No. 723,055. PATENTED MAR. 17, 1903.

A. H. SMITH.

LACE OR CORD FASTENER.

APPLICATION FILED SEPT. 12, 1902.

NO MODEL.

Fig. 1.

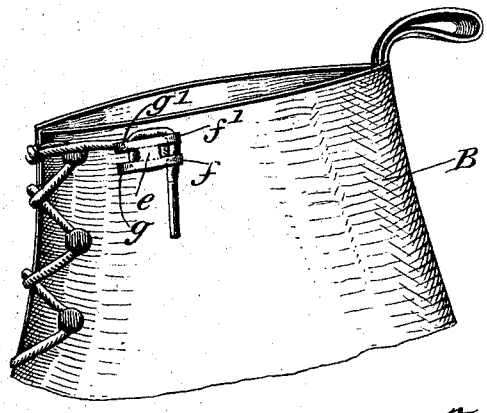


Fig. 3.

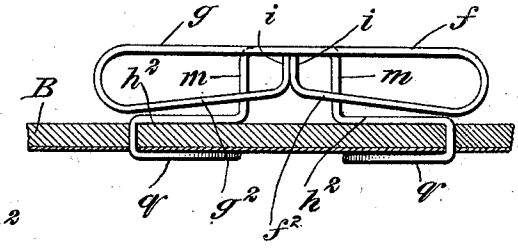


Fig. 2.

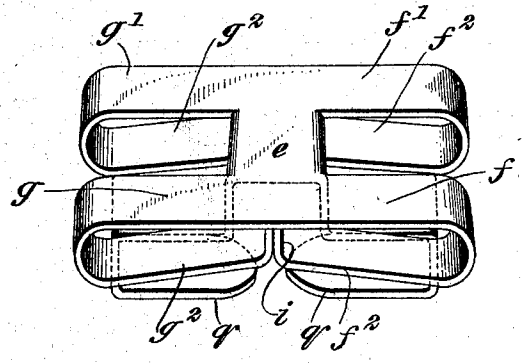
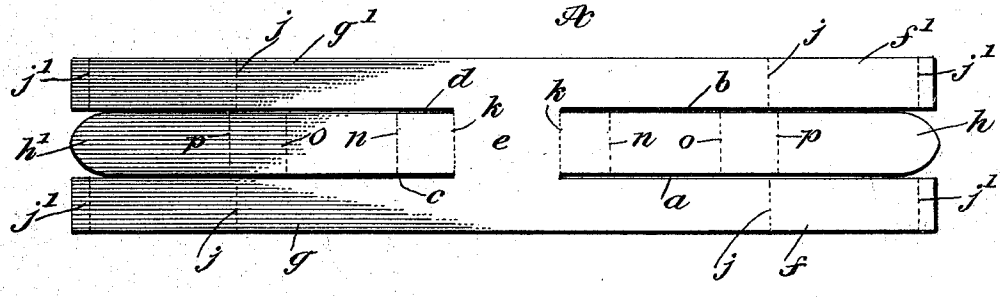


Fig. 4.



WITNESSES:

Geo. W. Naylor

N. J. Berukart

INVENTOR

Allen H. Smith

BY

ATTORNEYS.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ALLEN H. SMITH, OF TREMONT, LOUISIANA.

LACE AND CORD FASTENER.

SPECIFICATION forming part of Letters Patent No. 723,055, dated March 17, 1903.

Application filed September 12, 1902. Serial No. 123,117. (No model.)

To all whom it may concern:

Be it known that I, ALLEN H. SMITH, a citizen of the United States, and a resident of Tremont, in the parish of Lincoln and State of Louisiana, have invented a new and Improved Lace and Cord Fastener, of which the following is a full, clear, and exact description.

My invention relates to an improved fastener adapted for use on shoes, gloves, purses, sacks, and other articles which employ cords or laces to close or secure the same, although the device is especially intended for use as a shoe-lace fastener.

The object that I have in view is to produce a simple and cheap article adapted to effectually prevent a lace or cord from slipping when engaged with the fastener, to enable the device to be easily and securely attached to a shoe, glove, or other article, and to make the device hold the lace or cord by frictional engagement therewith, so as to obviate tying or knotting of the lace and allow the easy manipulation thereof in unfastening the same.

With these ends in view my invention consists of a lace and cord fastener embodying novel features of construction, which will be hereinafter fully described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a perspective view of a portion of a boot or shoe, showing my improved lace-fastener applied thereto. Fig. 2 is an enlarged perspective view of the fastener removed from the boot. Fig. 3 is a sectional view through a portion of a boot or shoe, illustrating my improved fastener in elevation and in operative position on the boot. Fig. 4 is a detail plan view of a sheet-metal blank from which the fastener is struck up or made.

