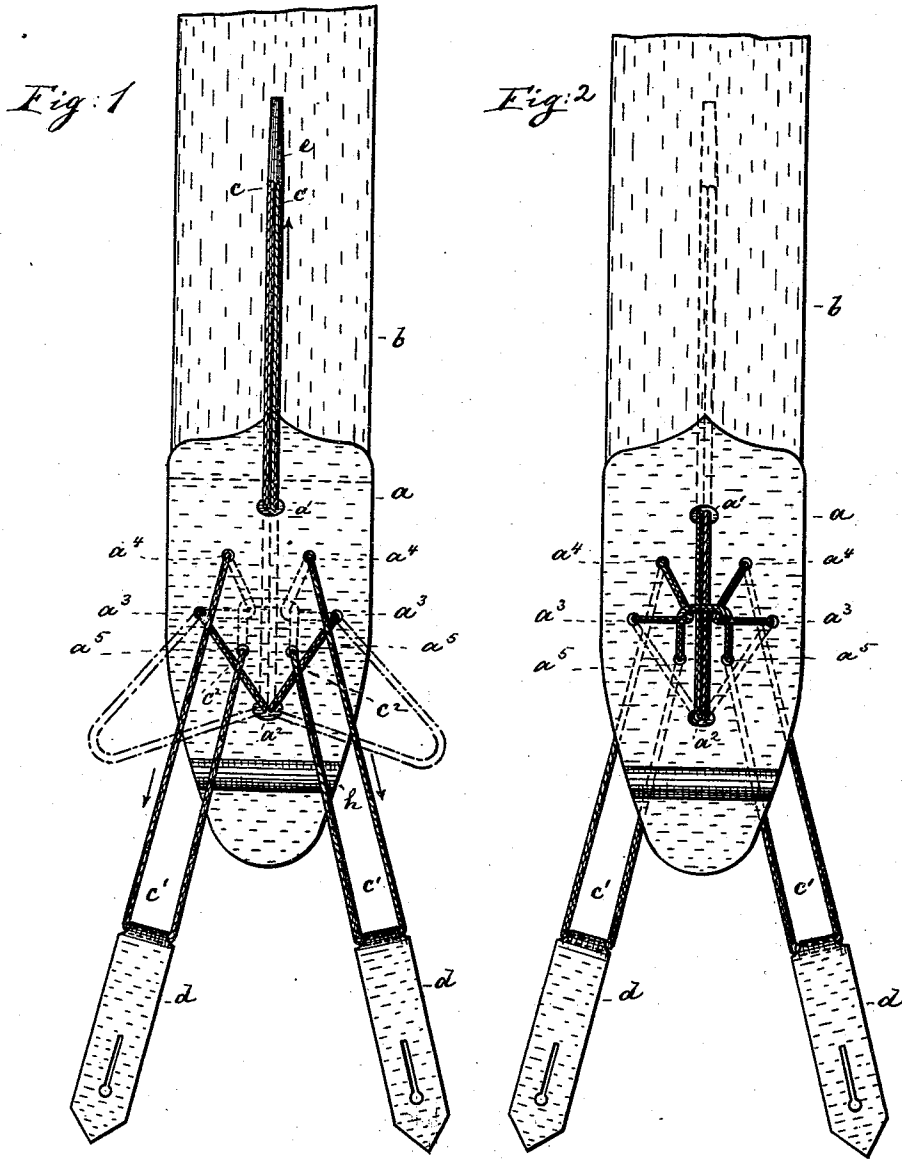


P. ORTMANN.
SUSPENDERS.

No. 488,529.

Patented Dec. 20, 1892.



Witnesses:
Wm. Schulz.
A. Gouglmans.

