

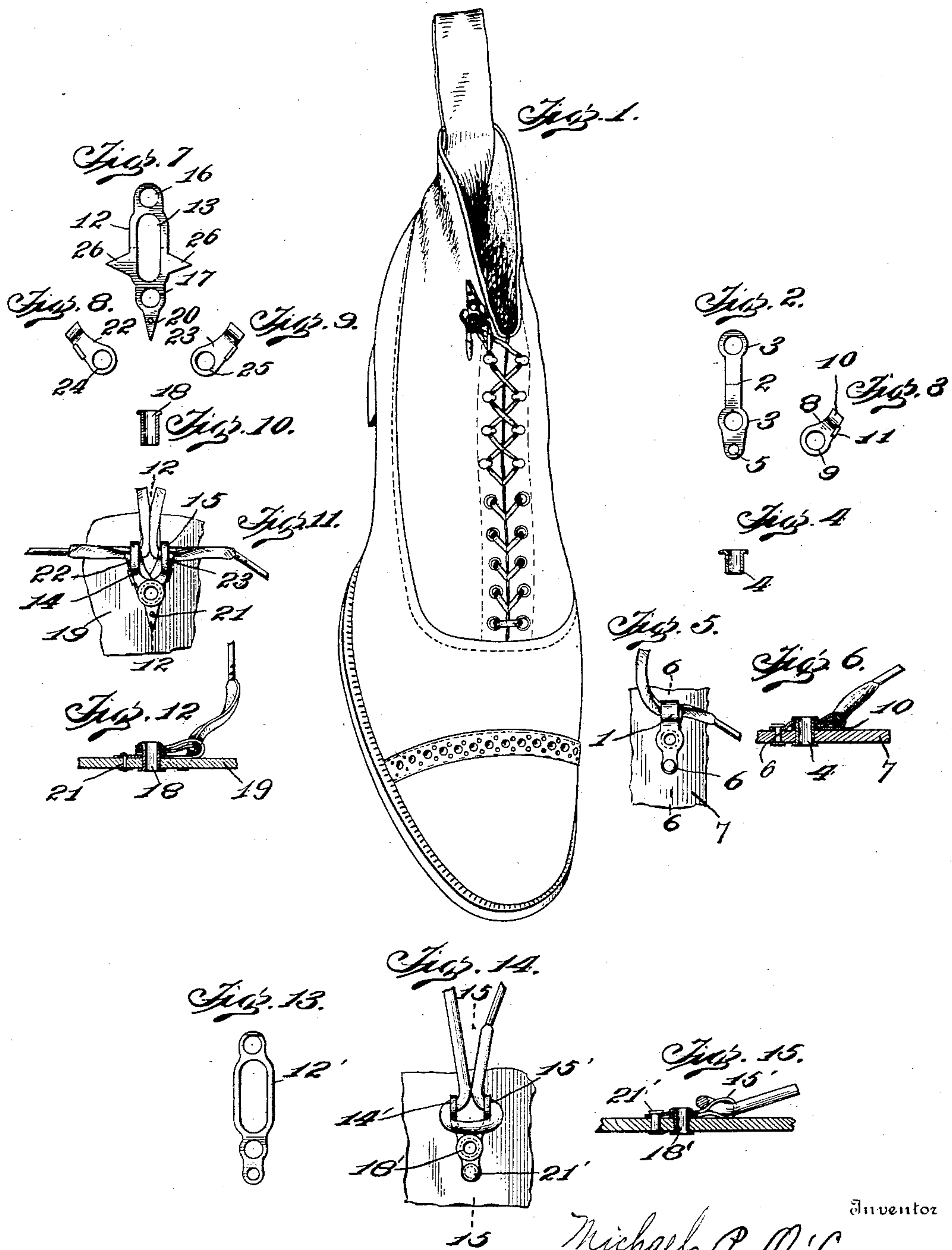
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M. P. O'CONNOR.
LACE FASTENER.

APPLICATION FILED NOV. 10, 1902.

NO MODEL.



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LACE-FASTENER.

SPECIFICATION forming part of Letters Patent No. 745,890, dated December 1, 1903.

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To all whom it may concern:

Be it known that I, MICHAEL P. O'CONNOR, a citizen of the United States, residing at West Newton, in the county of Middlesex and State of Massachusetts, have invented certain new and useful Improvements in Lace-Fasteners; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in lace-fasteners particularly adapted for use in connection with shoes or corsets.

The object in view is the provision of means for retaining the end or ends of a lace against longitudinal movement without the necessity of tying the same.

With this and other objects in view the invention comprises a suitable loop having biting means for holding a lace therein.

It further consists in certain other novel constructions, combinations, and arrangements of parts, as will be hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 represents a perspective view of a shoe provided with a lace-fastener embodying the features of the present invention. Fig. 2 represents a plan view of the blank for forming a single loop. Fig. 3 represents a similar view of a locking member. Fig. 4 represents a section through a retaining-eyelet for a single loop. Fig. 5 represents a view in side elevation of a single-loop fastener embodying the features of the present invention. Fig. 6 represents a longitudinal section taken on the line 6 6 of Fig. 5. Fig. 7 represents a view in side elevation of a blank for forming a double loop. Figs. 8 and 9 represent similar views of the locking members for a double loop. Fig. 10 represents a section through an eyelet used for fastening a double loop. Fig. 11 represents a view in side elevation of a double-loop fastener. Fig. 12 represents a longitudinal section through the same, taken on line 12 12 of Fig. 11. Fig. 13 represents a plan view of a double-loop fastener of modified construction. Fig. 14 represents a view in side elevation of the same. Fig. 15 represents a longitudinal section taken on the line 15 15 of Fig. 14.

