No. 839,544.

PATENTED DEC. 25, 1906.

B. L. BRANDT.

SUSPENDERS.

APPLICATION FILED JUNE 15, 1906.

2 SHEETS—SHEET 1.

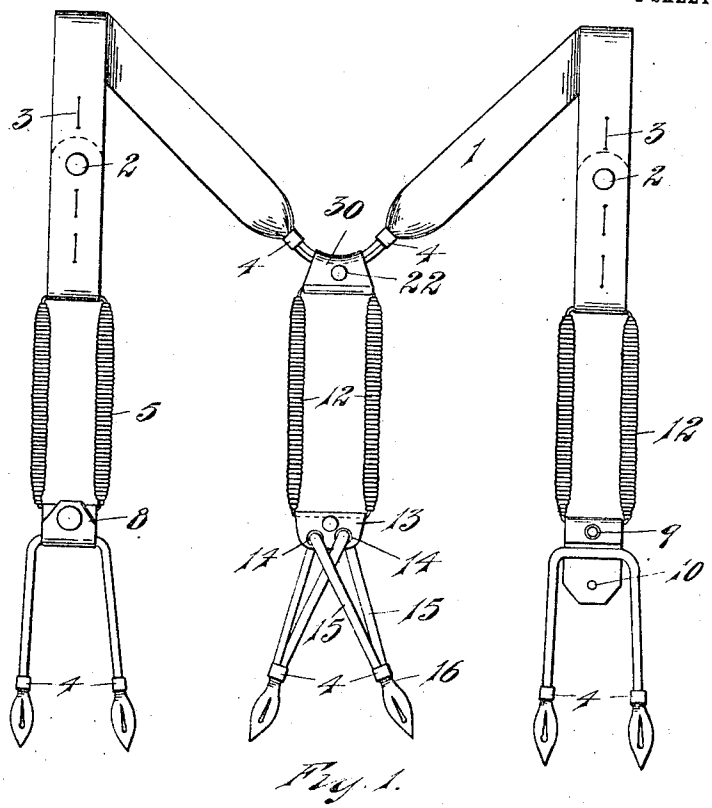

Fig. 1.

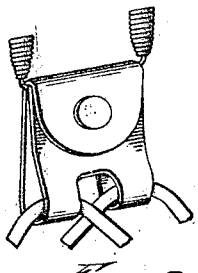

Fig. 5.

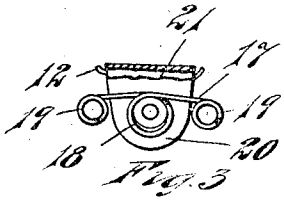

Fig. 3.

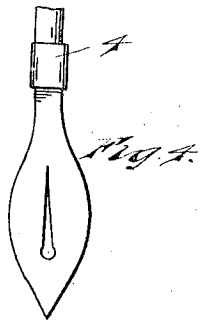

Fig. 4.

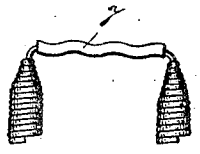

Fig. 2.

WITNESSES

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2 SHEETS—SHEET 2.

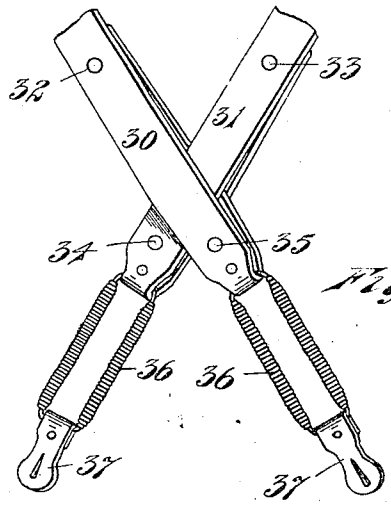

Fig. 6.

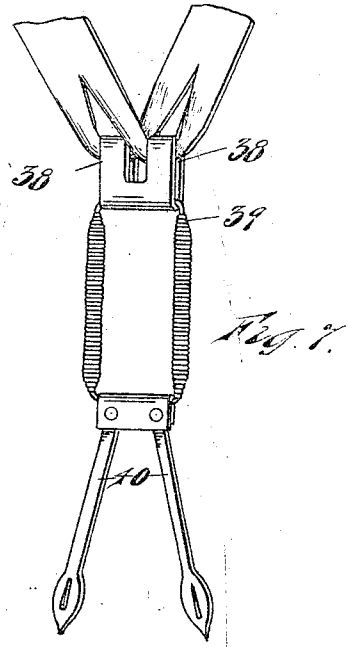

Fig. 7.

