May 29, 1923.

J. SCHWIND

1,457,283

SHOE STRETCHER

Filed June 7, 1922

Fig. 1.

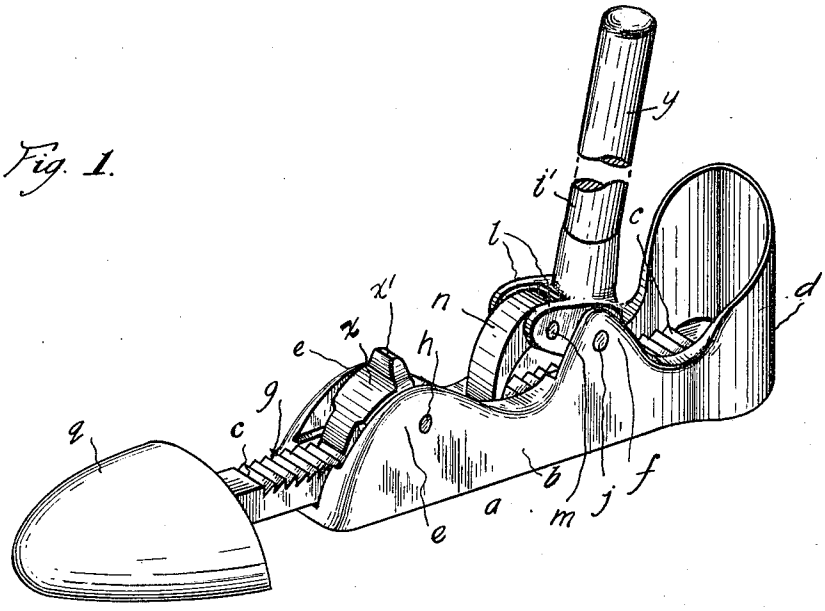
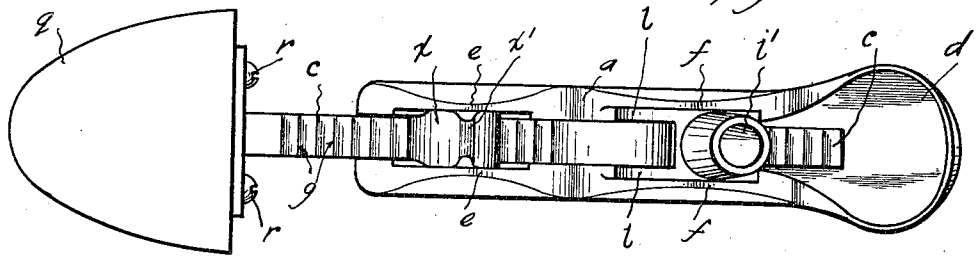


Fig. 2.



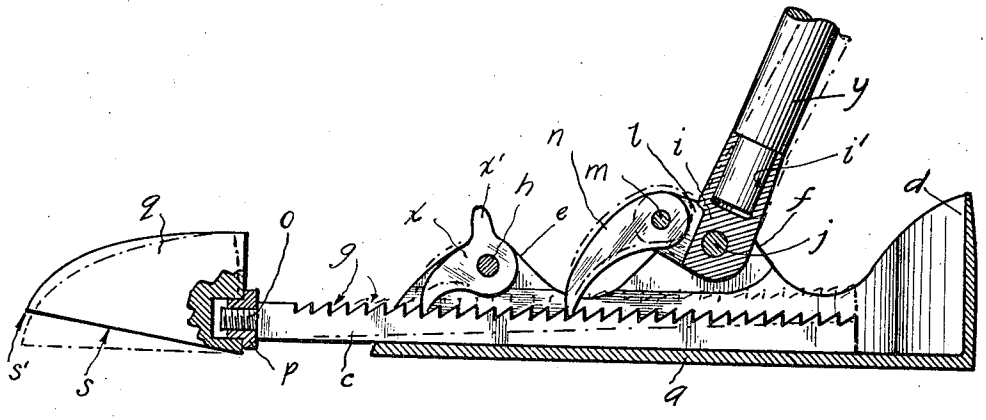


Fig. 3.

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UNITED STATES PATENT OFFICE.

JACOB SCHWIND, OF PORTLAND, OREGON.

SHOE STRETCHER.

Application filed June 7, 1922. Serial No. 566,510.

To all whom it may concern:

Be it known that I, JACOB SCHWIND, a citizen of the United States, and a resident of Portland, county of Multnomah, and State of Oregon, have invented certain new and useful Improvements in a Shoe Stretcher, of which the following is a specification.

The object of my invention is to provide a simple and efficient device readily inserted in the shoe, adjustable to all sizes of shoes, and easily operated for stretching the toe of the shoe so as to render the shoe comfortable to the wearer.

My invention relates especially to that type of shoe stretcher comprising a rack bar carrying a toe piece at one end and forced forward by a lever operated by a pawl and held against reverse movement. I have discovered that one of the essentials of the construction of a shoe stretcher of the type mentioned is that the toe piece be rigidly affixed to the end of the rack bar so that the toe piece will have no vertical play with regard to the latter, since such play is apt to be attendant with poor results and may even ruin the shoe.

Furthermore, since, in the pawl and ratchet construction of the type referred to, looseness and play in a vertical plane of the ratchet bar itself is unavoidable, the toe piece when forced forward has frequently a tendency to bear down, bending the sole downward with it at the toe and correspondingly stretching the toe box out of shape and ruining the shoe. I prevent the last fault referred to by affixing the toe piece to the rack bar at an angle as hereinafter more fully described; thus when the toe piece is forced into the toe box of the shoe, the rack bar will be tilted to an angle with the horizontal, while the toe piece will assume its horizontal position. In other words, the toe piece is diposed angularly to the rack bar and thus the force is upward and any tendency to bow will be counteracted by this inclination; and when my device is placed in the shoe and pressure applied, the same is forced straight out or slightly upward, and thus conforms to the shape of a person's foot.

