

(No Model.)

I. W. MOORE & W. B. SNYDER.

SHOE BUTTON FASTENER.

No. 309,972.

Patented Dec. 30, 1884.

Fig. 1.

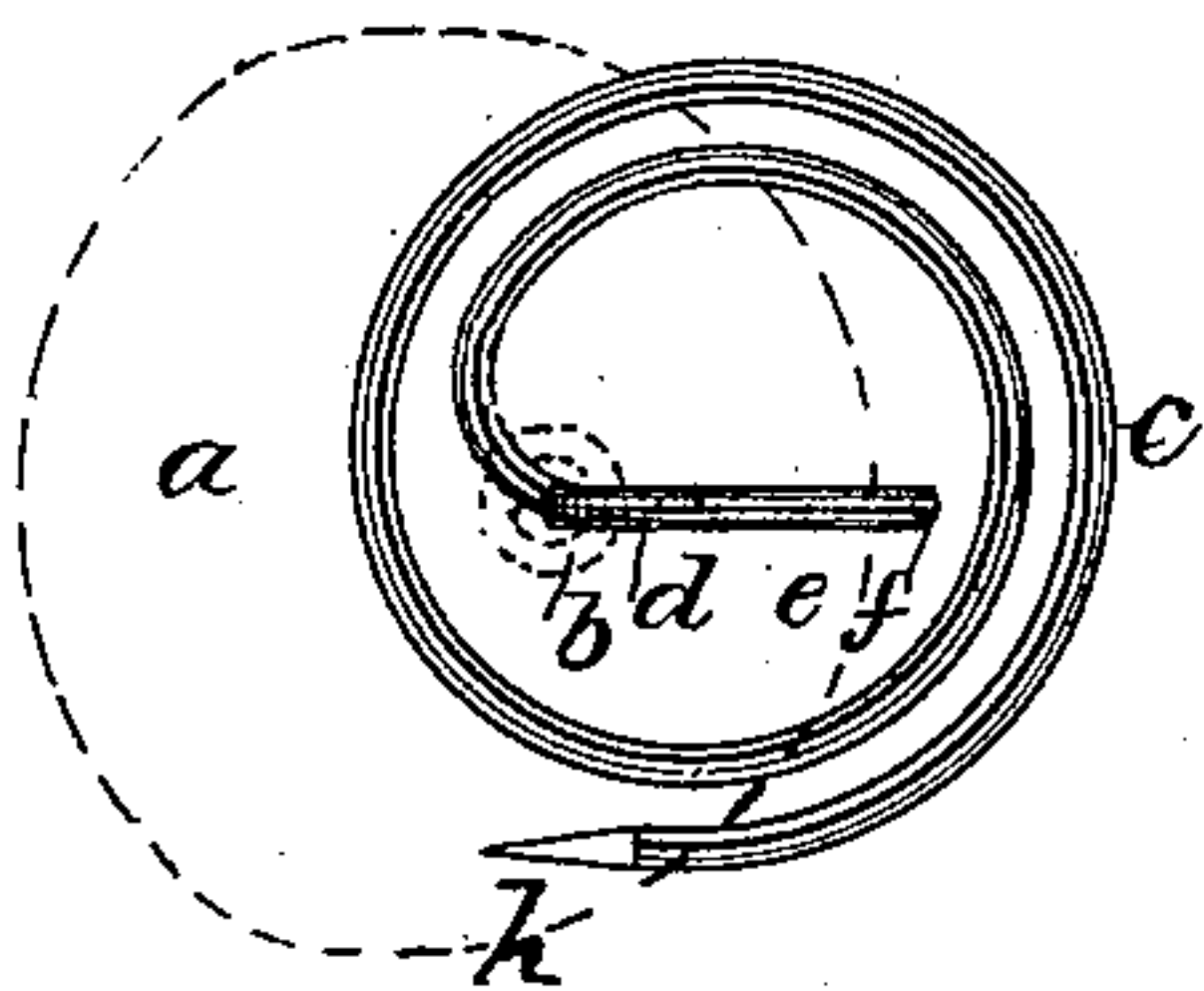


Fig. 2.

