

M. BERGERON.
FASTENER FOR SHOE UPPERS.
APPLICATION FILED MAR. 14, 1908.

912,226.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 1.

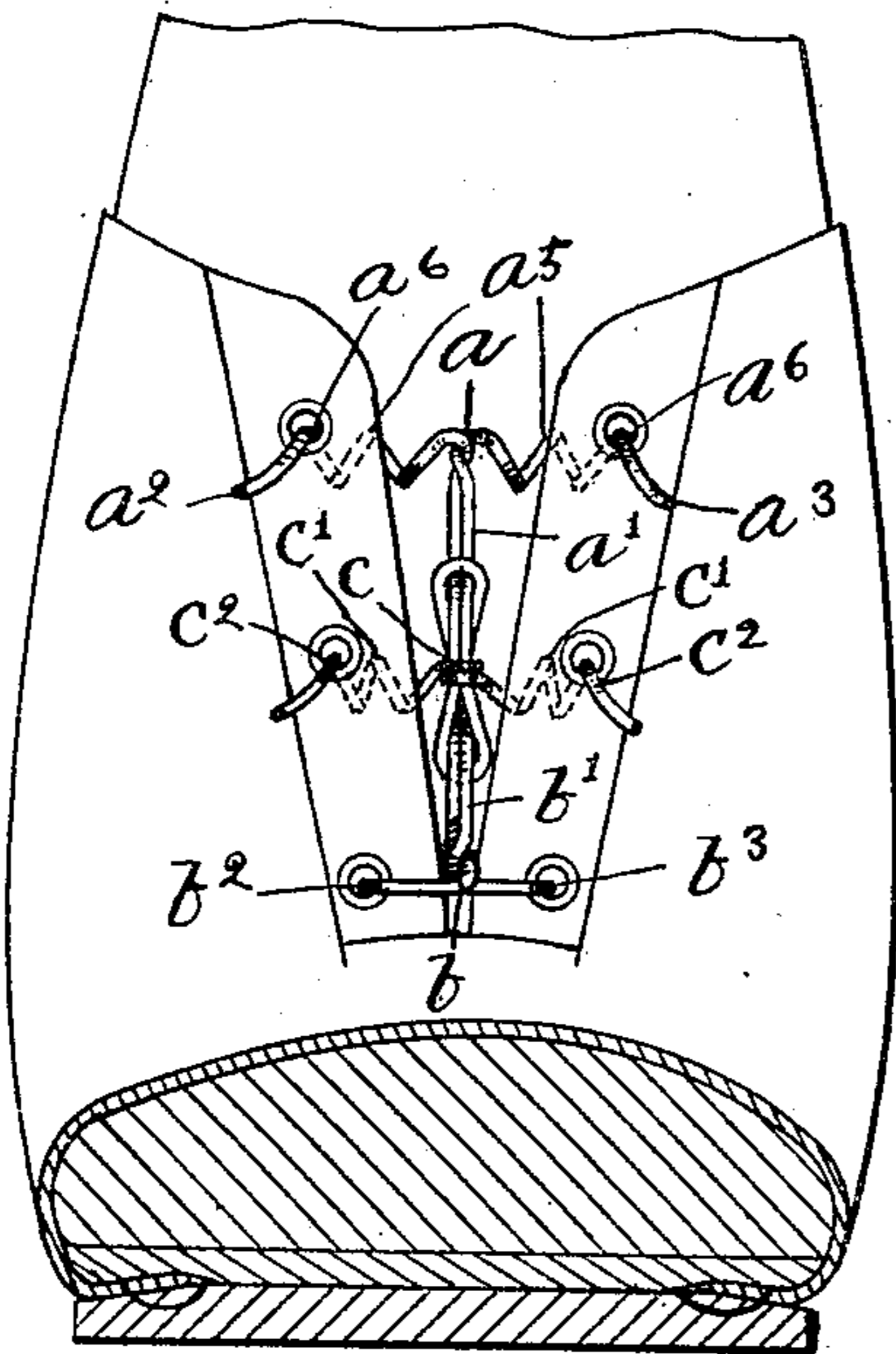


Fig. 1.

