(No Model.)

E. ALTMAN.

SUSPENDERS.

No. 455,959. Patented July 14, 1891.

Fig. 1

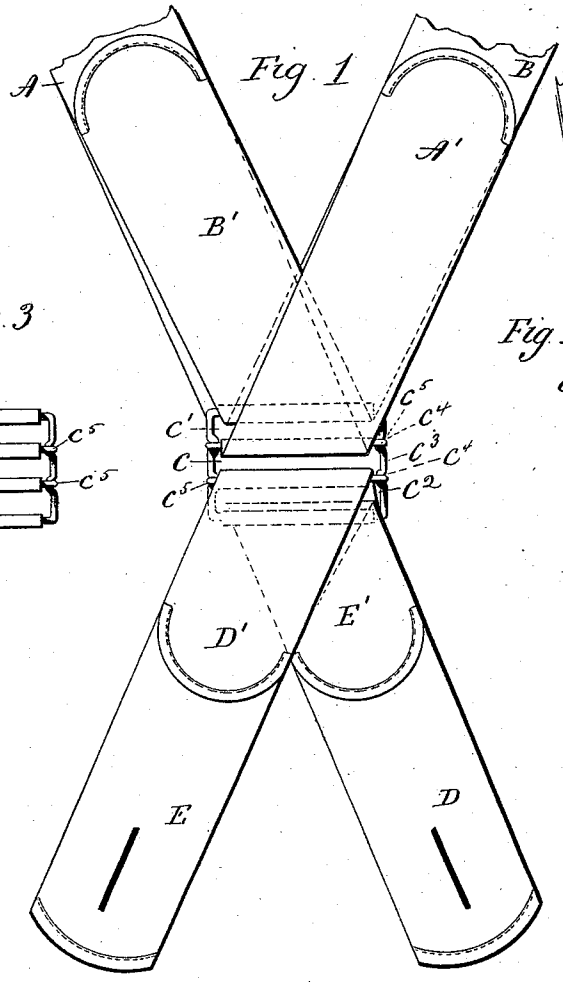


Fig. 3

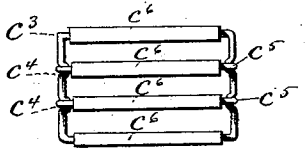
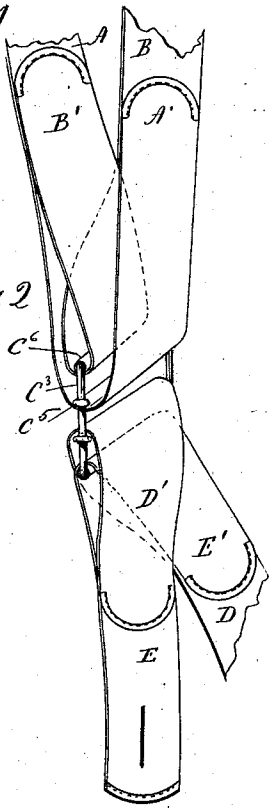


Fig. 2



Witnesses.
J. N. Seymour
L. D. Kelsey.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

EMIL ALTMAN, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO JAMES H. PARISH, OF SAME PLACE.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 455,959, dated July 14, 1891.

Application filed December 22, 1890. Serial No. 375,479. (No model.)

To all whom it may concern:

Be it known that I, EMIL ALTMAN, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Suspender-Braces; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a broken view in rear elevation of the rear portions of a pair of suspender-braces made in accordance with my invention; Fig. 2, a perspective view, on a smallar scale, of the same parts; and Fig. 3 a detached view of the slide.

My invention relates to an improvement in suspender-braces, the object being to produce a simple, durable, inexpensive, and comfortable article adapted to automatically adjust itself to the movements of the body at the point where the greatest strain occurs.

With these ends in view my invention consists in a pair of braces having certain details of construction and combinations of parts, as will be hereinafter described, and pointed out in the claim.

As shown by Figs 1 and 2 of the drawings, the rear end of the shoulder-strap A has its lower end A′ passed through the central opening C of the slide, and then attached to the inner face of the rear end of the corresponding shoulder-strap B, the end B′ whereof is passed through the upper opening C′ of the slide and attached to the inner face of the strap A, the two loops thus formed partially lapping onto each other, and both being long enough to permit as much endwise play of the ends of the two straps through the slide as will ever be required in the use of the braces. The inner ends of the two short buttoning-straps D and E are connected in the same way to the said slide, the end D′ of the strap D being passed through the central opening C thereof and attached to the inner face of the strap E, the inner end E′ whereof is passed through the opening C^2 of the slide and attached to the inner face of the strap D, the two loops thus formed partly overlapping each other and being of sufficient length to permit the said straps to work freely through the slide. The slide itself consists of an oblong wire frame C^3, having each of its ends constructed with two indentations C^4 to provide for the attachment of two parallel bearings C^5 C^5, which consist simply of short lengths of wire having their ends bent around the ends of the frame at the indented points therein, whereby the said wires are prevented from slipping. The said bearings C^5 C^5 are also parallel to the sides of the frame, which also constitute bearings. The sides of the frame, as well as the two bars C^5 C^5, are each provided with a roller C^6 to reduce the friction of the operation of the loops. The slide as thus constructed has three corresponding openings and four parallel bearings, the middle opening serving both for one loop of the shoulder-straps and one loop of the buttoning-straps, the said loops not interfering, as they are strained apart by the tension of the straps when the braces are in use.

A pair of braces constructed as described and of double the play of anything in the same line before made are extremely comfortable to the wearer, as they yield at just that point in a pair of suspender-braces where the greatest strain is centered. They are also inexpensive, and, as they are relieved of much of the strain that falls on the straps of braces made in the ordinary way, they are very durable.

I am aware that it is old to attach the rear ends of the shoulder-straps of suspender-braces to a slide in the manner herein described, and also that it is old to attach the rear and forward buttoning-straps of suspender-braces to the shoulder-straps thereof in the same way. I do not therefore broadly claim interlaced looped straps, but only the particular construction and combination of parts herein shown and described.

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

A slide consisting of an oblong wire frame having its ends correspondingly indented, short lengths of wire having their ends bent around the ends of the frame at the indented points therein and forming bearings, and rollers mounted upon the sides of the frame and

upon the said bearings, in combination with two shoulder-straps having their converging and rear ends folded to form partially overlapping loops, the folded end of one strap being attached to the other strap, and vice versa, the respective loops being passed through the upper and central openings in the slide, and buttoning-straps having their ends folded and connected together in the manner above described for the shoulder-straps and respectively passed through the central and lower openings in the slide, substantially as described.

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

EMIL ALTMAN.

Witnesses:
WARD COE,
THOMAS H. BUTLER.