

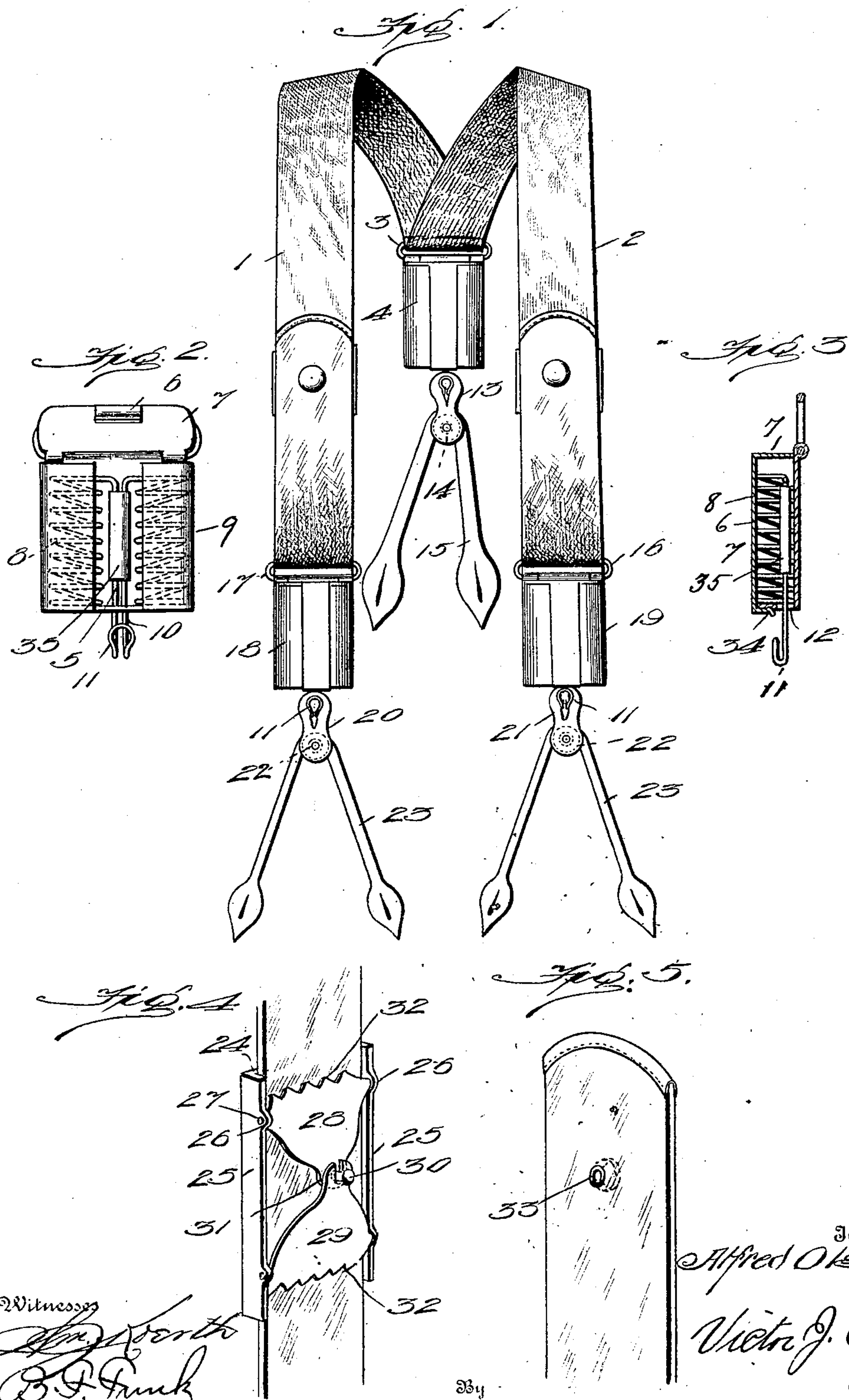
No. 689,405.

Patented Dec. 24, 1901.

A. OLSON.
SUSPENDERS.

(Application filed Jan. 21, 1901.)

(No Model.)



Witnesses
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ALFRED OLSON, OF SAN DIEGO, CALIFORNIA.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 689,405, dated December 24, 1901.

Application filed January 21, 1901. Serial No. 44,191. (No model.)

To all whom it may concern:

Be it known that I, ALFRED OLSON, a citizen of the United States, residing at San Diego, in the county of San Diego and State of California, have invented new and useful Improvements in Suspenders, of which the following is a specification.

My invention relates to suspenders; and its primary object is to provide improved means for rendering suspenders elastic without the employment of the usual rubber webbing.

A further object of the invention is to provide improved means for adjusting the length of the suspender-strap and securing the ends of said strap.

The construction of the improvement will be fully described hereinafter in connection with the accompanying drawings, which form a part of this specification, and its novel features will be defined in the appended claims.

