L. CERF.

HEEL FASTENER.

APPLICATION FILED MAY 8, 1920.

1,375,671. **Patented Apr. 26, 1921.**

Fig. 1.

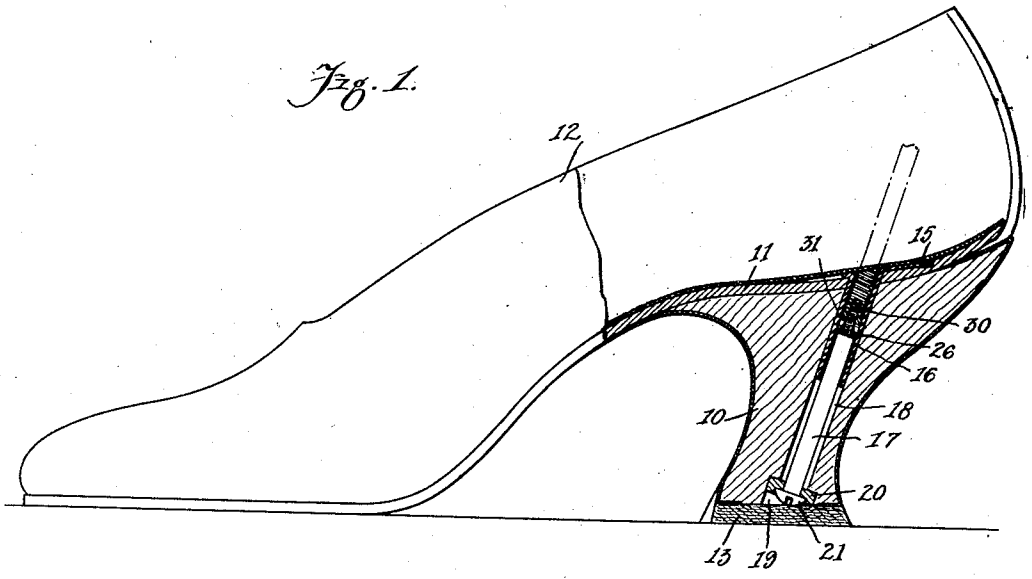


Fig. 2.

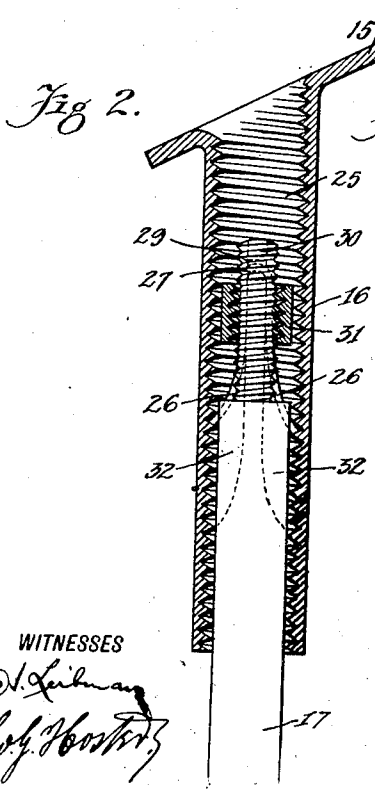


Fig. 4.

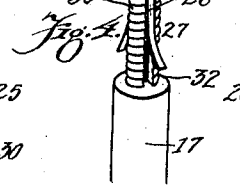


Fig. 3.

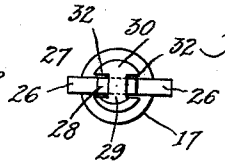


Fig. 6.

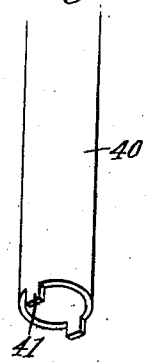


Fig. 5.



WITNESSES

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HEEL-FASTENER.

1,375,671. Specification of Letters Patent. Patented Apr. 26, 1921.

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To all whom it may concern:

Be it known that I, LESTER CERF, a citizen of the United States, and a resident of the city of New York, borough of Brooklyn, in the county of Kings and State of New York, have invented a new and Improved Heel-Fastener, of which the following is a full, clear, and exact description.

The invention relates to boots, shoes, slippers and similar footwear, and its object is to provide a new and improved heel fastener, arranged to permit the manufacturer or repairer to quickly and securely fasten a heel to footwear or to quickly and conveniently remove a defective heel and replace it by another.

Another object is to provide a heel fastener which is very simple and durable in construction and cheap to manufacture.

With these and other objects in view, the invention consists of certain novel features of construction as hereinafter shown and described and then specifically pointed out in the claims.

A practical embodiment of the invention is represented in the accompanying drawings forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the views.

Figure 1 is a sectional side elevation of the improved heel fastener as applied, to secure a high heel on a woman's slipper;

Fig. 2 is an enlarged sectional side elevation of a portion of the heel fastener;

Fig. 3 is a plan view of the bolt;

Fig. 4 is a perspective view of the upper end of the pin and the spring carried thereby;

Fig. 5 is a similar view of the nut; and

Fig. 6 is a similar view of the tool for turning the nut.

