

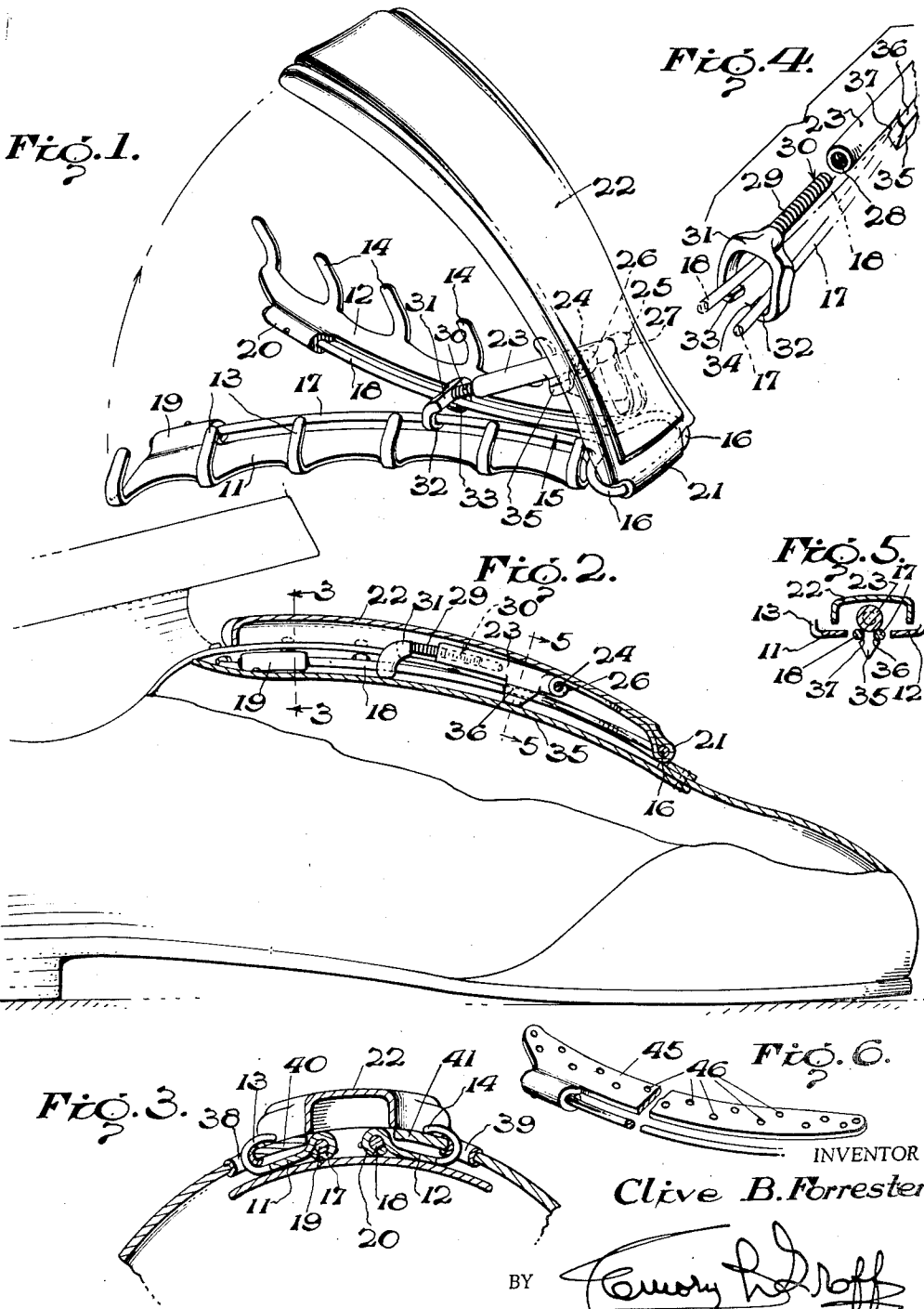
May 5, 1953

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2,637,087

SHOE FASTENER

Filed Aug. 24, 1949



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UNITED STATES PATENT OFFICE

2,637,087

SHOE FASTENER

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Application August 24, 1949, Serial No. 112,084

16 Claims. (Cl. 24—207)

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This invention relates to securing devices and is more particularly concerned with means for opening and closing the flaps of shoes.