In the drawings, Figure 1 is an elevation of a pair of suspenders embodying the invention. Fig. 2 is a front elevation of one of the springs employed with the device inclosed in a casing of peculiar construction. Fig. 3 is a longitudinal section through said casing and spring. Fig. 4 is a detail perspective of the device for adjusting the length of the straps. Fig. 5 is a perspective view showing the inner side of the end of one of the straps.

In the drawings the same reference characters indicate the same parts of the invention.

The reference-numerals 1 and 2 designate shoulder-straps of a pair of suspenders, preferably formed from a single piece of webbing or other suitable material and passed through a loop 3, projecting from a casing 4. This casing is preferably of elliptical shape in cross-section, and it is formed at its front side with an opening 5, adapted to be closed by a tongue 6, depending from a hinged cover 7, which constitutes a closure for the top of the casing.

Within the casing 4 is arranged a double spring formed from a single wire comprising independent coils 8 and 9, arranged parallel to each other, and a centrally-depending loop 10, terminating in a hook 11. The loop 10 extends through an opening 12 in the bottom of the casing to present the hook 11 below the casing in proper position to be engaged by a coupling 13, formed with a buttonhole, through

which the hook projects. The coupling 13 carries an antifriction-roller 14, over which passes the back strap 15 of the suspenders. 55

The ends of the shoulder-straps 1 and 2 extend through loops 16 and 17, projecting from casings 18 and 19. These casings are identical in construction with the casing 4 and each contains a double spring similar to the one shown in Figs. 2 and 3 and above described. Hence a further description of their construction is unnecessary. 60

The hooks 11 of the springs contained within the casings 18 and 19 are adapted to be engaged by couplings 20 and 21, similar to the coupling 13 and carrying antifriction-rollers 22, over which pass the front straps 23. 65

Referring particularly to Fig. 4, 24 designates a slide formed with parallel flanges 25, from which project perforated lugs 26, which serve as bearings for the trunnions 27 of clamping-plates 28 and 29. The lower end of the plate 28 is provided with a projecting stud 30, and the adjacent end of the plate 29 is formed with a slot 31, adapted to receive the stud 30. Both of the plates 28 and 29 are formed with serrated edges 32, which serve to firmly clamp the slide upon the webbing and prevent movement in either direction. 70 75 80

As illustrated in Fig. 5, the end of each of the shoulder-straps 1 and 2 is provided with a socket 33, said sockets being adapted to snap over the enlarged ends of the studs 30 to secure the straps in any position to which they may be adjusted. 85

The peculiar construction of the double springs insures the required elasticity and permits a free movement of the body without strain or undue wear upon the suspenders. 90

The hinged cover 7 and its depending tongue 6 serve to close the top and front of the casing, thus protecting the springs from exposure to dust and dirt and also preventing the clothing from catching on the sharp corners of the front of the casing. 95

If preferred, the casings 18 and 19 at the front of the suspenders may be omitted and the rear casing 4 alone be employed in connection with the straps 1 and 2. 100

It will be obvious that the springs may be readily removed from the casing, it being necessary only to raise the hinged top 7 and

its tongue 6, the latter being provided with a spring-catch 34 to engage the under surface of the bottom of the casing and hold the cover 7 and its tongue 6 in closed position.

5 I preferably connect the sides of the loop 10 of the double spring by a clasp or sleeve 35, which serves to maintain the coils in proper relation without interfering with the resiliency thereof.

10 Having thus described the invention, what is claimed, and desired to be secured by Letters Patent, is—

1. The combination with the shoulder-straps of suspenders; of a casing to which the
15 straps are attached, said casing having a front opening and a hinged cover closing the top of the casing and provided with a depending tongue to close said front opening, and a double spring arranged within the casing and
20 comprising parallel coils and a centrally-depending loop, the lower end of which is bent to form a hook.

2. A suspender attachment comprising a casing having a front opening, a hinged cover
25 provided with a depending tongue terminating in a spring-catch and adapted to close said opening, a loop for the attachment of a suspender-strap, and a double spring within said casing consisting of a single wire bent
30 to form parallel coils and a centrally-depending integral loop terminating in a hook.

3. A suspender attachment comprising a casing having a vertical front opening, a hinged cover provided with a depending tongue adapted to close said opening, a loop 35 through which the suspender-strap is adapted to pass, a double spring within the casing formed from a single resilient wire bent to form parallel coils and a depending integral central loop, the end of said loop being turned 40 upward to form a hook, and a clasp engaging the sides of said loop.

4. An adjusting device for suspenders comprising a slide formed with bearings, oppositely-disposed clamping-plates supported 45 within said bearings, and means for detachably connecting the meeting ends of said plates.

5. The combination with a suspender-strap; of a slide provided with projecting perforated 50 ears, oppositely-disposed serrated clamping-plates supported in said ears, a projecting stud for detachably securing the meeting ends of said plates together, and a socket secured adjacent to the end of the strap and 55 adapted to receive said stud.

In testimony whereof I affix my signature in presence of two witnesses.

ALFRED OLSON.

Witnesses:

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SAMUEL A. HASTINGS.