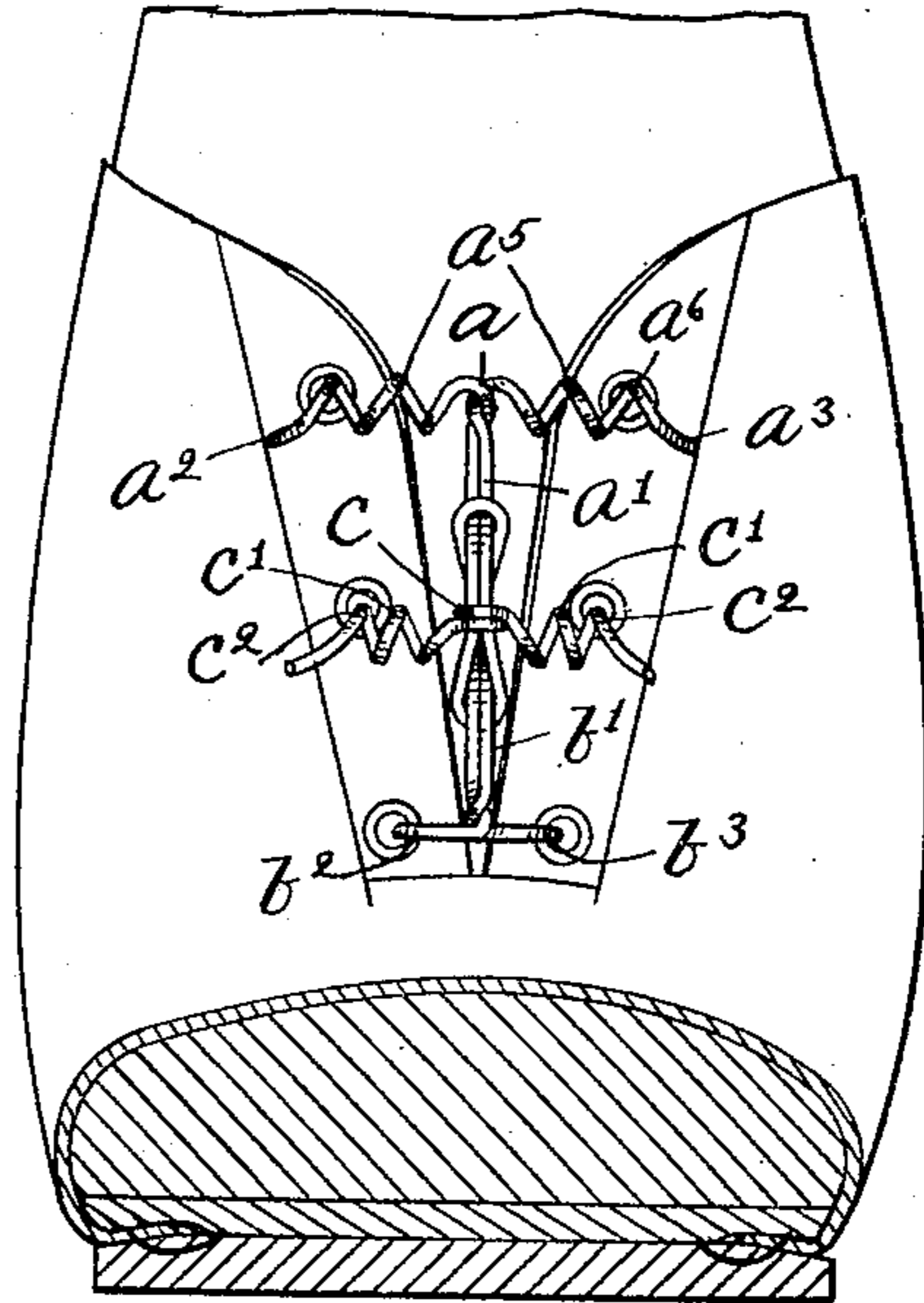


Fig. 2.

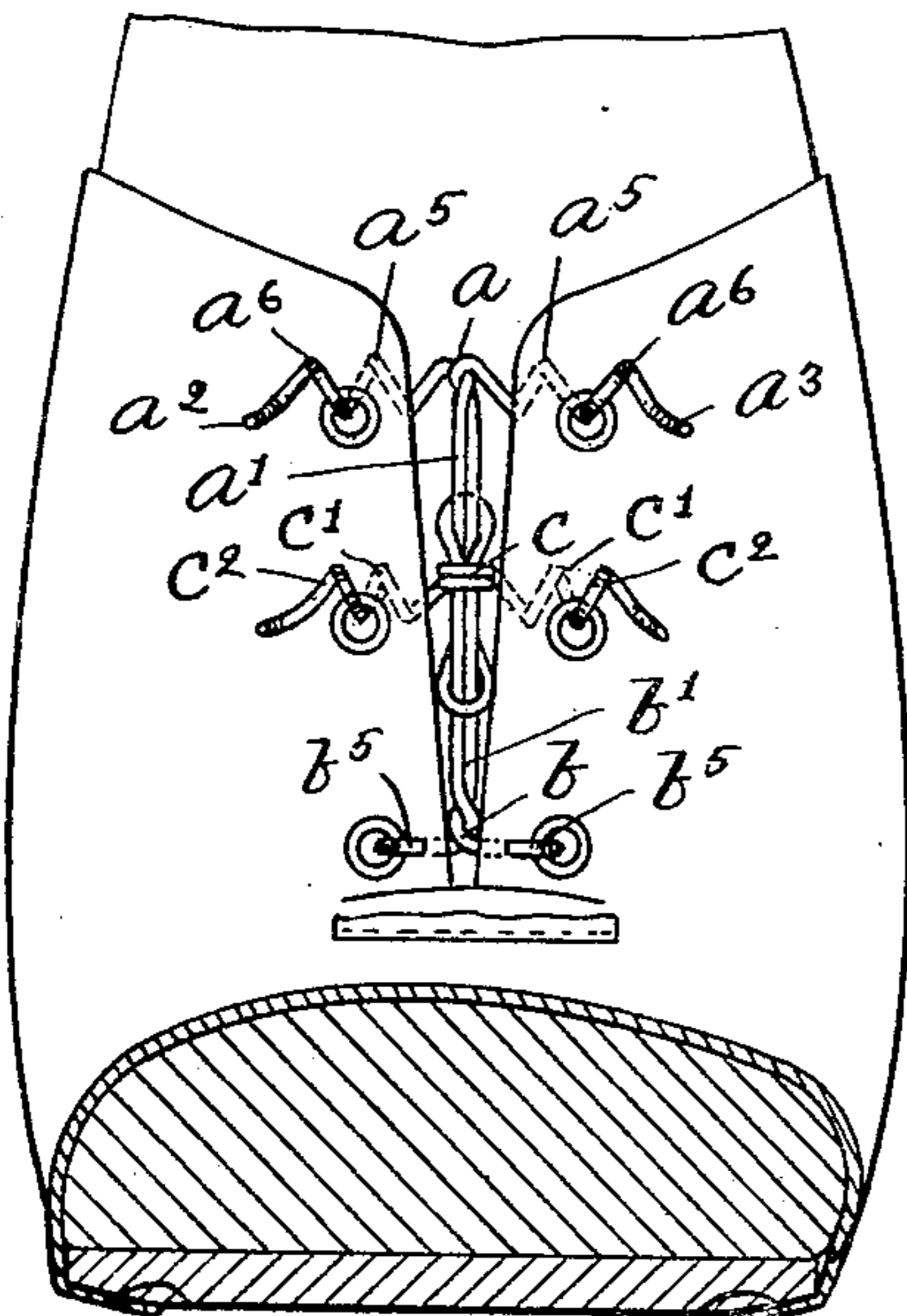


Fig. 3.

Witnesses:
H. B. Davis.
Cynthia Doyle.