The general object of this invention is the provision of a device in substitution of the usual shoe laces for conveniently closing and opening shoe flaps.

Another object is the provision of such a device which can be modified to provide a variety of ornamentations.

A still further object is the provision of such a device which is quick acting; which is positive in operation and which overcomes the deficiencies of ordinary shoe laces by being non-breakable, easier to use and not likely to open accidentally.

A still further object is the provision of such a device which can be operated by juveniles who would ordinarily not be able to adjust and tie a shoe lace and which may, moreover, be operated by the use of only one hand and in darkness.

A still further object is the provision of such a device which may be attached to an ordinary shoe by the wearer or incorporated in a new pair of shoes at the factory by the manufacturer.

A particular advantage of the present invention resides in the fact that the shoe flaps, in the open position, are wide apart which obviates the need for a shoe horn in putting the shoe on and at the same time, minimizes the danger of breaking the heel plates.

These and other objects and advantages of the invention will be apparent from the following description considered together with the accompanying drawing illustrating a preferred embodiment.

In the drawing:

Fig. 1 is an isometric view of the embodiment in a partly opened position, apart from the shoe.

Fig. 2 is a side elevational view partly in section showing the embodiment attached to a shoe in the closed position.

Fig. 3 is a section along the line 3—3 of Fig. 2.

Fig. 4 is an isometric exploded view of the adjustable slide member.

Fig. 5 is a section along the line 5—5 of Fig. 2.

Fig. 6 is an isometric view of a modified form of the wing member.

Referring with more particularity to the drawing in which like numerals designate like parts, the embodiment illustrated in Figs. 1-5 comprises a pair of wing members 11 and 12 having each a longitudinal row of upstanding ribs 13 and 14, respectively.

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Between said wings a stiff resilient wire 15 of spring steel or some other suitable material is disposed bent in the general shape of a V with an oval or circular portion 16 at the apex or neck.

The outer ends of the arms 17 and 18 of the bent wire 15 are secured to bosses 19 and 20 formed along the inner edge of the wing members 11 and 12, respectively.

To the lower side of the oval portion 16 the lower end 21 of an operator or manipulating member, such as the bar 22, is hinged. One end of a rigid arm 23 is provided with radially extending pins or stub shafts 24 and 25 which shafts are pivotally held in bearings 26 and 27, respectively, on the inner side of the bar 22 above its lower end. The other end of the arm 23 is hollow and is provided with internal threads 28 adapted to engage the threads 29 of a shank 30. Said shank is part of a hook member having a U-shaped head 31, the outer ends 32 and 33 of which are turned inwardly with a space 34 therebetween to permit the insertion and removal of the arms 17 and 18.

The head 31 is relatively narrow so as to draw the arms 17 and 18 together as it slides thereon carrying with them the winged members 11 and 12.

In the open position the bar 22 makes the largest angle with the wire member 15 and the head 31 is closest to the hinge end 21 thereby permitting the arms 17 and 18 to spread apart. In the closed position the bar 22 makes the smallest angle with the wire member 15 and the head 31 is closest to the outer ends of the arms 17 and 18, thereby holding them inwardly against the resilient force tending to spread them apart.

The position of the head 31 along the arms 17 and 18 may be adjusted by screwing it in or out of the hollow end of the arm 23. This may be accomplished by pressing the arms 17 and 18 together at a point near the head 31, disengaging the head from the arms, screwing the head in or out of the arm 23, and then replacing the head on the arms.

In the closed position a barbed lug 35 at the bottom of the arm 23 enters between the arms 17 and 18 behind the head 31. Said lug 35 is preferably spear shaped and is provided with grooves 36 and 37 beyond its barbs which act as seats for the arms 17 and 18, respectively.

The barbs of the lug 35 are somewhat greater than the space between the arms 17 and 18 in the closed position so that when the lug enters between the arms it first spreads them apart slightly

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and then permits them to recede into the grooves 26 and 37.

To use the device, the laces are removed from the shoes and the ribs 13 and 14 disposed through the lace holes 38 and 39 of the shoes with the wing members 11 and 12 lying underneath the shoe flaps 40 and 41. It is possible on many shoes to gain access between the plies at the lace holes. Thus, the ribs can be slipped between the plies on installation by the wearer, making in some cases a neater application.

