and the like, and consists in the construction and combination of parts as hereinafter described and claimed, the object of the invention being to produce a stretcher which is simple and effective and which can be used indiscriminately for either the right or left part of a pair of foot-wear.

In the accompanying drawings the invention is illustrated, Figure 1 representing a sectional view of the stretcher as applied to the boot, Fig. 2, a plan of the stretcher, Fig. 3, a cross-sectional view, and Fig. 4, a side view of the same. Fig. 5 is a cross-sectional view of a modified construction.

The device consists of an elongate frame *a* having in its longitudinal members a plurality of apertures *b* to receive, in known manner, the ends of a spring-acting shackle *c*, the apertures allowing the shackle to be set in various positions on the frame. To one end of the frame *a* a narrow shackle *d* formed, like the shackle *c*, of a wire bent in U-shape is hingedly and permanently connected. The arms of the latter shackle are passed through loops formed of a resilient plate *e*, brackets *g* connected to the ends thereof, and links *f* hinged to said brackets and to brackets mounted in the center of the plate. The arrangement is such that, when the arms of the shackle contact with the plate *e*, the latter forms a wide curve and holds the links *f* in an outwardly diverging position. When the arms of the shackle are pressed downward on the links into the position shown in Fig. 3, the lower ends of the links are caused to approach so that the curve of the plate is narrowed. In this position of the elements the apparatus is introduced into the boot, the outer end of the shackle *d* being placed in the toe part of the boot and the outer end of the shackle *c* in the corner formed by the insole and the counter, as shown in Fig. 1. Before the stretching takes place the parts *a* and *c* have the position shown dotted in Fig. 1. To stretch the boot, the frame *a* is turned

down with its cross-piece *h* against the shackle *c* so as to take the position shown in full in Fig. 1, the ends of the shackles being thereby forced against the extremities of the boot. The plate *e* is simultaneously pressed against the upper and forced by the same against the shackle *d* which then allows the plate to expand and to maintain the upper in its proper shape.

It is evident that the stretching effect of the device can be regulated by connecting the shackle *c* to the frame *a* in different positions.

A particular feature of the arrangement is that the abutments for the device are formed on the one hand by the lower part of the counter and on the other hand by the toe and by the upper so that the degrees at which the boot is stretched in these three places are proportional and inter-dependent.

Fig. 5 shows a different construction of the elements attached to the plate *e*, the brackets *g* and the links *f* being here substituted by a blade spring *i* which is suitably bent and firmly connected to the plate. The arms of the shackle *d* act on said blade spring in the same manner as on the previously described links. It is advisable to make a depression on the blade spring, as shown in the figure, to retain the arms of the shackle in the clamping position. Such depressions may, of course, also be made on the links *f*.

I claim:—

1. A boot and like stretcher, of the character described, comprising an elongate frame, a narrow toe-shackle formed of a wire bent in V-shape hinged to one end of said frame, and a similarly shaped heel shackle hinged to the middle portion thereof so that, when the frame is turned down on the heel-shackle, the latter is pressed against the counter and the toe shackle against the toe and in an upward direction against the upper, substantially as set forth.

2. A boot and like stretcher, of the character described, comprising an elongate frame, a narrow toe-shackle formed of a wire bent in U-shape hinged to one end thereof, a similarly shaped heel-shackle hingedly and adjustably held in the sides of the frame, a resilient plate on the toe-shackle for stretching the upper, and means for compressing the plate while the stretcher is being introduced into the boot,

the arrangement being such that, while the heel-shackle bears against the counter and the free end of the toe-shackle against the toe, said plate is forced in upward direction against the upper, substantially as set forth.

3. A boot and like stretcher, of the character described, comprising a resilient plate, links hinged to the center portion of said plate and to brackets on the end of the same, the plate forming normally a wide diverging position, a toe-shackle having its arms disposed between the links and the plate, the arrangement being such that the shackle allows the plate to expand when in

contact therewith and causes the ends of the plate to approach when slid down along the links, an elongate frame hinged with one end to one end of the shackle, and a heel-shackle hingedly and adjustably connected to the sides of said frame so that the latter shackle can be pressed against the counter, the end of the toe-shackle against the toe, and the resilient plate in expanded position against the upper, by turning the frame down on the heel-shackle, substantially as set forth.

CHRISTIAN FUNK.

Witnesses:

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Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."