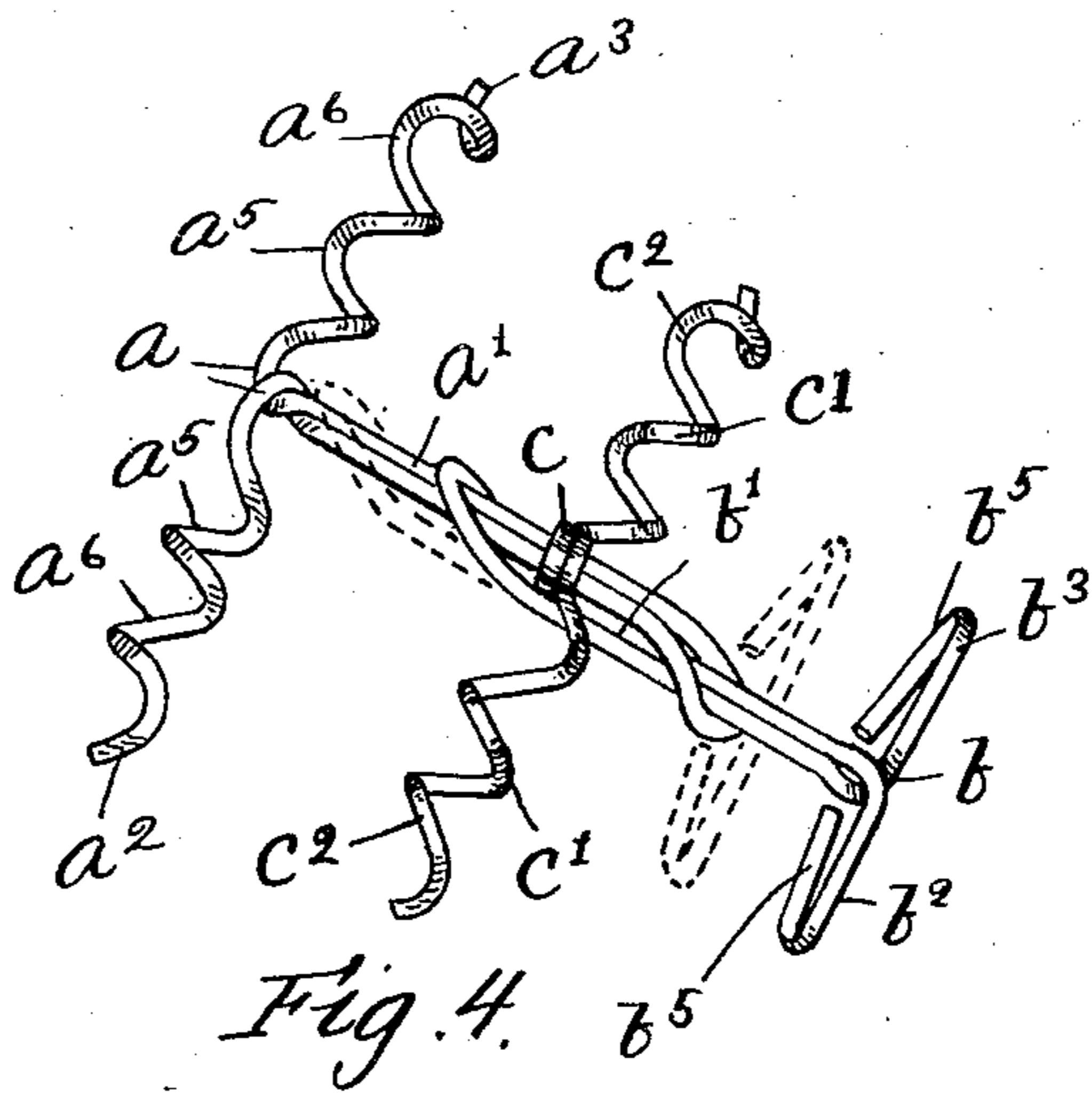


Fig. 4.

Inventor:
Michel Bergeron
by Raymond Hamner,
Att'y.

M. BERGERON.
FASTENER FOR SHOE UPPERS.
APPLICATION FILED MAR. 14, 1908.

912,226.

Patented Feb. 9, 1909.

2 SHEETS—SHEET 2.

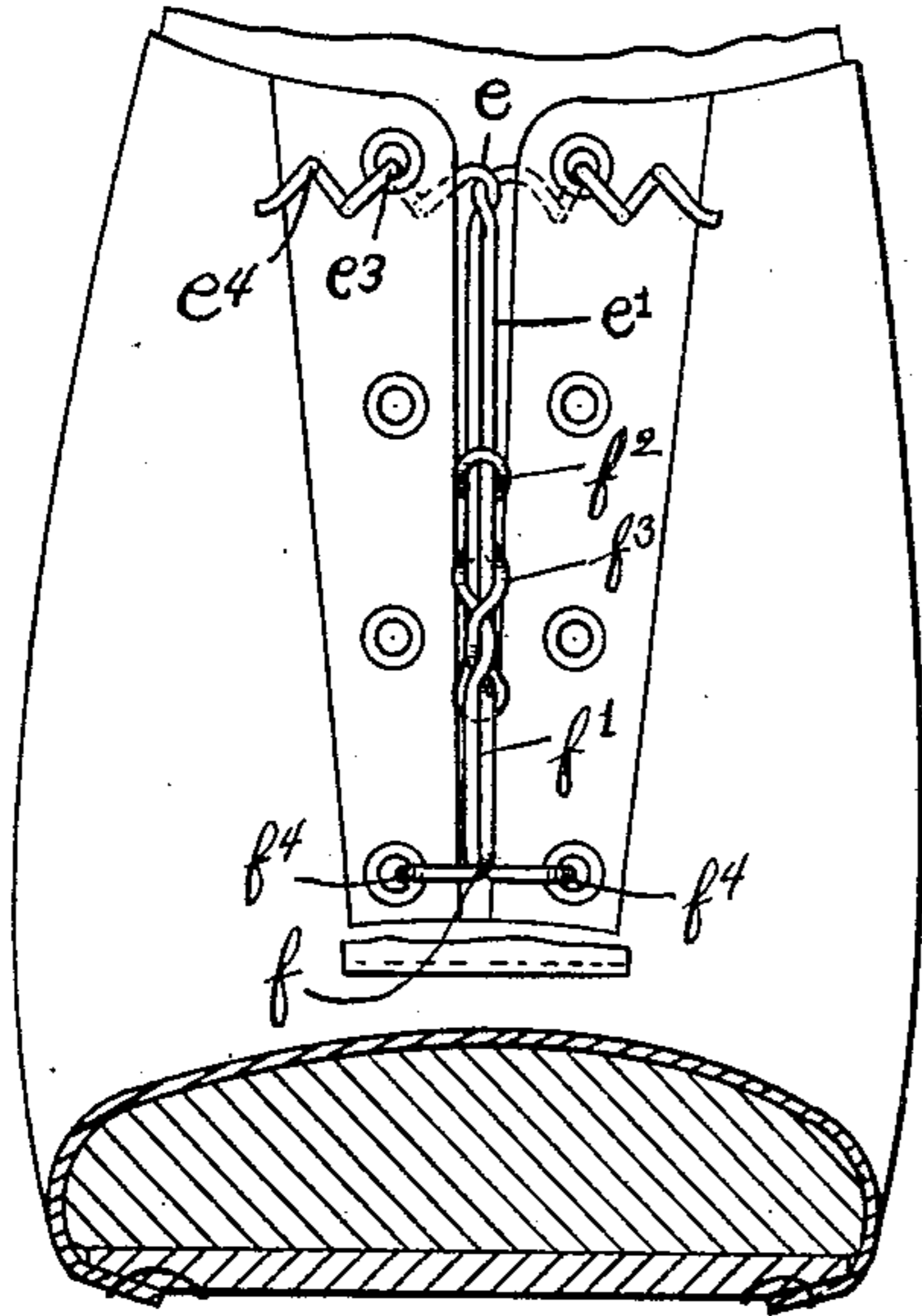


Fig. 5.