The sheet-metal blank A (shown by Fig. 4) is cut or split longitudinally on the lines indicated at *a b c d*. The slits *a b* extend in parallel lines inwardly from one end of the blank toward the middle thereof, while the other slits *c d* are similarly disposed with relation one to the other, so as to extend from the other end of the blank toward the middle. This arrangement of the slits leaves a solid central portion *e* between the inner termini of the four slits, and the blank is thus formed with two pairs of arms *f f'* and *g g'* with the intermediate arms *h h'*.

The sheet-metal blank may be cut or stamped at one operation as a preliminary step in the manufacture of the improved fastener, and after the blank shall have been prepared it is bent to take the shape shown more clearly by Figs. 2 and 3. The arms *f f'* of the blank are bent or doubled upon themselves in one direction, so as to form the underlapping yieldable fingers f^2, and in a similar manner the arms *g g'* are doubled or bent in an opposite direction to produce the fingers g^2. The two pairs of arms with their corresponding fingers are made from one piece of metal, and, if desired, the fingers f^2 and g^2 may be provided at their inner or meeting ends with the lips *i*, although the inner ends of these parts may not extend far enough to lap or meet one with the other. The four arms *f f' g g'* are intended to be bent on the lines indicated at *j* in Fig. 4, while the free ends of these arms are bent on the lines indicated at *j'* in the same figure in order to form the lips *i*.

The middle arms *h h'* are first bent on the lines *k* next to the solid part *e*, said bent portion of the arms *h* being indicated at *m* in Fig. 3. The bent parts *m* are substantially at right angles to the solid central part *e*, and the arms *h h'* are then bent on the lines indicated at *n* in Fig. 4, so as to produce the outwardly-extending portions h^2 of Fig. 3, after which the arms *h h'* are finally bent on the lines *o p* of Fig. 4, thereby producing the prongs *q*, which are adapted to clench against the inner side of the shoe B, the portions h^2 of the arms bearing against the outside of the shoe, as shown by Fig. 3. The middle arms *h h'* are bent, as described, to form the parts *m*, h^2, and *q*, and thereby provide the means for the attachment of the fastener to a boot or shoe upper. The parts h^2 and *q* of the middle arms *h h'* of the article occupy positions between the two pairs of gripping-fingers f^2 g^2, and this arrangement of said parts h^2 *q* enables the fastener to be attached to a shoe without interposing the securing parts h^2 *q* in the path of the lace or cord when the latter is engaged with said fas-

tener. The upright bends m of the two middle arms practically form a post around which the lace or cord is adapted to be coiled and twisted, and the two pairs of fingers f^2 g^2 are adapted to engage frictionally with the cord or lace.

The arms f f' g g' lie in the plane of the solid middle portion e of the fastener; but the fingers f^2 g^2 are disposed below the arms and the middle portion e, said fingers lying on opposite sides of the bends or upright parts m. These fingers f^2 g^2 are intended to lie quite close to the shoe-upper B; but the fingers are yieldable under the pressure of the lace or cord, so as to permit the latter to be easily introduced or removed from engagement with said fingers.

In Fig. 3 of the drawings I have shown the fingers as arranged in slightly-inclined positions with relation to the outer face of the shoe-upper; but the inclination of the fingers is not important.

In applying the improved fastener the clenchable ends q of the middle arms are first thrust through suitable openings which are provided in the shoe-upper, thus bringing the bent portions h^2 of the middle arms into firm engagement with the upper, after which the portions q are bent so as to lie close to the inner side of the upper B. The improved fastener can be easily and quickly secured in place by simply inserting and bending the prongs or ends q. To use the fastener for securing the end of a cord or lace, it is only necessary to draw the lace around the post formed by the bends m and beneath the two pairs of fingers f^2 g^2, which engage frictionally with the interposed portions of the lace. The lace is thus held in place by wrapping it around the post and by the frictional engagement of the yieldable fingers with said lace. It is not necessary to knot or tie the lace, because the fingers provide a number of points for holding the same, and this cord can be easily removed or disengaged from the fastener by drawing or twisting it in the reverse direction.

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

1. A cord or lace fastener struck up from a single piece of sheet metal, and comprising a solid central portion, and a series of arms, the middle arms of the series being bent to form a post and means for the attachment of the fastener to a suitable article, and the remaining arms of the blank being doubled upon themselves to produce yieldable gripping-fingers.

2. A lace-fastener comprising a post having arms extending outwardly therefrom and terminating in attaching-prongs, said post being arranged for a lace to be wrapped thereon, and a series of gripping-fingers extending in different directions from the post and having doubled ends which extend inwardly toward the post and form a plurality of lace-clamping faces.

3. A lace-fastener bent from a single blank and comprising a post having clenchable prongs for attachment to an article, and a series of doubled gripping-arms exending in pairs and in opposite directions from a head of the post, said fingers forming a plurality of lace-clamping surfaces.

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

ALLEN H. SMITH.

Witnesses:
A. CARTWRIGHT,
O. E. SMITH.