The upper portions of the ribs 13 and 14 protruding above the lace holes are then clinched over to secure them firmly in position as shown in Fig. 3. The device is then in operative position. To close the shoe flaps the bar 22 is pressed down to the position shown in Fig. 2 which causes the head 31 to move upward along the arms 17 and 18 and to draw them together thereby also drawing together the winged members 11 and 12 and the shoe flaps connected thereto. The bar is held in this position by the entering of the barbed lug 35 between the arms 17 and 18, as explained above.

To open the shoe the upper end of the bar 22 is simply pulled upward which retracts the barbed lug from the arms 17 and 18 and causes the head 31 to slide back along said arms. The portions of the arms 17 and 18 as they become free of the head 31, spread under resilient tension, thereby forcing the wings 11 and 12 outwardly together with the shoe flaps.

The bar 22 may be of any suitable ornamental design to satisfy fanciful tastes. It may carry jeweled parts, watch inserts, monograms, or any other preferred ornamentation, especially when it is to be used for feminine apparel.

A modified form of the invention comprises using perforated wing members 45, as shown in Fig. 6. The perforations 46 substitute for the up-standing ribs 14 and 15 and permit the wing members to be sewn or riveted permanently to the shoe flaps by the manufacturer thus obviating the necessity for providing any lace holes. Wing members of this modified type may be inserted between the upper and lower plies of the flap portions of the shoe and then sewed in place or secured by small rivets or any other suitable means. The resulting appearance is neat and provides a minimum of bulk.

In either form illustrated the wing member may be bent to conform to the contour of the foot. It may be bent to clear the minor bone, malformations of the instep, etc., which are ordinarily irritated by shoe laces.

I claim:

1. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire for opening and closing the assembly, means for holding the assembly in closed position, and means for adjusting said hook relative to said rigid arm.

2. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said

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wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire for opening and closing the assembly, means for holding the assembly in closed position, said hook being threadably engaged with said arm to adjust the relative positions thereof.

3. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, ribs projecting upward from said members adapted to be disposed through the lace holes of shoes, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire for opening and closing the assembly, and means for holding the assembly in the closed position.

4. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, said member having apertures therethrough for the reception of stitches, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire for opening and closing the assembly, and means for holding the assembly in the closed position.

5. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire, a barbed lug on the bottom of said rigid arm adapted to enter between the arms of said wire.

6. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm pivoted at one end to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire, a barbed lug on the bottom of said rigid arm adapted to enter between the arms of said wire, said lug having grooves on either side between its barbs and the said rigid arm for the reception of the arms of said resilient wire.

7. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm having a radially extending shaft at one end, a bearing pivotally supporting said shaft, said bearing being secured to said bar, a hook attached to the other end of said rigid arm, said hook being adapted to slidably engage the arms of said wire for opening and closing the

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assembly, and means for holding the assembly in the closed position.

8. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, upstanding ribs on said members adapted to be disposed through the lace holes of a shoe, a resilient slide wire bent in the general shape of a V having the outer ends of its arms pivotally secured to said members, respectively, a bar having one end pivoted to the other end of said wire, a rigid arm having a radially extending shaft, a bearing pivotally supporting said shaft, said bearing being secured to said bar, a hook member at the other end of said rigid arm having a shank threadedly engaged with said rigid arm, said hook being adapted to slidably engage the arms of said wire and a barbed lug on the bottom of said rigid arm adapted to enter between the arms of said wire.

9. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient substantially V-shaped wire member having arm portions which are secured to the respective wing members, a manipulating member having one end pivotally attached to said wire adjacent the central and lower end thereof, a rigid member having one end pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said wire, means arranged on the outer end of said rigid member slidably engaging the arms of said wire whereby the arms of the wire member together with the wing members secured thereto will be moved toward one another when the manipulating member is moved about its pivotal connection toward said arms with the manipulating member disposed thereover substantially parallel thereto when it assumes its fully closed position and with the arms tending to be spread apart and move the wing members away from one another due to the inherent resiliency of the arms when the manipulating member is moved in the opposite direction away from said arms, and means for holding the manipulating member in its fully closed position.

10. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient substantially V-shaped wire member having arm portions which are secured to the respective wing members, a manipulating member having one end pivotally attached to said wire adjacent the central and lower end thereof, a rigid member having one end pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said wire, means arranged with said rigid member for adjusting the length thereof, means arranged on the outer end of said rigid member slidably engaging the arms of said wire whereby the arms of the wire member together with the wing members secured thereto will be moved toward one another when the manipulating member is moved about its pivotal connection toward said arms with the manipulating member disposed thereover substantially parallel thereto when it assumes its fully closed position and with the arms tending to be spread apart and move the wing members away from one another due to the inherent resiliency of the arms when the manipulating member is moved in the opposite direction away from said arms, and a lug carried by said rigid member which cooperates with said arms to lock the manipulating member in its closed position so as to prevent unintentional spreading of the arms and opening of the fastener.

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11. A shoe fastening device comprising a pair of wing members adapted to be secured to the flaps of a shoe, a resilient substantially V-shaped wire member having arm portions which are secured to the respective wing members, a manipulating member having one end pivotally attached to said wire adjacent the central and lower end thereof, a rigid member having one end pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said wire, means arranged on the outer end of said rigid member slidably engaging the arms of said wire whereby the arms of the wire member together with the wing members secured thereto will be moved toward one another when the manipulating member is moved about its pivotal connection toward said arms with the manipulating member disposed thereover substantially parallel thereto when it assumes its fully closed position and with the arms tending to be spread apart and move the wing members away from one another due to the inherent resiliency of the arms when the manipulating member is moved in the opposite direction away from said arms, and means carried by said rigid member which cooperates with said arms to lock the manipulating member in its closed position so as to prevent unintentional spreading of the arms and opening of the fastener.

12. A shoe fastening device, as defined in claim 9, wherein the manipulating member is of such width and length that it covers and conceals said wire member when it is disposed in its fully closed position.

13. A shoe fastening device comprising a pair of spaced-apart arm like members which normally tend to be urged apart, a manipulating member pivotally connected to said arm like members adjacent one end thereof, a rigid member extending between said manipulating member and said arm like members, one end of said rigid member being pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said arm like members and the opposite end of said rigid member being slidably connected to both of said arm like members whereby the arm like members will be urged toward one another by said slidable connection when the manipulating member is moved toward said arm like members with the manipulating member disposed thereover substantially parallel to said arm like members when it assumes its fully closed position and the arms tending to be moved away from one another when the manipulating member is moved in the opposite direction away from said arm like members, and means for holding the manipulating member in its fully closed position.

14. A shoe fastening device comprising a pair of spaced-apart arm like members which normally tend to be urged apart, a manipulating member pivotally connected to said arm like members adjacent one end thereof, a rigid member extending between said manipulating member and said arm like members, one end of said rigid member being pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said arm like members and the opposite end of said rigid member being slidably connected to both of said arm like members whereby the arm like members will be urged toward one another by said slidable connection when the manipulating member is moved toward said arm like members with the manipulating member disposed thereover substantially

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parallel to said arm like members when it assumes its fully closed position and the arms tending to be moved away from one another when the manipulating member is moved in the opposite direction away from said arm like members, and means for locking said manipulating member over said arm like members in its fully closed position.

15. A shoe fastening device comprising a pair of spaced-apart arm like members which normally tend to be urged apart, a manipulating member pivotally connected to said arm like members adjacent one end thereof, a rigid member extending between said manipulating member and said arm like members, one end of said rigid member being pivotally attached to said manipulating member at a spaced distance from its pivotal connection with said arm like members and the opposite end of said rigid member being slidably connected to both of said arm like members whereby the arm like members will be urged toward one another by said slidable connection when the manipulating member is moved toward said arm like members with the manipulating member disposed thereover substantially parallel to said arm like members when it assumes its fully closed position and the arms tending to be moved away from one another when the manipulating member is moved in the opposite direction away from said arm like members, said manipulating member being of such a width and length

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that it covers and conceals the arm like members when it is disposed in its fully closed position, and a lug carried by said rigid member which cooperates with the said arm-like members to lock the manipulating member in its closed position so as to prevent unintentional spreading of the arm-like members and spreading of the fastener.

16. A shoe fastening device, as defined in claim 13, wherein the manipulating member is of such width and length that it covers and conceals the arm like members when it is disposed in its fully closed position.

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