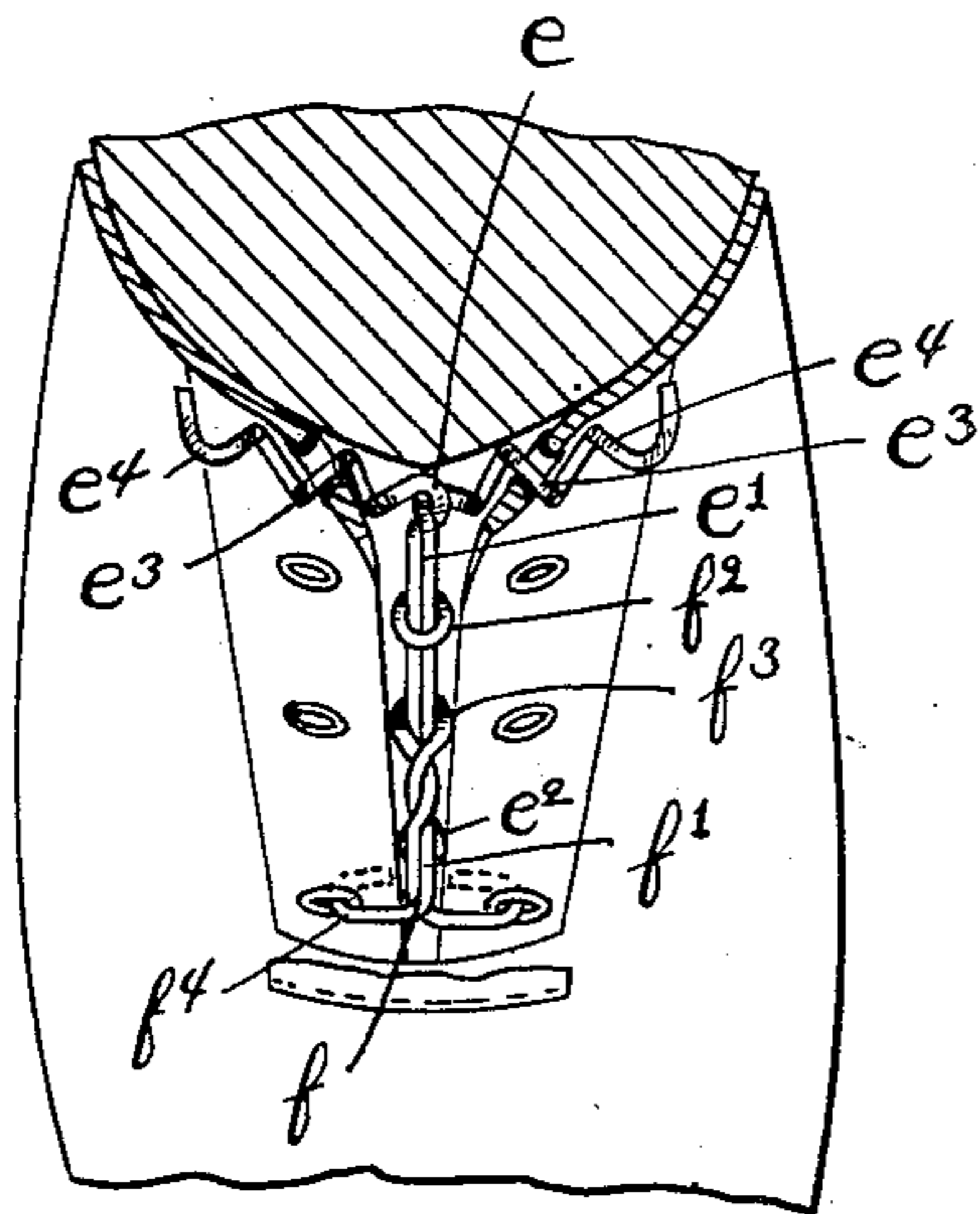
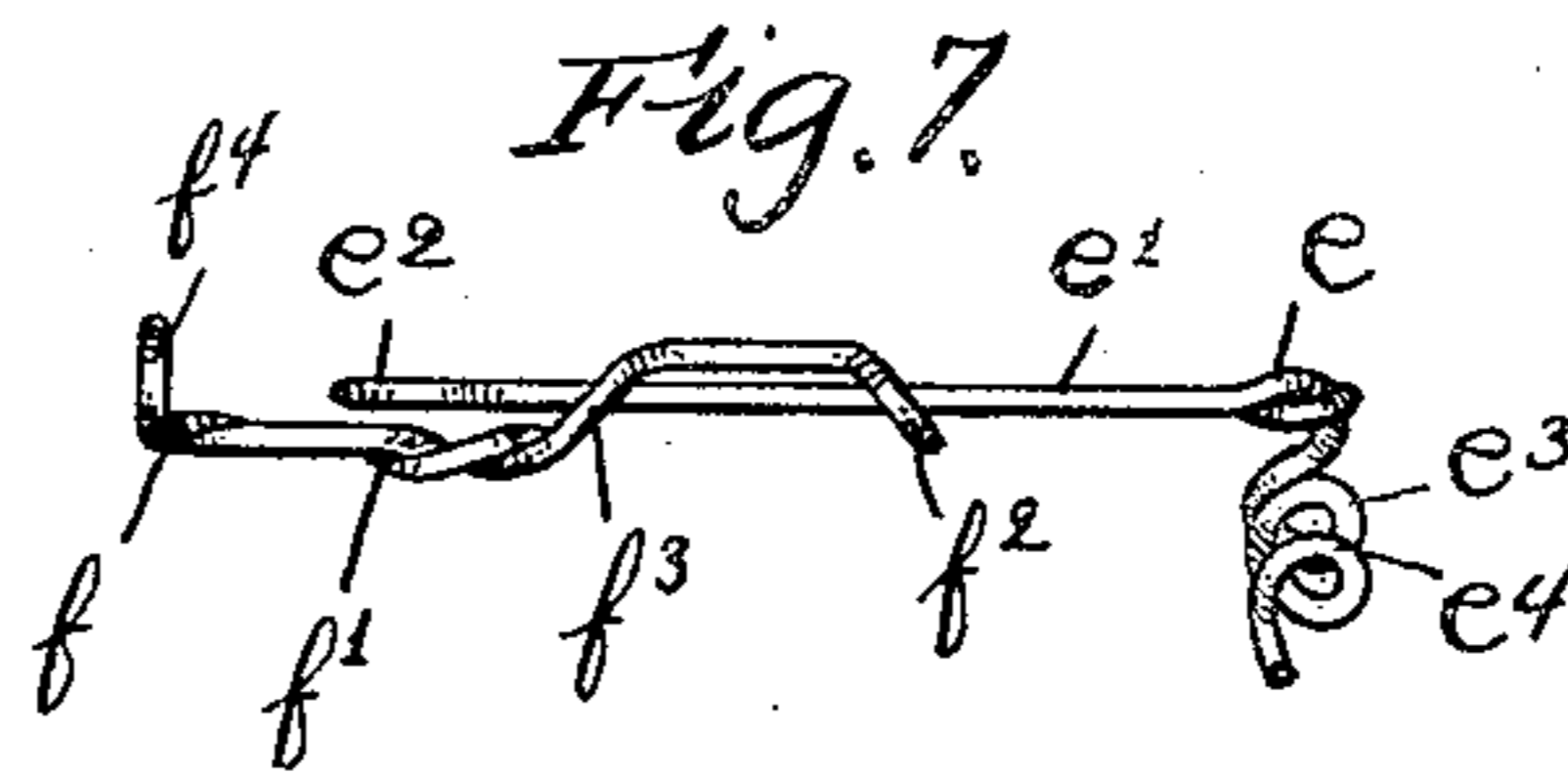