Referring to the drawings by numerals, and particularly to the first six figures thereof, 1 indicates an elongated loop formed from a strip of material 2, bent approximately centrally and provided at or near each end with an eye 3, said eyes registering and receiving a rivet 4, preferably any suitable form of eyelet. One of the ends of the strip 2 is preferably extended slightly beyond the eye 3 and is apertured, as at 5, for receiving a suitable rivet 6 for retaining the loop against pivotal movement and securing the same to the material 7, to which the loop is to be attached, the securing means 4 being also passed through said material for retaining the loop in position. A locking member 8 is preferably retained, by means of an eye 9, between the ends of loop 1, the securing means 4 being passed through the eye 9 in addition to the eyes 3, whereby said member is pivotally retained in position. The free end of the member 8 is preferably folded into a frusto-conical head or otherwise enlarged, as at 10, and is formed with a laterally-extending flange 11 for facilitating operation.

In operation the member 8 is moved so that its free end will be outside the loop 1 and the lace to be fastened is passed through said loop. The member 8 is next pressed back into the loop, swinging on its pivot and firmly compressing the lace against the walls of the loop, whereby the said lace is positively locked against removal. The flange 11 not only serves as a means for facilitating the movement of member 8, but prevents the same from swinging outside the loop except in one direction, and I prefer to pass the lace through the loop 1 in an opposite direction to that of the movement of the free end of member 8 when entering said loop, whereby when the parts are brought to a locking position, as indicated in Fig. 5, strain upon the lace in an opposite direction to that of its introduction to the loop will tend to tighten the fastener and a pull upon the projecting end of the lacing will tend to withdraw the member 8 and loosen the lace for permitting the removal thereof.

In the use of the present improved fastener I may sometimes find it desirable to employ a plurality of loops each formed with the elements just described, and in order that a

clear understanding of my preferred construction of a plural-loop fastener may be had I disclose an embodiment thereof in Figs. 7 to 12, inclusive, of the drawings. In these last-mentioned figures, 12 indicates a strip of material formed with a longitudinal central slot 13 and adapted to be folded for forming loops 14 and 15. The strip 12 is formed with eyes 16 and 17, which are caused to register when the strip is folded for forming loops 14 and 15, and an eyelet or other suitable rivet 18 is passed therethrough for securing the parts in position and is also passed through material 19, to which the fastener is to be attached. One end of the strip 12 is formed with a projection provided with an aperture 20 for receiving a securing-rivet 21. Locking members 22 and 23 are pivotally mounted to swing upon the rivet 18, said members being formed with eyes 24 and 25, through which said rivet is passed. Each of the members 22 and 23 is formed exactly like member 8, except that the member 22 has its laterally-projecting operating-flange upon the opposite edge to that of member 8. These members 22 and 23 are arranged to swing laterally in opposite directions out of and away from their respective loops 14 and 15, whereby the ends of a lace may be passed from the inner edge outwardly through the respective loops and may be locked therein by the respective members 22 and 23 in the same manner as described in reference to locking member 8. The strip 12 may be formed with any suitable auxiliary securing means, such as penetrating teeth 26 26; but of course these teeth need not be used unless desired.

In Figs. 13, 14, and 15 I have illustrated a slight modification of the present invention, in which 12' indicates a suitable slotted strip designed to be folded for forming loops 14' and 15' and secured together by a rivet 18' and held against pivotal movement by a second rivet 21', passed through a projecting portion on the end of the strip. This form of fastener is employed for securing one end of a lace, the end of the lace being secured by being passed from the center outwardly through one of the loops, about both loops, and inwardly through the other loop, such interlacing securely retaining the said end against removal.

Although I have illustrated the present invention as applied to a shoe, it will be obvious that the same will be just as applicable to a corset or to any other object where it is desirable to retain the ends of a lace.

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

1. A lace-fastener comprising a plurality of loops spaced apart and pivoted locking members arranged to be swung within the loops.

2. A lace-fastener, comprising a plurality of loops spaced apart and positioned in substantially parallel planes, and locking members arranged to be moved within the loops.

3. A lace-fastener comprising a plurality of loops formed of a single piece of material and extending in substantially parallel planes, locking members and means pivotally securing said members in position for being swung within the respective loops.

4. A lace-fastener, comprising a plurality of loops spaced apart and locking members carried by a common pivot and extending on the outside of the respective loops, and designed to be swung within the same.

5. A lace-fastener, comprising a plurality of loops, locking members therefor, a common pivot for said locking members and stops extending laterally from said locking members and adapted to engage the respective loops.

6. A lace-fastener comprising a plurality of loops spaced apart, locking members designed to be swung in the respective loops, and a common pivot for said members securing said loops to a shoe.

7. A lace-fastener, comprising a plurality of loops, and locking members formed with a common pivot and arranged to swing within the loops.

8. A lace-fastener, comprising a plurality of loops, locking members pivoted to swing within said loops, and means for retaining said members against passing through the respective loops, substantially as described.

9. A lace-fastener, comprising a plurality of loops formed of a strip of material slotted longitudinally and folded together, and means for securing the ends of said strip against separation, substantially as described.

10. A lace-fastener comprising a loop, a swinging locking member pivoted between the portions of the loop, an eyelet for securing the swinging member and loop together and also to a shoe, the end of the swinging member being bent to one side to form a head, and a lug on the said swinging member also turned to one side so as to engage the edge of the loop and to form a stop for the swinging member, substantially as described.

11. A lace-fastener, comprising a loop, a swinging locking member therefor, a rivet securing the swinging member and loop together, a head formed on said swinging member by folds of the material of said member and a stop extending laterally from and formed integral with the said swinging member and designed to engage the edge of said loop.

In testimony whereof I hereunto affix my signature in presence of two witnesses.

MICHAEL P. O'CONNOR.

Witnesses:

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