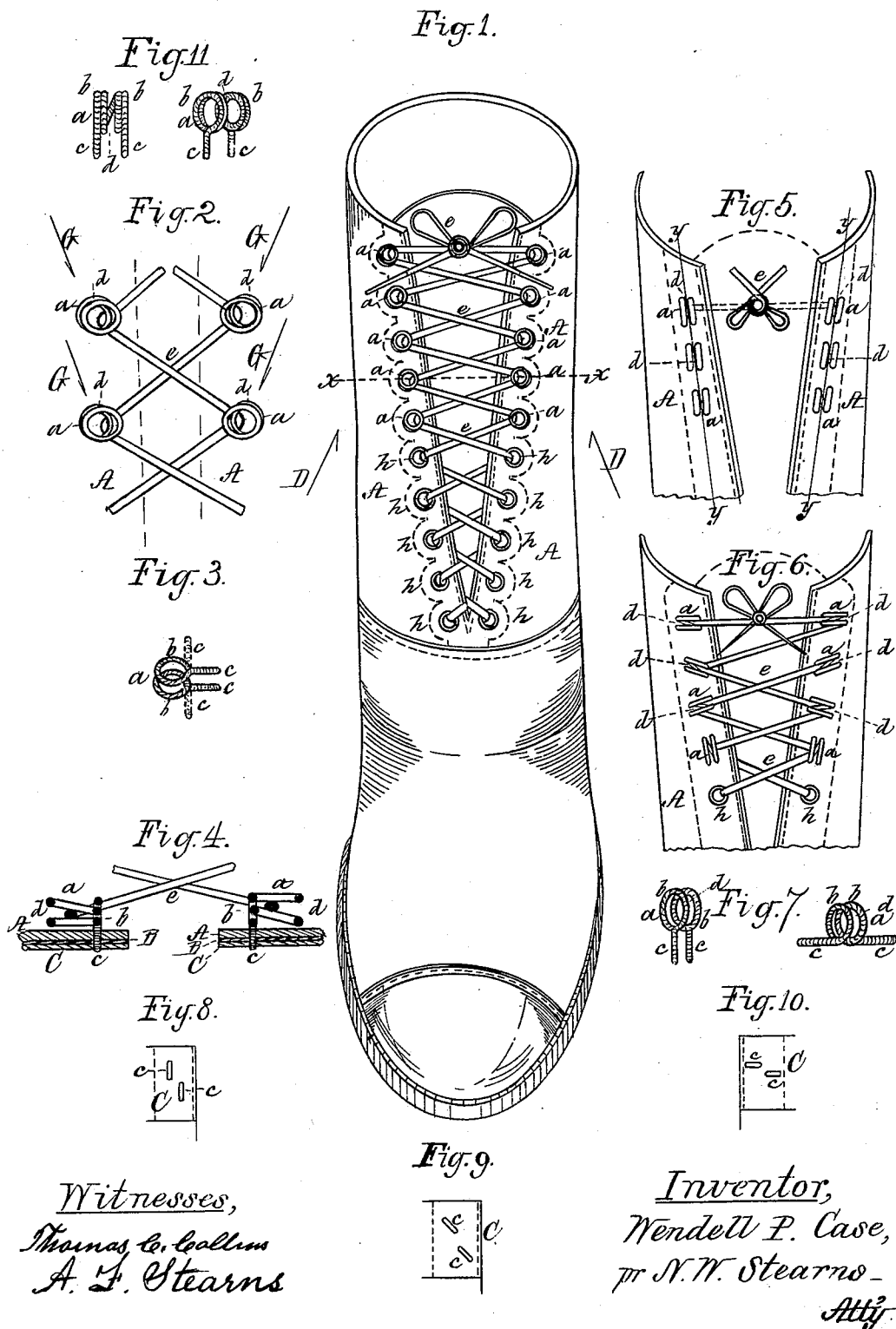


(No Model.)

W. P. CASE.
SHOE FASTENING.

No. 513,085.

Patented Jan. 23, 1894.



UNITED STATES PATENT OFFICE.

WENDELL P. CASE, OF MIDDLEBOROUGH, MASSACHUSETTS.

SHOE-FASTENING.

SPECIFICATION forming part of Letters Patent No. 513,085, dated January 23, 1894.

Application filed February 8, 1893. Serial No. 461,452. (No model.)

To all whom it may concern:

Be it known that I, WENDELL P. CASE, of Middleborough, in the county of Plymouth and State of Massachusetts, have invented certain Improvements in Fastenings for Lacings of Shoes, Corsets, Gloves, &c., of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a view of the front of a shoe with my improved fastenings applied thereto. Fig. 2 represents a series of my said fastenings on an enlarged scale in order to better illustrate one of the methods of using a lacing therewith. Fig. 3 is an enlarged view showing the form of one of my fastenings before being located within the flap of the shoe—its ends being bent as shown in dotted lines when secured thereto; Fig. 4 a section on the line *x x* of Fig. 1, enlarged. Figs. 5 and 6 represent my fastenings applied in various positions to the flaps. Fig. 7 represents two of my fastenings enlarged. Figs. 8, 9 and 10 represent the straight portions of my fastening bent and clinched in various positions to the under side of the stay piece; Fig. 11 my fastener enlarged formed of two pairs of coils.