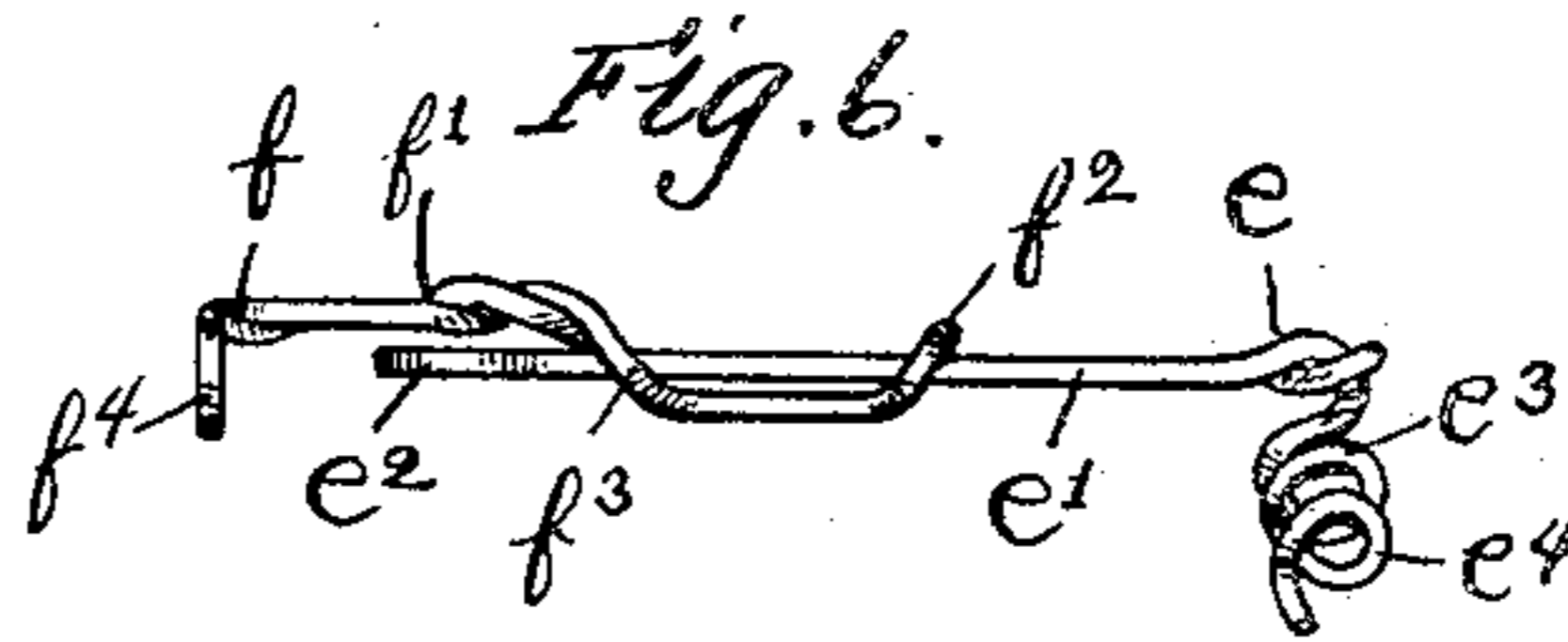