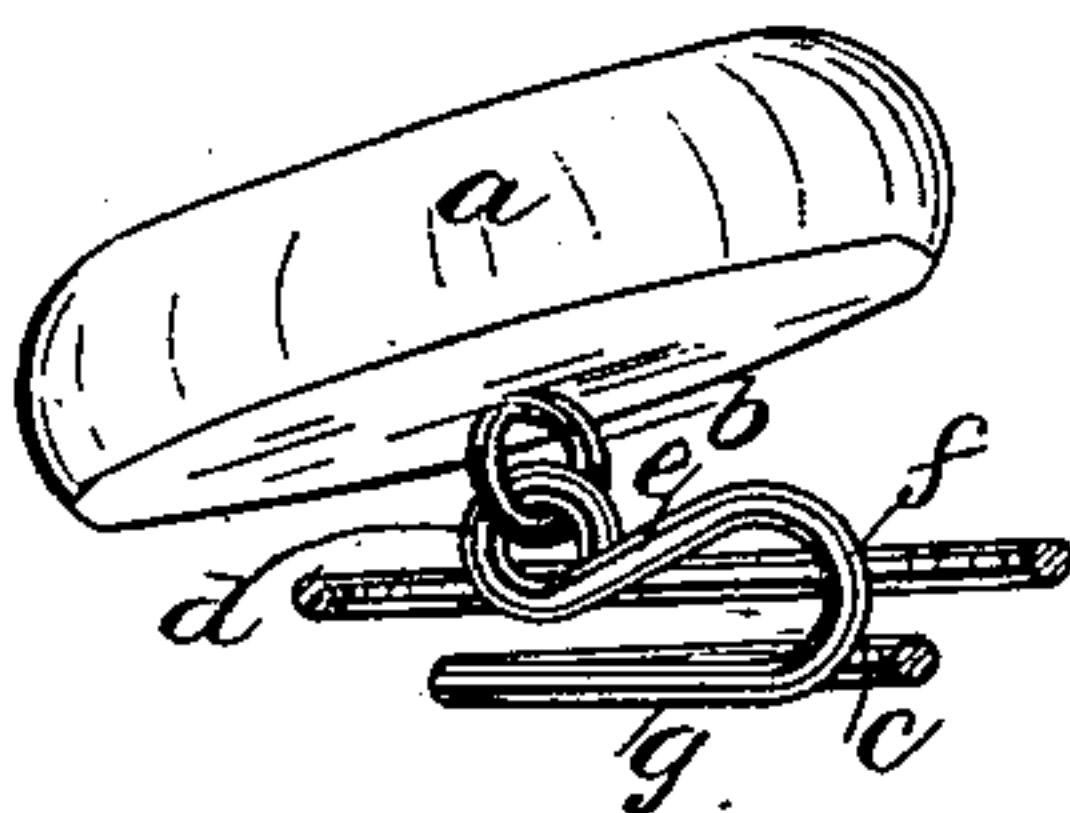


Fig. 4.