My present invention relates to fastenings for lacings for shoes, gloves, corsets, &c., and consists in coils of spring wire terminating in two straight portions—the latter being intended to enter the flap at each side of the central opening at the instep of the shoe or wrist of a glove and being thereafter bent under and flattened down upon the inside of the stay piece;—the coils being endowed with the properties of a spring, whereby when the lacing is drawn into the space between the coils a wedging effect is produced which causes a further separation between them, and the lacing to be firmly grasped and tightly held by their resilient action—my device also serving as a hook, around the shank of which (at the junction of the coil with the flap) the lacing may be drawn,—the device being also employed if desired as an eyelet for the passage of the lacing and affording a reliable fastening which can not slip, will not break or bend out of shape when subjected to the strain of a taut lacing, will not cut and cause the latter to break and does not present an angular

surface for catching and tearing the dress of the wearer;—the foregoing objections being incident to various forms of lacing fastenings now in use.

In the said drawings *a* represents my improved fastening of spring wire of the minimum diameter compatible with the strength required, and so bent as to form coils *b* terminating in two straight portions *c*. Two coils *b* are shown in Figs. 1 to 7 inclusive, while in Fig. 11, I have shown four coils *b*, two terminations *c* being always employed.

Where the fastening has but two coils—(which I usually prefer) they are not closed snugly together, but are separated so as to form a narrow space *d* between them, into which space the lacing *e* is to be drawn with a wedging action tending to slightly still further separate them, the coils performing the functions of a spring by yielding outwardly to the resistance of the lacing and asserting its resiliency in tightly grasping and securely holding it beyond liability of slipping when subjected to the strain arising from the movement of the instep of the foot.

Should a fastening be required having four coils *b* the space *d* would be left between the two pairs—*i. e.*, between the two inside coils (one coil of each pair);—the two coils of each pair on opposite sides of the space *d* being wound snugly against and abutting each other. In Fig. 1 five fastenings *a* are secured to the upper part of the flap *A* on each side of the opening at the instep—below which fastenings *a* I provide each side of the flap with ordinary eyelets *h*.

The two straight terminations *c* after being passed through the flap *A*, lining *B* and stay piece *C* are spread apart in opposite directions and clinched or flattened down on the inside of the stay *C*. See Figs. 3, 4, 8, 9 and 10.

In order to better illustrate the invention, the fastenings being small but of full size in Fig. 1 I have viewed them from opposite sides of the flap, looking upward from the instep in the direction of the arrows *D*—said views revealing the lower coil more plainly, by representing it as projecting slightly beyond the upper coil.

In Fig. 2 representing the fastening, enlarged, the lower coils are seen in the direction of the arrows *G* looking downward—and

in both of said figures the fastenings are represented as secured to the flap at such an angle that the plane passing through the space d and parallel to the coils makes about twenty-five (25) degrees with the flap at its junction therewith.

My improved fastenings may be so applied to the flap as to occupy different angles of inclination therewith.

10 In Fig. 5 the fastenings are represented as being so located that a straight line yy will pass through the centers of the spaces d between the several pairs of coils on the same side of the flap, and in this position the lacing may be 15 clamped by each fastening by drawing it up through the space d between its two coils—or the lacing may pass around one or more of the fastenings a at the junction of the straight portions c and the coils b , in which position 20 the lacing would rest on the surface of the flap at this point, and owing to the wire being round in cross section no sharp edge would be presented to cut and break the lacing as frequently occurs with some fastenings 25 now in use, while the strain produced by the taut lacing at this point on the fastening (being at its junction with the flap) can not break or bend the fastening out of its original shape.

30 In Fig. 6 a series of fasteners is shown turned at various inclinations, simply to denote that by such a diverse arrangement the lacing would properly engage with all of them—my said device being endowed with 35 all of the necessary functions of a hook, of an eyelet and a secure fastening to prevent slipping of the lacing, while by its use the dress of the wearer can not be caught and torn thereby.

40 My aforesaid fastening is endowed with increasing spring pressure as the curved portion of each coil approaches the point where

its circumference is completed—i. e., the wire does not change from a curved direction to a straight direction until the two coils have 45 completed their circular form—when both straight portions will be located in an imaginary plane passing vertically through the common center or axis of both coils. A device of the aforesaid construction may be 50 employed in fastening lacings of gloves and corsets, and cords and strings for various purposes.

Figs. 1, 5 and 6 represent the preferable size of my fasteners—but to more comprehensively illustrate my invention, in Figs. 55 2, 3, 4, 7 and 11 besides enlarging their size I have enlarged the space between two consecutive coils.

I claim—

1. A fastening for lacings, cords &c. (for shoes—gloves and corsets—) consisting of a pair of continuous coils of spring wire having two straight terminations parallel to each other and located in a vertical plane passing 65 through the common axis of the coils, as set forth.

2. A fastening for lacings, consisting of two continuous coils of spring wire—the completion of each coil having a straight termination—the two terminations being parallel to each other and located in a vertical plane passing diametrically through both coils—said terminations after passing through the material to which the fastening is to be applied, being bent and clinched down upon 75 the under side of the same—as described.

Witness my hand this 2d day of February, 1893.

WENDELL P. CASE.

In presence of—

N. W. STEARNS,
THOMAS C. COLLINS.