The above mentioned construction and operation of my device and incidental features are illustrated in the accompanying drawings, the latter showing as follows:

Fig. 1 is a perspective view of my device, with the handle bar disposed perpendicular to the device;

Fig. 2 is a top or plan view of my device; and

Fig. 3 is a side elevation, partly in section, and shows how the toe piece of my device is disposed angularly to the rack bar and therefore to the horizontal plane in which my device acts.

My shoe stretcher comprises a one piece base *a* having perpendicular parallel flanges *b* extending substantially the entire width of the base and which constitute a guide way in which the rack bar *c* slides. The back end of the base *a* is rounded as at *d* to conform to the general outline of the heel and extends upward a substantial height. The flanges *b* are raised in two portions as *e* and *f*. Between the raised portions *e* is a supplemental fixed pawl *x* which operates in the teeth *g* of the rack bar *c*. This pawl is pivotally mounted on the pin *h* which is fixed in place between these two raised sections. A block *i* is pivotally mounted on the shaft *j* which is fixed between the raised sections *f*. The block *i* has a vertical socket *i'* which is adaptable to receive a handle bar *y*. Disposed normal to this socket are a pair of ears *l*. A pin *m* is fixed between these ears and the actuating pawl *n* is pivotally mounted thereon. The rack bar *c* is made with a threaded end *o* which is adapted to thread in the socket *p* on the toe piece *q*. The socket *p* is attached to the toe piece *q* by means of screws *r*. This connection between the rack bar and the toe piece forms a very rigid joint and eliminates all play between the two.

The under side of the toe-piece or block makes an acute angle with the plane of the under side of the rack-bar; and it is best to make the attaching face of the toe-piece or block so as to form an acute angle with its under side, since in this way said face is disposed at the proper angle for rigidly fastening the toe-block to the rack-bar. These features, together with the rigid attachment of the toe-piece or block to the rack-bar are essential to the successful operation of my shoe stretcher.

The toe-piece is made removable so that in practice different toe-pieces may be provided to conform with different sizes and types of shoes made for men, women and children. Any downward play between the ratchets and the rack bar will be taken care

of by said inclination of the toe piece, and thus no matter how much pressure is put on the toe piece it always will tend to be forced upward and outward and cannot be depressed below the plane of the bottom of the base *a*.

My device operates as follows: My stretcher being inserted in the shoe the handle is placed in the receptacle *j* in the block *i* and the toe piece is advanced in the shoe so as to give it the required stretch. The fixed pawl *x* holds all of the pressure while the actuating pawl *m* is slipped backward to take hold farther back on the bar and will hold the shoe in the point of maximum stretch. When it is desired to remove the stretcher from the shoe all that is necessary is to place the finger on the projection *x'* of the pawl *x* and pull backwards and this will allow the rack bar to relieve the pressure on the shoe and the device can be removed easily.

I claim:

1. In a shoe stretcher of the type described, a base constituting a guide way, a rack-bar slidable in said guide-way, the latter being substantially of the same length as the rack-bar, a toe block rigidly attached to one end of the rack-bar, and means including a pawl for advancing the rack-bar, the planes of the under sides of the toe-block and the rack-bar making an acute angle with each other for the purpose specified.

2. In a shoe stretcher of the type described, a base constituting a guide way, a rack-bar slidable in said guide-way, the latter being substantially of the same length as the rack-bar, a toe block rigidly attached to one end of the rack-bar, and means including a pawl for advancing the rack bar, the attaching face of said toe-block making an acute angle with the plane of its under side, and the latter making an acute angle with the plane of the under side of the rack-bar, for the purpose specified.

3. In a shoe stretcher of the type described, a one-piece base constituting a guide way, a rack-bar slidable in said guide-way, the latter being substantially of the same length as the rack-bar, a toe block rigidly attached to one end of the rack-bar, and means including a pawl for advancing the rack-bar, the planes of the under sides of the toe-block and the rack-bar making an acute angle with each other for the purpose specified.

4. In a shoe stretcher of the type described, a base constituting a guideway, a bar slidable in said guideway, a toe-block rigidly attached to one end of the bar and means for advancing the bar; the planes of the under sides of the toe-block and the rack-bar making an acute angle with each other for the purpose specified.

5. In a shoe stretcher of the type described, a base constituting a guide way, a rack-bar slidable in said guide-way, the latter being substantially of the same length as the rack-bar, a toe block rigidly attached to one end of the rack-bar, and means including a pawl for advancing the rack bar, a supplemental pawl adapted to hold the rack bar against reverse movement, the planes of the under sides of the toe block and the rack-bar making an acute angle with each other for the purpose specified.

6. In a shoe stretcher of the type described, a one piece base constituting a guide way, a rack-bar slidable in said guide-way, the latter being substantially of the same length as the rack-bar, a toe block rigidly but removably attached to one end of the rack-bar, and means including a pawl for advancing the rack bar, said advancing means including a removable lever, and being adapted to lock the rack bar against reverse movement when said handle is inclined forward, the attaching face of said toe-block making an acute angle with the plane of its under side, and the latter making an acute angle with the plane of the under side of the rack-bar, for the purpose specified.

JACOB SCHWIND.