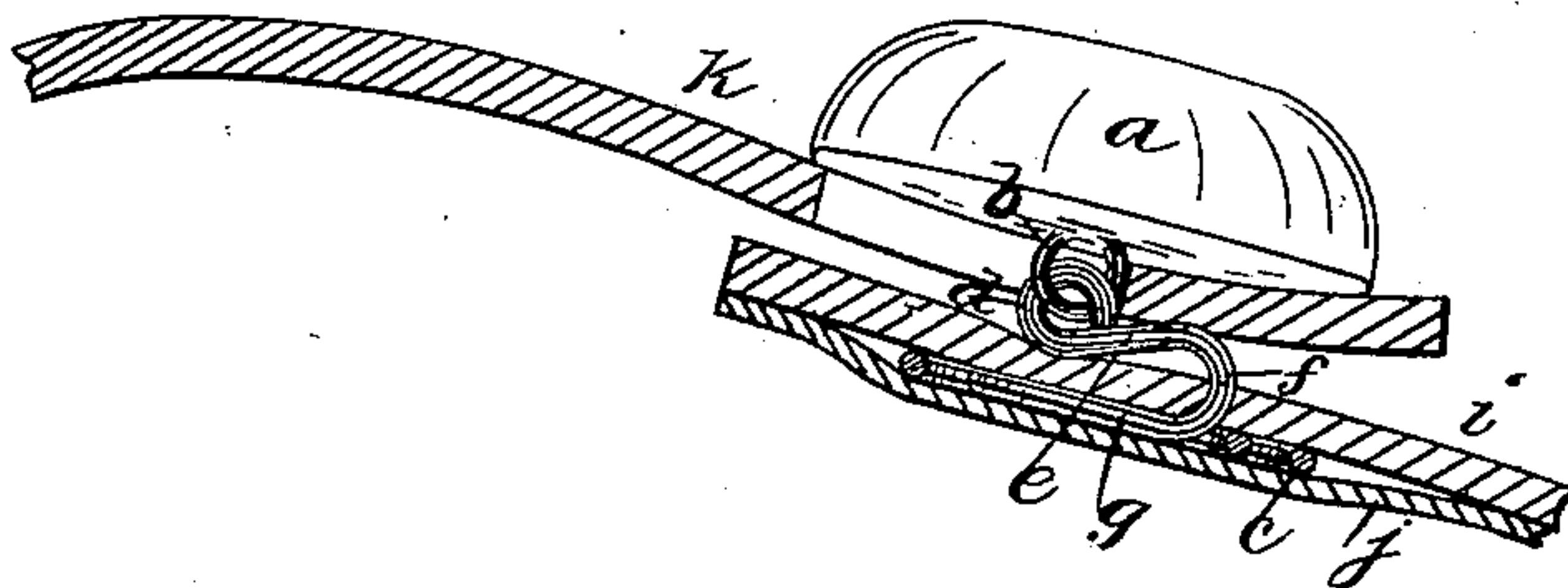


Fig. 3.



WITNESSES.

A. P. Thayer
D. J. Morgan

INVENTOR.

Ira. W. Moore
Ward B. Snyder
By A. P. Thayer atty

UNITED STATES PATENT OFFICE.

IRA W. MOORE AND WARD B. SNYDER, OF NEW YORK, N. Y.

SHOE-BUTTON FASTENER.

SPECIFICATION forming part of Letters Patent No. 309,972, dated December 30, 1884.

Application filed March 21, 1884. (No model.)

To all whom it may concern:

Be it known that we, IRA W. MOORE and WARD B. SNYDER, citizens of the United States, and residents of New York city, in the
5 county and State of New York, have invented new and useful Improvements in Shoe-Buttons, of which the following is a specification.

Our invention consists of a shoe-button having a concave spiral-wire fastener permanently
10 jointed to the eye of the button by an eye of the fastener, said eye of the fastener being formed on the end of a loop in the shank of the fastener, that hooks through the leather in such manner that the pull of the button keeps
15 the fastener always in its right position, and prevents it from working out by turning, and said loop gives direction to the stress of the button that has less cramping or tilting effect on the fastener than when the eye of the fast-
20 ener is set in the top of its shank; and said loop grips the leather between the hole through the leather for the shank of the fastener and the button, for a further means of maintaining the desired flat condition of the coil—that is to
25 say, parallel with the lay of the leather, and to prevent the chafing of the leather in the hole for the shank. The coil is made a little concave on the side that draws against the leather to insure the requisite bearing at the radial ex-
30 tremities of the coil, and the point of the coil is beveled, mainly on the upper side, to enable the coil to be turned without catching in the leather at the same time that the leather is pulled away from the lining by pulling the
35 button while screwing in the fastener for preventing the coil from catching in and going through the lining, all as hereinafter fully described, reference being made to the accompanying drawings, in which—

40 Figure 1 is a plan view of the coiled fastener, with the button-head in dotted lines and turned over sidewise. Fig. 2 is a side elevation of the button-head and section of the coil. Fig. 3 is an end view of the point of the coil. Fig. 4 is
45 a side elevation of the button-head and section of the coil, and of a couple of pieces of leather buttoned together, as the two sides of a shoe-upper.