Fig. 8.

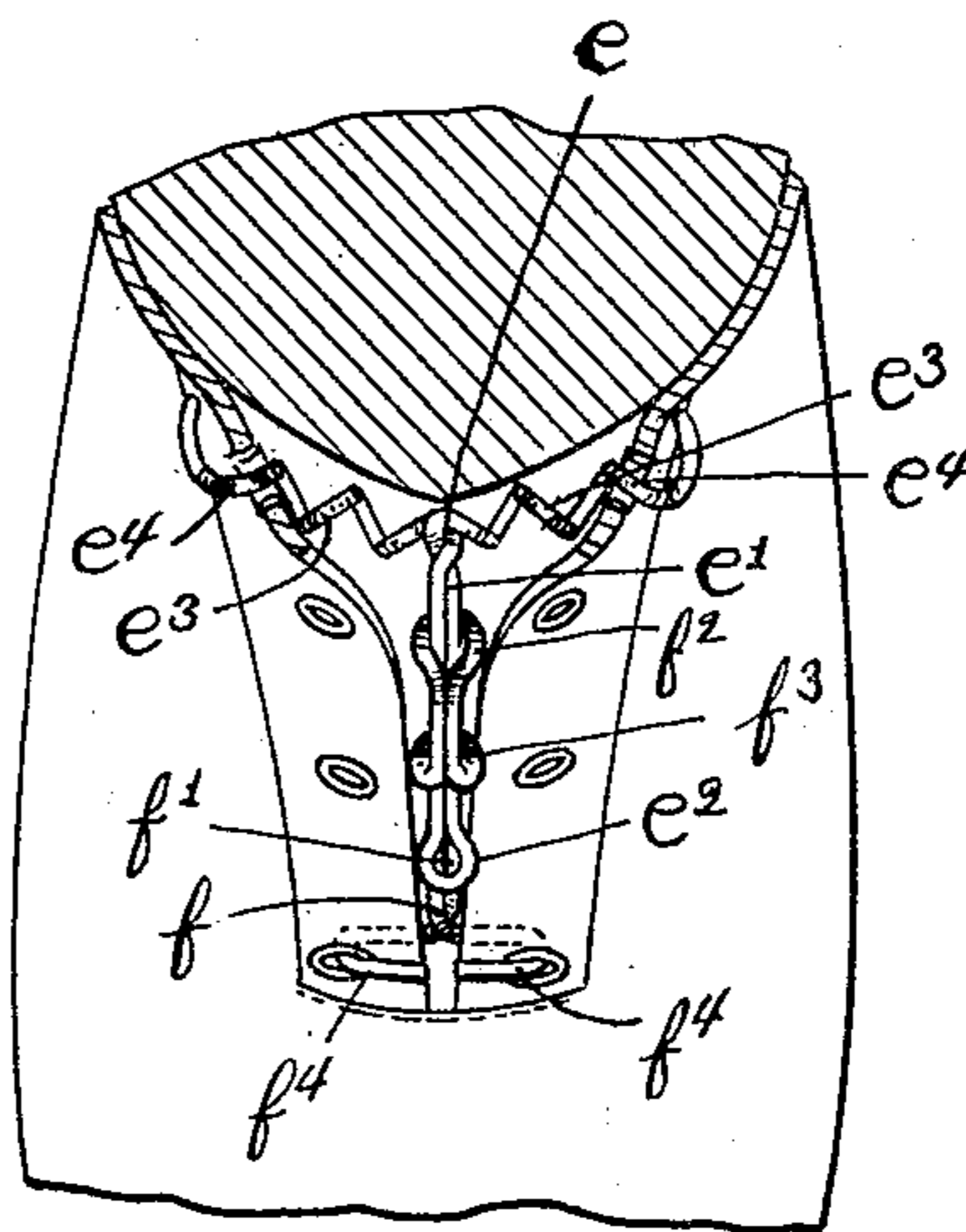


Fig. 9.

Witnesses:
H. B. Davis.
Cynthia Doyle

Inventor:
Michel Bergeron
by Royce Hamman
Atty's

UNITED STATES PATENT OFFICE.

MICHEL BERGERON, OF HAVERHILL, MASSACHUSETTS, ASSIGNOR OF ONE-HALF TO HERMAN E. LEWIS, OF HAVERHILL, MASSACHUSETTS.

FASTENER FOR SHOE-UPPERS.

No. 912,226.

Specification of Letters Patent.

Patented Feb. 9, 1909.

Application filed March 14, 1908. Serial No. 421,041.

To all whom it may concern:

Be it known that I, MICHEL BERGERON, a citizen of the United States, and resident of Haverhill, county of Essex, State of Massachusetts, have invented an Improvement in Fasteners for Shoe-Uppers, of which the following is a specification.

This invention relates to that class of devices commonly known as "lacers," which are employed for temporarily holding together or closing the lacing flies of shoe uppers.

Devices of this character which are in most general use must usually be especially constructed for the particular kind or style of shoe in connection with which they are to be used, in order that the flies may be drawn together to the desired extent and secured. The manufacture of special forms involve the manufacture of special tools, which causes an extra expense to the shoe-manufacturer, in addition to the fact that it is necessary for him to purchase a large number of these devices. Oftentimes the only variation of consequence between different shoes is in the spacing of the eyelets and, with all previously produced upper fasteners, of which I am aware, it is necessary to provide different fasteners where there is a substantial variation in the spacing of the eyelets, otherwise there is a tendency to pull the lacing fly longitudinally of the eyelet facing, which is objectionable, aside from the difficulty, if not practical impossibility, of inserting the device.

Devices of this character have never been used to a material extent, so far as I am aware, in the manufacture of turned shoes, principally because it has been impractical to use the same lacer, of any of the lacers which have been produced, both before and after the shoe is turned, for the reason that the inner sole and shank-piece which are inserted after the shoe is turned and relasted, take up so much of the upper that the lacing flies are much more widely separated after the shoe is turned than before, thereby necessitating two sets of lacers for each style of shoe.

The objects of my invention are to provide a lacer or upper fastener which is adapted to be employed in closing the flies of shoes of different styles, and which may be readily adjusted according to conditions, such as variations as to the extent which the lacing

flies must be drawn together, and variations in relative location and number of eyelets.

A further object of my invention is to provide a lacing device, which is especially adapted for use in the manufacture of turned shoes, and may be left in the shoe while it is being turned and relasted, so that it may be conveniently employed again to close the lacing flies after the shoe has been relasted.

I accomplish these objects by the means shown in the accompanying drawing, in which—

Figure 1 is a front elevation of a lacer made according to my invention, shown as applied to a turned shoe after the shoe is turned. Fig. 2 is a similar view showing the lacer partly detached. Fig. 3 is a view, similar to Fig. 1, showing the lacer attached to the shoe before the shoe has been turned. Fig. 4 is a perspective view of a form of lacer which I preferably employ. Fig. 5 is a view, similar to Fig. 1, showing a modified form of lacer. Figs. 6 and 7 are edge views of the lacer shown in Fig. 5, and Figs. 8 and 9 are views similar to Fig. 5, showing the manner of engagement of the lacer with the shoe before and after it is turned.