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UNITED STATES PATENT OFFICE.

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SUSPENDERS.

No. 839,544. Specification of Letters Patent. Patented Dec. 25, 1906.

Application filed June 15, 1906. Serial No. 321,829.

To all whom it may concern:

Be it known that I, BERNARD L. BRANDT, a citizen of the United States, residing at Detroit, county of Wayne, State of Michigan, have invented a certain new and useful Improvement in Suspenders; and I declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

This invention relates to suspenders.

It has for its object an improved construction of suspender in which the elasticity is given to the article by means of coiled springs of peculiar construction and formation, and these are combined with straps and button ends and straps and eyelet ends or buttonhole ends to produce the completed structure.

In the drawings, Figure 1 shows a pair of suspenders in perspective. Fig. 2 is a detail showing the way in which the ends of the elastic coils are secured to the cross-bars. Fig. 3 is a detail of an additional spring used at the back end of the suspender. Fig. 4 is a detail of the fastening used at the end of the corded button. Fig. 5 is a detail of a back-loop. Figs. 6 and 7 are modified forms of back-loops.

The suspender is made with a single strap 1, preferably of leather. To each end of the strap a button 2 is secured, and along the strap from the button toward the middle are made a number of buttonholes 3. At the middle of the strap the material is gathered together in cylindrical or corded form and secured together in that form by any suitable means, as by metal clasps 4. The corded middle part engages through a loop 30 at the upper cross-bar of spring 12. The corded part engages through the loop and yields in either direction when the movement of the body requires it. The elasticity is given to the structure by means of coiled-wire springs. These are made from stiff wire coiled into spirals 5, with the coil contracting to a point at each end and with the extreme end of the wire beyond the terminal of the coil bent at right angles to the general axis of the coil. The ends of the two adjacent coils are inserted in a tube 7 of comparatively rigid metal and the tube and inclosed wire bent or crimped slightly, and this secures the two ends of the attached coils to the cross-bar and to each other.

The coils are formed into a rectangular spring in this way with a cross-bar 7 at each end. One of these cross-bars is engaged within the bight of a loop of the strap 1, and upon the other cross-bar is secured a loop 8, of similar material, preferably provided with a spring-button or snap-button 9 and its fastening 10. At the lower end of the rectangular spring 12 at the back of the suspender is secured a hanger 13, with two eyelet-holes 14. Through these two holes are run the two cords 15 of a double-corded suspender-end 16.

In place of the hanger 13 with its two eyelets I sometimes secure to the cross-bar of the elastic at the back of the suspender a wire hanger 17, consisting of a piece of spring-wire bent in a coil of a little more than a single turn at 18 and with the ends extending to each side and each end turned into a complete coil 19. This coiled wire is preferably secured by a leather or fabric web 20 to the cross-bar 21, and the suspender-end, of the same form and construction as that shown in Fig. 1, is run through the coils 19, each of which has a slight independent yielding quality in addition to the yielding or spring character of the rectangular spring 12. The spring 12 is secured to the corded part included between the clasps 4 at the middle of the strap by a spring-button 20 or by an eyelet-fastening.

Fig. 6 shows a modified form of connection of the straps at the back in which the straps are made in two parts, each part 30 and 31 folded back on itself and the end buttoned to the main or body part of the strap by buttons 32 and 33. One member of each part passes between the members of the other part. This forms a strong but yielding connection between the two parts. Rivets 34 and 35 are used to join the members of each bar below the point of crossing in order that neither strap may engage too low down against the spring attachments at the ends. To each bar is attached a spring-terminal 36 of the form previously described and provided at its lower end with the button extension 37. A similar result is attained by the use of the connection shown in Fig. 7, in which a single strap doubled on itself and split at the point where the bend in the strap

is made, and the two members of the strap at the split part thereof are passed through eyelet-loops 38, to which is secured the cross-bar of springs 39. To the lower cross-bar of the spring 39 the button-terminals 40 are secured.

What I claim is—

1. In a suspender, in combination with a single strap, springs of coiled wire attached to the strap at its ends and at its middle point, suspender-ends attached to the spring-coils, each of said spring-coils being composed of two members, of which each has its ends contracted into cone-like form, and with a terminal wire from the contracted end extending into and secured in a tubular guard, substantially as described.

2. In combination, a spiral spring contracting at its end and having the wire extending from the point of the contracted end inclosed in a sheath and secured therein by crimping sheath and included wire, substantially as described.

In testimony whereof I sign this specification in the presence of two witnesses.

BERNARD L. BRANDT.

Witnesses:

CHARLES F. BURTON,

MAY E. KOTT.