50 We make the ordinary shoe-button, consisting of head *a* and eye *b*, together with a coiled-wire fastener, *c*, which we permanently con-

nect to the button in the making of the fastener by forming an eye, *d*, looping it through the eye *b* of the button and turning the end of the wire back against the body to close the
55 joint permanently. From the eye *d* we bend the wire in the form of a loop, consisting of the upper member, *e*, bend *f*, and lower member, *g*. The part *f* is the shank of the fastener, which extends through the leather *i*, while
60 parts *f* and *g* extend along the upper and lower sides of the leather, respectively, in the same plane, so as to pinch or grip the leather between them, and particularly between the eye *d* and the part of *g* directly under the eye. From
65 under the eye *d* the part *g* of the loop merges in the coil *c*, which consists of two or more turns of the wire, which gradually rise toward the button-head to make the concave form of the coil for drawing the eye *d* well down on
70 the outside of the leather, and terminates in a tangential point, *h*, which is tapered from the upper side down to the point, as shown in Fig. 3. The tangential arrangement of the point facilitates the screwing of the coil in the leather,
75 particularly in starting the point in the hole, and the taper of the upper side for making the point allows of pulling up on the button while screwing it in to prevent the point from going
80 through the lining *j* without causing the point to catch in the leather, as it might if pointed centrally.

It will be seen by reference to Fig. 4 that the position of eye *d* is closer down on the leather than it would be if formed directly on
85 the shank *f* perpendicular to the leather, so that the button-head does not turn over sidewise by the pull of the shoe-flap *k* so much. It will also be seen that the lateral pull on the shank is lower down; also, that the curve of
90 the shank is better adapted for resisting the lateral pull than the perpendicular shank; also, that the pull of the button causes a downward thrust of the eye on the leather that relieves the lateral thrust on the shank, and also
95 that causes the stress on the coil to be more evenly distributed, and the low position of the eye insures the more upright position of the head of the button. The grip of the leather by the loop prevents the fastener from shifting
100 around and working out of the leather, and also prevents the wear of the leather in the hole

that a perpendicular shank causes. The eye *d*, being formed on the part *e* of the loop extending in the direction of the pull of the button-eye, takes the stress of the button-eye at a point 5 where its tendency to open the eye is less than it is in the case of an eye formed directly on the upper end of the shank.

We may make the loop *e f g* shorter or longer, as preferred. It may even be so shortened that the eye *d* may be formed directly at the upper bend of the shank *f*; but it is to be so that it will bear on the leather *i* all the same between the shank *f* and where the pull of the button-eye takes effect on it. By such 15 arrangement of a portion of the bend of eye *d* to bear on the leather the effect on the leather will be much less injurious than where the eye consists of an open hook, the end of which projects down to the leather, or thereabout, as the 20 end of the wire chafes the leather.

An important advantage of the permanent connection of the fastener to the eye of the button by closing the eye of the fastener around the eye of the button is that it makes such 25 substantial connection that the head of the button may be used as a thumb-bit by which to screw the coil into the leather without the use of a tool, such as is required when the fastener has an open eye to hook on the button after the fastener is screwed in. 30

What we claim, and desire to secure by Letters Patent, is—

1. The combined eye-button *a b* and spiral-wire fastener *c*, said fastener being permanently jointed to the eye of the button by the eye 35 of the fastener passed through the eye of the button and closed around the wire of the but-

ton-eye and against the shank of the fastener-eye, substantially as described.

2. The combination, with an eye-button, *a b*, of a spiral-coil fastener, *c*, having the eye *d* 40 formed on the shank *f*, for connecting with the button-eye, arranged to bear along a portion of its bend on the leather between the shank of the fastener and the point of said eye when the 45 pull of the button-eye takes effect, and press the leather against the coil of the fastener, substantially as described.

3. The combination, with an eye-button, *a b*, of a spiral-coil fastener, *c*, having the eye *d*, 50 which connects with the button-eye formed in the end of a lateral extension, *e*, of the shank *f* of the fastener, substantially as described.

4. The combination, with an eye-button, *a b*, of a spiral-coil fastener, *c*, having the eye *d*, 55 which connects with the button-eye formed in the outer end of the loop *e f g*, the inner end of which loop merges in the coil, said loop being arranged to grip or pinch the leather and hold the coil closely and firmly to the leather, 60 substantially as described.

5. The combination, with an eye-button, *a b*, of a concave spiral-coil fastener, *c*, jointed to the eye *b* of the button, substantially as described. 65

In witness whereof we have hereunto signed our names in the presence of two subscribing witnesses.

IRA W. MOORE.
WARD B. SNYDER.

Witnesses:

W. J. MORGAN,
S. H. MORGAN.