Referring first to Figs. 1 to 4, inclusive, *a* indicates one member and *b* the other member of an upper fastener or lacer made according to my invention, each member comprising a continuous piece of wire having its middle portion bent upon itself or doubled, to provide a body portion *a'* and *b'* respectively, and its end portions projecting in opposite directions at approximate right angles to provide eyelet-engaging and retaining fingers *a²*, *a³*, and *b²*, *b³*. As best shown in Fig. 4, the members *a* and *b* are oppositely disposed, their body portions *a'* and *b'* being arranged to overlap to an extent and the looped ends thereof, opposite the fingers, each being formed to provide an eye through which the other passes, each body portion being adapted to slide within the eye of the other, so that the body or stem which they unite to form may be lengthened or shortened. The connection is such, however, that they unite to form practically as rigid a body as if it were of continuous wire, each body portion being made to fit closely in the loop of the other, and each member being guided by the other at two points. It will be apparent that, with this form of connecting body for the fingers, one pair of fingers may

be adjusted transversely relatively to the other. The wires forming the body portion of each member are preferably twisted together closely adjacent the points where
 5 they are bent to form the eyelet engaging fingers, to bind the adjacent ends of the fingers firmly together and prevent spreading.

The fingers a^2 , a^3 are bent substantially
 10 in a spiral form, the number of turns to the spiral which is formed in each finger being varied according to conditions, although the number shown is all that is usually necessary. The spiral configuration
 15 in said fingers forms a series of eyelet retaining shoulders a^5 , a^6 , at suitable distances from the body portion. As to whether the spiral shall be turned to the right or to the left preferably depends on which lacing
 20 fly the finger is to engage. That is, the finger which is to engage the left fly is turned to the right, while the one which engages the right fly is turned to the left. The reason for this will be made apparent
 25 upon comparison of Figs. 1 and 3. In Fig. 1 the right hand spiral is shown as engaging the left fly, while in Fig. 3 the position of the lacer is shown as reversed, the right hand spiral being shown as engaging the
 30 right fly. When the eyelet is held as in Fig. 1, in order to detach it, the upper is pulled up and over obliquely towards the toe and to one side, and, as the spiral extends in the same general direction, the eyelet may be
 35 readily detached. If, however, the eyelet is held as in Fig. 3, the spiral beyond the point at which the eyelet is held extends obliquely towards the heel and side, so that, in order to disengage the upper, it is neces-
 40 sary to pull the upper from the toe, and as it is more difficult to do this, than to pull it from the heel, especially if the upper is drawn tight, it will be apparent that it will be more difficult to disengage the eyelet,
 45 when thus held, than when held as in Fig. 1. However, the difference in the ease with which the upper may be detached resides principally in the fact that when the right spiral engages the left fly, it is merely neces-
 50 sary to pull the upper up and forwardly, while when it engages the right fly the upper must be pulled rearwardly before it can be pulled up and forwardly. The portion of the spiral beyond each retaining shoulder
 55 presses against the surface of the fly and thus acts to prevent disengagement of the eyelet therewith.

The fingers b^2 , b^3 are bent to provide a hooked portion b^1 , at their ends, which are
 60 adapted to be inserted in the lower eyelets of the shoe, the wire of each finger being extended on itself far enough to prevent them from becoming detached when the shoe is on the last.

65 An intermediate eyelet retaining device

may be provided midway between the fingers b^2 , b^3 , and a^2 , a^3 , which consists of a continuous piece of wire c , bent one or more times about the body portion a' , between the loop at the end thereof and the loop of the
 70 other member, through which it passes. The end portions of said wire c are bent to provide spirally shaped eyelet engaging fingers c' , c^2 , similar to the fingers a^2 , a^3 . The retaining device c may be moved transversely
 75 on the body a' , so that its fingers may be adjusted with relation to the position of the eyelets, and enabling the device to be satisfactorily employed in a three, four or five eyelet fly. 80

The manner of using the device above described in the manufacture of turned shoes is as follows:—Before the upper is placed on the last, preliminary to lasting, the fin-
 85 gers or hooks b^2 , b^3 are inserted in the lower eyelet holes and the arms a^2 , a^3 are inserted in the upper eyelets, as shown in Fig. 3. If the intermediate eyelet engaging device c is employed, the arms thereof will also be inserted in corresponding eyelets, as
 90 shown, and will be adjusted transversely, according to the location of the eyelets, which they are to engage, as will the eyelet engaging fingers a^2 , a^3 , the construction shown being especially adapted for use in connec-
 95 tion with a three or a five eyelet shoe, although it may be satisfactorily employed in shoes having other numbers of eyelets, and although the spacing of the eyelets may vary within wide limits. After the shoe is
 100 lasted and has been sewed, the upper eyelet engaging fingers will be detached from the lacing flies, as shown in Fig. 2, and then the last will be removed and the shoe turned without removing the lower fingers b^2 , b^3 . 105
 The shoe is then relasted and the upper eyelet retaining fingers are again inserted in the corresponding eyelets, the upper being drawn up into position and secured in the same manner as before, as shown in Fig. 1. 110

While the construction of lacer above described may be employed after the shoe is turned, without removing it, yet under some conditions the reversal of the upper fingers a^2 , a^3 is undesirable, for the following rea-
 115 sons. When the fingers which engage the higher portions of the flies are rigidly held at an angle corresponding to the angle of the front of the last at the instep to hold the flies close to the last, in one position, they
 120 will hold it away from the last in the opposite position, to an extent which is sometimes undesirable. Furthermore, the increased difficulty of detaching the eyelet from the spiral finger when in the relative
 125 positions of Fig. 3, is objectionable under some conditions. To obviate these difficulties, and yet enable the lacer to be left, without inconvenience, in the shoe while the shoe is being turned, I provide the construc- 130

tion shown in Figs. 5 to 9. As shown in the drawing, the upper member e is provided with the middle body portion e' , as before, except that the end portion, in which the loop is formed, is not bent to one side, but the whole body is straight, the eye or loop e^2 at the end being slightly distended to form a shoulder in the body. The lower member f comprises a body portion f' formed by doubling the middle portion of the wires, and forming an eye f^2 in the looped end, which is bent at an angle to the main portion and through which the other body portion e' passes, as described in connection with member b . At a point about midway of the body portion f' the wires are distended to form an eye f^3 , which is bent obliquely, so that it is in alinement with the eye f^2 , to permit the body portion e' also to pass therethrough. The body portion e' is adapted both to slide and to rotate in said eyes or openings f^2 , f^3 , the loop e^3 in its end acting as a shoulder to prevent its withdrawal therefrom, and as the body portion e' fits closely in said eyes f^2 , f^3 , it is thus guided at two points at some distance apart, so that said body portions are securely held in alinement. The end portions of the upper member e are provided with spirally formed fingers e^3 and e^4 arranged at an oblique angle and having respectively right and left hand spirals, as previously described, with relation to the fingers a^2 , a^3 . The member f is also provided with hook shaped fingers f^4 similar to the fingers b^2 , b^3 previously described. The wires of the body portions are twisted together at different points to prevent spreading, as shown. With this form of my invention, when the upper is first placed upon the last, the upper eyelet engaging fingers will be arranged so that they lie closely against the sides of the last. The shoe is then sewed and turned, the fingers f^4 being left in the lower eyelets, while the shoe is being turned and relasted. After it has been relasted the upper member e of the lacer is given half a turn, so that its finger having the right hand spiral may be inserted in the left lacing fly, and the one having the left hand spiral in the right lacing fly, as they were before the shoe was turned.

