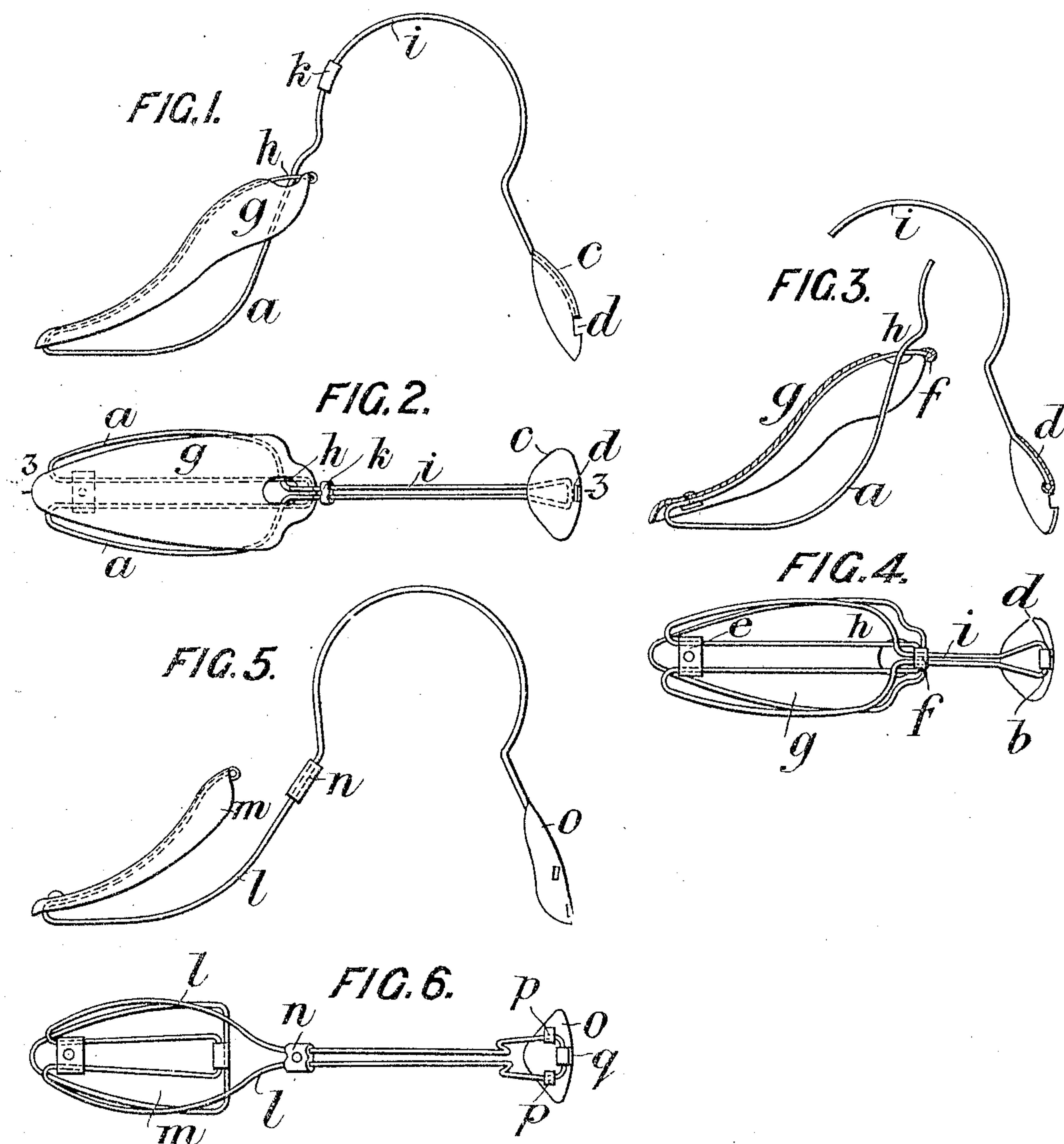


No. 872,013.

PATENTED NOV. 26, 1907.

A. H. POWIS.  
BOOT AND SHOE TREE OR EXPANDER.  
APPLICATION FILED MAR. 18, 1907.



Inventor.

Witnesses.

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# UNITED STATES PATENT OFFICE.

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## BOOT AND SHOE TREE OR EXPANDER.

No. 872,013.

Specification of Letters Patent.

Patented Nov. 26, 1907.

Application filed March 18, 1907. Serial No. 363,434.

*To all whom it may concern:*

Be it known that I, ARTHUR HERBERT POWIS, a subject of the King of Great Britain, residing at Vine Cottage, Slindon, near Arundel, in the county of Sussex, England, have invented new and useful Improvements in Boot and Shoe Trees or Expanders, of which the following is a specification.

This invention relates to a new or improved boot and shoe tree or expander of the type in which a toe piece or vamp part is elastically connected to the heel piece by means of a wire spring loop or handle.