The improved heel fastener serves to fasten the heel 10 to the sole 11 of a boot, shoe or slipper or other footwear 12, the heel being preferably of wood with a lift 13 at the lower end. The heel fastener in its general construction consists of a heel plate 15 adapted to rest on top of the sole 11, and from the said heel plate 15 depends a tubular socket 16 adapted to be fastened to a pin 17, the socket 16 extending through the sole 11 into the upper portion of a bore 18 formed in the shoe heel 10 and the pin 17 extending into the bore 18 from the lower end of the said bore 18. The bore 18 is preferably provided at the lower end with an enlarged portion 19 into which fits a washer 20 engaged at the under side by the head 21 of the pin 17 to limit the upward movement of the pin 17 in the bore 18 of the heel 10.

In order to fasten the pin 17 to the socket 16 and thus hold the heel 10 in place on the sole 11, the following arrangement is made: The socket 16 is provided with an interior screw thread 25 adapted to be engaged by the free lower ends of the side arms 26 of an approximately U-shaped spring 27 having its bend 28 extending through a transverse opening 29 formed in the upper reduced portion 30 of the pin 17. On pushing the pin 17 upward in the bore 18 the upper portion of the pin passes into the socket 16 and the free ends of the side arms 26 of the spring 27 engage the thread 25 of the socket and thus hold the pin 17 against downward movement, and the socket 16 and its heel plate 15 against upward movement, at the same time the heel 10 is securely fastened in position on the sole 11, as will be readily understood by reference to Fig. 1. It is understood that in fastening the heel 10 in place on the sole 11 it is only necessary to strike the head 21 of the pin 17 with a hammer or other tool to engage the spring with the thread 25 as far up in the socket 16 as possible, thus locking the pin 17 in place on the socket 16.

In order to disassemble the parts, the user or other person could turn the pin 17 with a screw driver to unscrew the free ends of the side arms 26 from the thread 25 but this operation requires considerable time and in order to permit of quickly disassembling parts the following arrangement is made: The upper reduced portion 30 of the pin 17 is threaded and on it screws a nut 31 adapted to engage the side arms 26 and press the same inward toward each other thus disengaging the free ends of the said arms 26 from the interior thread 25 and thereby unlocking the pin 17 from the socket 16. The pin 17 and the socket 16 can now be readily withdrawn from the bore 18 of the heel 10. In order to accommodate the side arms 26 in their inward movement the upper portion of the pin 17 is provided on opposite sides with lengthwise extending grooves 32 into which the said side arms 26 fold when pressed inward by the nut 31 on screwing the latter downward on the threaded portion 30 of the pin 17. The opening 29 engaged by the

bend 28 of the spring 27 opens into the grooves, as indicated in Figs. 2 and 3, to allow convenient folding of the side arms throughout their lengths into the grooves 32.

In order to permit convenient screwing down or up of the nut 31 on the threaded portion 30 of the pin 17, use is preferably made of a tubular wrench 40 provided at the lower end with lugs 41 adapted to engage a slot 42 formed in the top of the nut 31. The wrench 40 can be readily passed into the socket 16 from the top of the heel plate 15 to fit onto the upper end of the threaded reduced portion 30 of the pin 17 to engage the nut 31 for turning the latter in either direction to screw either downward on the threaded portion 30 for retracting the side arms 26 relative to the thread 25 or to screw upward and releasing the side arms 26 for the latter to engage the thread 25, as above explained.

From the foregoing it will be seen that the heel 10 can be quickly and securely fastened in position on the sole 11 or removed therefrom whenever it is desired to do so.

Having thus described my invention, I claim as new and desire to secure by Letters Patent:—

1. A heel fastener comprising a heel plate provided with a tubular socket having an internal screw thread, the said heel plate being adapted to rest on the sole of the footwear and the said socket being adapted to pass into the upper portion of a bore in the heel, a pin constructed and arranged to pass into the said heel bore from the lower end thereof, and a spring held on the upper end of the pin and adapted to engage the interior thread of the socket to fasten the pin and socket together.

2. A heel fastener, comprising a heel plate provided with a tubular socket having an internal screw thread, the said heel plate being adapted to rest on the sole of the footwear and the said socket being adapted to pass into the upper portion of a bore in the heel, a pin constructed and arranged to pass into the said heel bore from the lower end thereof, a spring held on the upper end of the pin and adapted to engage the interior thread of the socket to fasten the pin and socket together, and means on the upper threaded end of the said pin and adapted to engage the said spring to move the latter out of engagement with the thread of the socket to allow of separating the socket and pin.

3. A heel fastener, comprising a heel plate provided with a tubular socket having an internal screw thread, the said heel plate being adapted to rest on the sole of the footwear and the said socket being adapted to pass into the upper portion of a bore in the heel, a pin constructed and arranged to pass into the said heel bore from the lower end thereof, the pin having an upper reduced threaded portion provided with slots and with an opening connecting the slots with each other, a U-shaped spring having a bend and side arms, the bend engaging the said opening, and the side arms being adapted to fold into the said slots, the free ends of the said side arms normally engaging the said socket thread to fasten the pin and socket together, and a nut screwing on the said threaded upper portion of the pin to move the side arms of the spring out of engagement with the socket thread and to fold the side arms into the said grooves to disconnect the spring and socket.

LESTER CERF.