As in the manufacture of turned shoes, it is usually practically impossible to draw the lacing flies as closely together after the shoe is relasted, as before it is turned, on account of the shank piece and inner sole which are usually inserted. For this reason the same eyelet-holding shoulders can not be brought into engagement with the eyelets after the shoe is turned, as were in engagement therewith before it was turned, the shoulders which are brought into engagement with the eyelets after turning being nearer the end of the fingers than those previously engaged. In practice the distance between the shoul-

ders is made to correspond, as nearly as possible, to the extent which the shank piece and inner sole take up the lacing flies, so that eyelets will be engaged, after turning, by the shoulders next adjacent those which engaged them before turning.

It will be apparent from the foregoing that the provision of a lacer having a series of eyelet-retaining shoulders is especially advantageous when used in connection with turned shoes, as compared with a similar device in which the eyelets may be engaged at one point only, for the reason that with the latter, a lacer, to be used after turning, would have to be provided in addition to the one which is used before turning, while, with a lacer made according to my invention, the same lacer may be used before and after turning.

From the foregoing, it will be apparent that an upper fastener or lacer made according to my invention may be used under widely varying conditions.

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

1. A detachable fastener for shoe uppers comprising two members, each having a middle body portion, each body portion having a pair of oppositely disposed eyelet-engaging and retaining fingers extending therefrom in opposite directions transversely thereof, said body portions being slidably connected one to the other to permit relative transverse adjustment of said fingers, substantially as described.

2. A detachable fastener for shoe uppers comprising two members each composed of a continuous section of wire, each of the end portions of which are formed to provide eyelet-engaging and retaining fingers and the intermediate portions of which are formed to provide a slidable connection therebetween, substantially as described.

3. A detachable fastener for shoe uppers comprising two members each composed of a continuous section of wire, the end portions of which are formed to provide eyelet-engaging and retaining fingers, and the intermediate portions of which are doubled to provide loops which extend at an angle to said fingers, and the loop of one member passing through the loop of the other member to connect said members, substantially as described.

4. A detachable fastener for shoe uppers comprising two members each composed of a continuous section of wire, the end portions of which are formed to provide eyelet-engaging and retaining fingers, and the intermediate portions of which are doubled to provide loops which extend at an angle to said fingers, and the loop of one member passing through the loop of the other member and being slidably mounted therein to

connect said members and permit relative transverse adjustment of said fingers, substantially as described.

5 5. A detachable fastener for shoe uppers comprising two members each having longitudinal overlapping body portions connected together, and transverse eyelet engaging and retaining fingers at the opposite ends of said body portions, said body portions being constructed to permit relative longitudinal movement thereof, substantially as described.

15 6. A detachable fastener for shoe uppers comprising two members each composed of a middle body portion and a pair of oppositely extending fingers having eyelet-engaging and retaining means, said body portions having a rotatable connection to permit said members to be turned into relative opposite positions, substantially as described.

25 7. A detachable fastener for shoe uppers comprising a pair of coacting eyelet-engaging and retaining devices disposed to engage eyelets in opposite portions of the upper, one of said devices comprising a finger having a series of eyelet-retaining shoulders, substantially as described.

30 8. A detachable fastener for shoe uppers comprising a pair of oppositely disposed eyelet-engaging and retaining fingers connected together at their adjacent ends, each of said fingers having a series of eyelet-retaining shoulders, substantially as described.

35 9. A detachable fastener for shoe uppers comprising two connected members each having a pair of oppositely disposed eyelet-engaging and retaining devices, one of said devices being composed of a spirally bent wire adapted to be inserted in the eyelet and to retain the same at different points thereon, substantially as described.

45 10. A detachable fastener for shoe uppers comprising two members each having a pair of oppositely disposed eyelet-engaging and retaining fingers connected at their adjacent ends and each composed of a wire bent spirally to form a series of eyelet-retaining shoulders, substantially as described.

50 11. A detachable fastener for shoe uppers comprising a pair of oppositely disposed eyelet-engaging and retaining devices, one of said devices comprising a finger composed of a wire bent spirally to form a series of eyelet-holding shoulders having a portion thereof beyond each shoulder disposed to

bear against the adjacent upper to prevent disengagement of the eyelet, substantially as described.

60 12. A detachable fastener for shoe uppers comprising a longitudinal body having a pair of oppositely disposed eyelet-engaging and retaining fingers at each end thereof, one pair of said fingers each being of hook shaped form with the extreme end portion extending upon itself to retain the eyelet securely therein, and the other pair each having retaining shoulders constructed to permit ready disengagement of the eyelet therefrom, substantially as described. 70

75 13. A detachable fastener for shoe uppers comprising a longitudinal body having a pair of oppositely disposed eyelet-engaging and retaining fingers at each end thereof, one pair of said fingers each being of hook shaped form with the extreme end portion extending upon itself to retain the eyelet securely therein, and the other pair each having spirally formed eyelet-engaging and retaining shoulders, substantially as described. 80

85 14. A detachable fastener for shoe uppers comprising a pair of connected eyelet-engaging and retaining devices, one of said devices being composed of a spirally bent wire adapted to be inserted in the eyelet and to retain the same at different points thereon, substantially as described.

90 15. A detachable fastener for shoe uppers comprising a pair of oppositely disposed eyelet-engaging and retaining fingers connected at their adjacent ends, each of said fingers being composed of a spirally bent wire adapted to be inserted in the eyelet to retain the same at different points, substantially as described. 95

100 16. A detachable fastener for shoe uppers comprising a pair of connected eyelet-engaging and retaining devices, one of said devices comprising a finger having a series of eyelet retaining shoulders, a portion of said finger beyond each shoulder being disposed to bear against the adjacent upper portion to prevent disengagement of the eyelet, substantially as described. 105

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

MICHEL BERGERON.

Witnesses:

L. H. HARRIMAN,
H. B. DAVIS.