According to this invention the toe or vamp piece of the tree or expander made of thin metal, wood or other material is shaped so as to fit the vamp or front part of the boot or shoe as is usual in many of the known constructions of trees so that air may have access to the interior of the boot and particularly to the insole or sock. The heel piece is similarly made and shaped to fit the inside of the heel part of the boot or shoe and both parts are connected by means of a spring which is made of strong wire, the said spring being rigidly attached to at or near the end of the toe piece in such manner as to fit within the boot near the welt on each side (to conform to the shape of the sole of the foot) and therefore to maintain the shape of the boot laterally as well as longitudinally until it reaches or approaches the waist of the boot whereupon the two portions of the wire are bent upwards until at or near the top of the upper of the boot, then curved so as to form a loop and finally downwards towards the heel where they are connected to the heel piece, to which they may either be rigidly attached or hinged.

If desired the two parts of the wire shaped to the conformation of the sole of the foot may where they rise pass through a slot or slots in the upper end of the vamp piece, but it has been found that if the spring be strong enough the relative positions of the vamp piece and the parts of the wire shaped to the contour of the front part of the foot may be maintained without the two parts of the wire being so guided. The loop formed by the wire where it passes out and back into the boot is of convenience for hanging up or carrying the boots and the spring acting from the heel on to the toe and sole of the boot presses up the vamp of the boot and expands it into its proper position.

Figure 1 of the accompanying drawings is an elevation of a boot tree constructed according to this invention. Fig. 2 is a plan thereof. Fig. 3 is a sectional elevation on the line 3-3 Fig. 2 and Fig. 4 is an inverted plan. Fig. 5 is an elevation of a modification and Fig. 6 is an inverted plan thereof.

Referring to Figs. 1, 2, 3 and 4 it will be seen that the spring is formed of one piece *a* of steel wire bent to the shape of the sole of the foot beginning and ending in the clip *b* formed by the part punched out of the heel piece *c* and leaving the hole *d*. The wire spring *a* is attached by clips *e* at the toe and the clip *f* at the other end to the vamp piece *g*. The two parts of the wire after leaving the toe end of the vamp piece assume the shape of the sole and taking an upward turn pass through a hole *h* in the upper end of the vamp piece *g*. The parts of the wire then turn round in the form of a loop *i* which projects beyond the top of the boot or shoe so as to form a convenient handle for carrying the boot and also as a means whereby they may be hung up and allow the sole and uppers of the boot to dry if wet. This part of the wire forming the spring loop *i* may conveniently be fastened together by a clip *k* to keep the parts in their proper relative positions or there may be more than one of these clips. The wire parts are then bent downwards and are hinged to the heel piece *c* as aforesaid.

The construction shown in Figs. 5 and 6 is very similar except that the wire parts *l* shaped according to the contour of the sole pass upwards outside of the vamp piece *m*. Similarly to the previous construction the parts of the spring are connected together by a clip *n* are then bent in the form of a loop whence they pass down to the heel piece *o* and are connected thereto by clips *p* *p* and *q* formed of metal punched out of the said heel piece.

What I claim as my invention and desire to secure by Letters Patent is:—

1. In a boot tree or expander, the combination with a vamp piece and a heel piece of a spring connecting the vamp piece and the heel piece and bent laterally from the toe towards the rear to the shape or contour of the sole substantially as set forth.

2. In a boot tree or expander, the combination with a vamp piece and a heel piece of a spring made in the form of an upward and downward bent loop connecting the vamp



piece and the heel piece and bent laterally from the toe towards the rear to the shape or contour of the sole substantially as set forth.

3. In a boot tree or expander, the combination with a vamp piece, a hole in said vamp piece near the upper and rear end thereof and a heel piece of a spring passing through the hole in the said vamp piece and connecting the latter and the heel piece, the said spring being bent from the toe towards the rear to the shape or contour of the sole substantially as set forth.

4. In a boot tree or expander, the combination with a vamp piece and a heel piece of a wire spring connected to said vamp piece and bent from the toe thereof on each side of the center of the sole laterally towards the rear to the shape or contour of the sole and connected to the heel piece substantially as set forth.

5. In a boot tree or expander, the combination with a vamp piece having an opening at the rear or upper end thereof and a heel piece, of a bent wire spring connecting said

vamp piece and heel piece, said wire spring proceeding from the toe towards the rear on each side of the sole, being bent upward and passing through said opening and bent downwards towards the heel piece substantially as set forth.

6. A boot tree or expander comprising a vamp piece, a wire spring connected to vamp piece at the upper or rear end of said vamp piece, said spring passing down towards the toe of said vamp piece and branched rearwardly on each side of the center of the sole, bent upward and downward to form a loop intermediate of the said vamp and a heel piece, the said heel piece and means for connecting the rear end of said wire spring to the heel piece substantially as set forth.

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

ARTHUR HERBERT POWIS.

Witnesses:

ALFRED NUTTING,  
PERCY PHILLIPPS.