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UNITED STATES PATENT OFFICE.

CHRISTOPHER C. THOMPSON, OF GRAYSON, KENTUCKY.

BOOT OR SHOE STRETCHER.

SPECIFICATION forming part of Letters Patent No. 599,951, dated March 1, 1898.

Application filed January 18, 1897. Serial No. 619,618. (No model.)

To all whom it may concern:

Be it known that I, CHRISTOPHER C. THOMPSON, a citizen of the United States, residing at Grayson, in the county of Carter and State of Kentucky, have invented a new and useful Boot or Shoe Stretcher, of which the following is a specification.

This invention relates to lasts for stretching boots or shoes; and its prime object is to provide a stretcher designed to distend a boot or shoe either at all the points necessary at one and the same time or to stretch the same at any one point separately.

Another object is to provide a last or stretcher which conforms substantially to the shape of the boot or shoe and which does not depend upon the expansion of hinged sections for the stretching action and which is therefore rendered more simple and inexpensive in construction and more reliable in use.

Heretofore it has been necessary, in order to stretch a boot or shoe at all the necessary places, to either provide a number of stretchers or to make use of a very complicated and expensive structure comprising hinged sections, screws, toggles, &c., and one of the principal disadvantages of the use of a device designed to stretch all parts of the shoe at once is that many shoes need stretching only at one place, and a device such as is above referred to is wholly inefficient for the purpose.

By the use of my invention the boot or shoe may be stretched at either all parts simultaneously or any one part separately by the action of a single handle or screw. These desirable objects are attained by the use of the mechanism shown in the accompanying drawings, which form a part of this specification, and in which—

Figure 1 is a perspective view of my stretching-last. Fig. 2 is a central longitudinal section thereof and showing the parts in operative position. Fig. 3 is a side view of a pinion shaft or worm which I may use to operate the stretcher-pins. Fig. 4 is a similar view of my stretcher-pins.

Like numerals refer to like parts wherever they occur in the several views.

Referring to said drawings, 1 designates the last, which forms a support for the operative parts of the stretcher and, as herein shown, is made in two sections 2 3 to facilitate man-

ufacture; but it is not absolutely necessary that I should use a last-shaped support for the operative parts nor that the same should be made in sections. As shown, these sections 2 3 are properly recessed to receive the pinion shaft or worm 4. This shaft is provided with gear-teeth 5, extending nearly its entire length, and at its opposite ends pintles are formed, which are journaled at 6 7 to the body of the last. At the rear end of the shaft, at the heel portion of the last, a bevel-gear 8 is attached to the shaft, and this gear meshes with a similar part 9 on a rotatable handle-shaft 10, extending vertically above the comb of the last.

A ratchet 12, rigidly secured to the handle-shaft at or near the surface of the comb, is held in adjusted position by a pawl 13. A suitable handle 14 is attached at the end of the shaft for operating it.

Any desired number of stretcher-pins may be used, and they may be located at any required point on the last. As shown, they consist of a stretcher-head 16 of any suitable contour, and a rack-bar 17, extending therefrom.

The last is provided with a number of apertures which extend vertically, as at 18, and transversely, as at 19, and the rack-bars of the stretcher-heads are inserted within these apertures, so as to mesh with the geared shaft 5.

Stretcher-pins provided with heads of any desired configuration may be located at any part of the last required, so long as the rack-bars are arranged to contact and mesh with the geared shaft. It will also be noted that one or any number of the stretcher-pins may be used to stretch the shoe at the place or places required.

The sections of the last may be connected by screws 20 or other suitable fastenings, and in this way the operative parts may be readily gotten at for repairs, &c.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

Having described the invention, what is claimed as new is—

1. A boot or shoe stretcher consisting of a support for the operative parts, a geared shaft

journalled within the support, said support having an opening extending from its surface across said geared shaft, a headed stretcher-pin having a rack-bar supported in said opening and meshing with the geared shaft, and the head being exterior of the last, and means for revolving the geared shaft to project the head of the stretcher-pin, substantially as described.

10 2. A stretcher for boots and shoes comprising a geared shaft journalled within a last, a gear at one end of said shaft, a revoluble handle supported in the last and provided with a gear at its inner end to mesh with the
15 gear on the geared shaft, a pawl and ratchet for holding the handle in adjusted position, and one or more headed stretcher-pins the stems of which are toothed and supported in openings in the last to mesh with the geared
20 shaft, and the heads being adapted to be projected beyond the surface of the last by the rotation of the geared shaft, substantially as described.

25 3. In a boot or shoe stretcher, the combination of a last or support, a geared shaft jour-

nalled longitudinally therein, a revoluble handle for operating the geared shaft, a series of stretcher-heads having rack-bars extending therefrom passed through apertures in the last or support and connected to the geared shaft for operation, substantially as described. 30

4. A boot or shoe stretcher consisting of a last or support comprising two longitudinal sections adapted to be connected, substantially as described, and said sections being
35 mortised and apertured as described, a geared shaft journalled longitudinally within said last, a revoluble handle for operating the geared shaft, a series of stretcher-pins having rack-bars connected with the geared shaft, and a pawl and ratchet for holding the handle in adjusted position, substantially as described. 40

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses. 45

CHRISTOPHER C. THOMPSON.

Witnesses:

J. W. KOONTZ,

WINFIELD SCOTT.