(No Model.)

A. A. MANDELL.

SUSPENDERS.

No. 418,203. Patented Dec. 31, 1889.

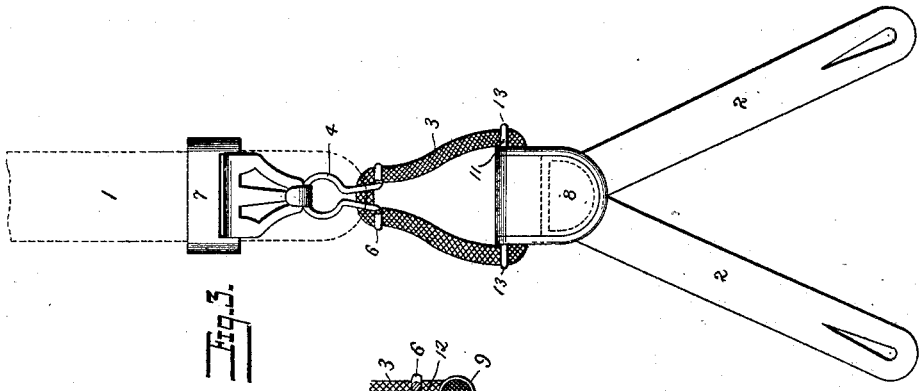

Fig. 3.

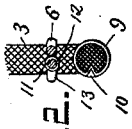

Fig. 2.

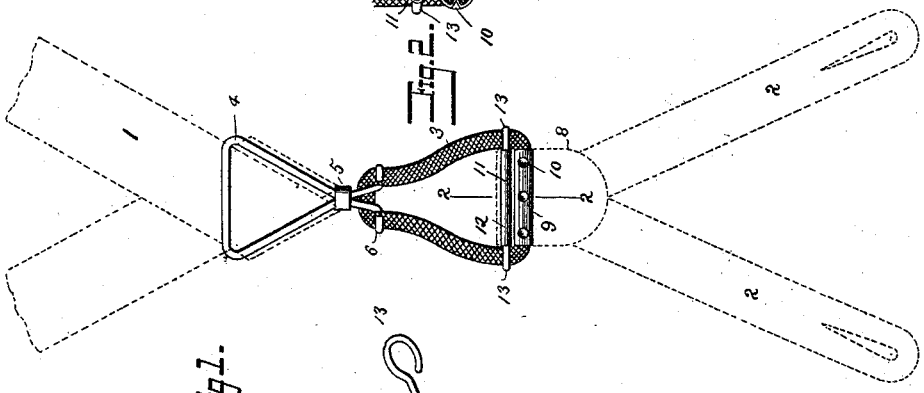

Fig. 1.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

ALBERT A. MANDELL, OF HYDE PARK, MASSACHUSETTS.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 418,203, dated December 31, 1889.

Application filed December 11, 1888. Serial No. 293,266. (No model.)

To all whom it may concern:

Be it known that I, ALBERT A. MANDELL, a citizen of the United States, residing at Hyde Park, in the county of Norfolk and State of Massachusetts, have invented certain new and useful Improvements in Suspenders, of which the following is a specification.

My invention relates to suspenders in which round or substantially round cords are used, particularly elastic cords. It is found difficult in practice to so secure the tabs or other means by which the straps are connected to such cords that there shall be no slipping or drawing out of the ends thereof; and it is the object of my invention to overcome this difficulty, which I accomplish by means of wire cord-clamping pieces, to be hereinafter described, and which are illustrated in the drawings, wherein—

Figure 1 is a face view of the rear portion of a pair of suspenders. Fig. 2 is a section, enlarged, on the line 2 2 of Fig. 1. Fig. 3 is a face view illustrating the invention applied to the front portion of a pair of suspenders. Fig. 4 is a detached view illustrating a modification.

1 designates the shoulder-straps, and 2 the straps by which the suspenders are secured to the trousers, there being interposed between these straps an elastic cord or cords 3. The shoulder-straps are not secured directly to the cords, but to wire pieces bent to form loops, the ends of which wire pieces are made to clamp and confine the cord. The loop portion of the wire piece may be variously shaped as circumstances may require. As shown in Fig. 1, it is triangular in shape to receive a single-piece shoulder-strap, (indicated in dotted lines,) the free ends of the wire being preferably united at the apex of the triangle by a metal clasp 5, whence they separate, and are at their ends bent to form eyes 6, surrounding and clamping the cord at two points on opposite sides of the cord-loop 3, which is therein compressed and secured against any sliding movement.

In Fig. 3 the loop portion 4 of the wire is circular in shape and of smaller size than that in Fig. 1, and is adapted to engage with a snap-hook 7, carried by the shoulder-strap.

When the cord 3 is in the form of a close loop, as shown in Figs. 1 and 3, a ferrule 9 is employed, which receives both the ends of the cord and constitutes the bottom part of the cord-loop, the cord ends being held confined in the ferrule by spurs 10, struck up from the body thereof.

In order that the cord may be relieved of all strain, which would tend to pull it out of this confining-ferrule 9, I employ a wire brace 11, consisting, preferably, of a wire bent to form a link parallel with the ferrule 9, and with its sides brought together so as to form terminal eyes 13, in which the cord is so tightly clasped as to prevent any slipping or longitudinal movement thereof. The brace may be a single wire, bent at the end to form two eyes 13, as shown in Fig. 5; but when in the form of a link-clamp I prefer to extend the ends into a tubular clasp of metal 12, wherein they are held from separating.

The tabs 8 cover both the brace 11 and the confining-ferrule 9, as shown in Fig. 3, the brace 11 serving to take the strain off the ferrule, and thus overcoming the danger of pulling the ends of the cord therefrom.

It will be seen from this description of my invention that in each embodiment thereof there is employed with a cord, which may be elastic or not, a wire cord-clamping device, so bent as to form eyes, in which the cord is held against longitudinal movement, and that between these eyes the wire may be shaped in various ways to suit the specific purpose to which the device is put.

Without limiting myself to the precise construction shown, what I claim is—

1. In a suspender, the combination of a cord and a looped wire formed into clamps at the ends, the said clamps consisting of eyes which surround and clamp the cord and thereby hold it against slipping movement, substantially as set forth.

2. In a suspender, the combination of a substantially round cord, a wire piece bent to form a triangular loop 4 and formed into clamps at its ends, the said clamps consisting of eyes which surround and tightly clamp the cord, and the shoulder-straps looped into the loop 4, substantially as set forth.

3. In a suspender, the combination of the shoulder-straps, the cord 3, formed into a closed loop with its ends confined in a ferrule,

and a brace parallel with the said ferrule and having at its end eyes through which the cord passes and which clamp the cord, substantially as set forth.

4. The combination, in a suspender, of the shoulder-straps, the straps 2, the cord 3, the wire cord-clamping piece having the eyes 6 and the loop 4, the cord-confining ferrule 9, the brace extending parallel to the ferrule, and the tabs 8, which surround the parts 9 and 11 and to which the straps 2 are secured, substantially as set forth.

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

ALBERT A. MANDELL.

Witnesses:
JOHN B. BABCOCK,
SAMUEL H. BABCOCK.