Inventor:
P. Ortman
by his attorneys
Roeder & Wissem

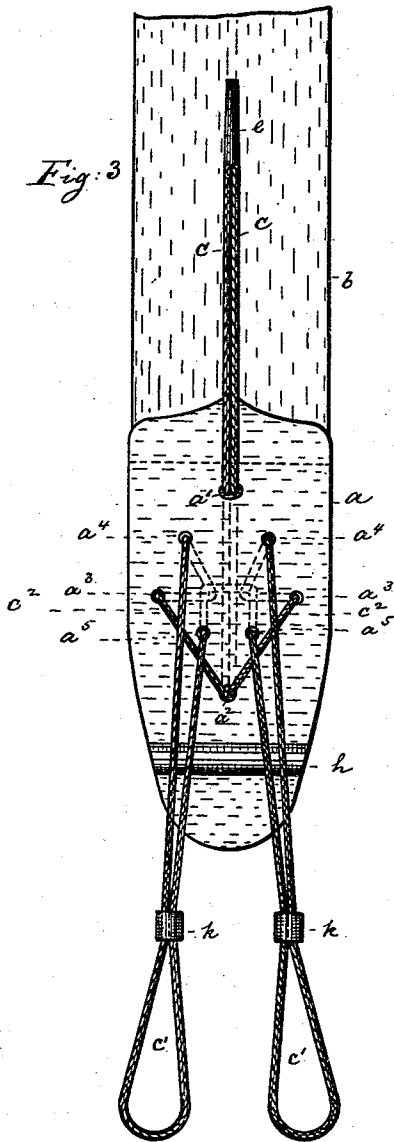
(No Model.)

2 Sheets—Sheet 2.

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UNITED STATES PATENT OFFICE.

PAUL ORTMANN, OF ZITTAU, ASSIGNOR OF ONE-HALF TO MAXIMILIAN ROST, OF DRESDEN, GERMANY.

SUSPENDERS.

SPECIFICATION forming part of Letters Patent No. 488,529, dated December 20, 1892.

Application filed January 26, 1892. Serial No. 419,311. (No model.) Patented in Germany September 12, 1891, No. 63,604, and December 9, 1891, No. 64,196; in England December 30, 1891, No. 22,784; in France December 30, 1891, No. 218,383; in Belgium January 9, 1892, No. 97,857; in Switzerland March 5, 1892, No. 4,796; in Italy March 8, 1892, No. 31,442/436, and in Austria-Hungary May 8, 1892, No. 1,201 and No. 1,129.

To all whom it may concern:

Be it known that I, PAUL ORTMANN, of Zittau, in the Kingdom of Saxony, Germany, have invented a new and useful Improvement in Suspenders, (for which I have obtained a patent in Belgium, No. 97,857, dated January 9, 1892; in England, No. 22,784, dated December 30, 1891; in France, No. 218,383, dated December 30, 1891; in Germany, No. 63,604, dated September 12, 1891, and No. 64,196, dated December 9, 1891; in Italy, No. 31,442/436, dated March 8, 1892; in Austria-Hungary, No. 1,201 and No. 1,129, dated May 8, 1892, and in Switzerland, No. 4,796, dated March 5, 1892,) of which the following is a specification.

This invention relates to an improvement in suspenders, and similar articles, such as skirt and hose supporters by which they can be lengthened or shortened without the use of buckles or similar devices.

It consists in the various features of improvement more fully pointed out in the claims.

In the accompanying drawings: Figure 1 is a front view of the lower part of a suspender provided with my improvement. Fig. 2 a rear view thereof. Fig. 3 a front view of a modification.

The letter *a*, represents the re-enforcing piece secured to the lower end of a suspender, shoulder brace or similar article *b*. This end piece (or when not used, the suspender itself) is provided with the perforations *a'*, *a*², *a*³, *a*⁴, *a*⁵. The perforations *a'*, *a*², are placed centrally at the top and bottom, while the perforations *a*³, *a*⁴, *a*⁵, are arranged in pairs between and to the right and left of the openings *a'*, *a*². A string *c*, is drawn through the openings, in the manner which is clearly apparent from Figs. 1 and 2. That is to say, it is passed backward through opening *a'*, forward through opening *a*², backward through opening *a*³, forward through opening *a*⁴, drawn out into a loop *c'*, then passed backward through opening *a*⁵, and interlooped with itself. Thence it is drawn forward through the second opening *a*⁵, and the left half of the attaching mechanism is thus finished in the same way as has been described with reference to the right half. At the top, the free ends of the string *c*, may be

connected by a cap *e*. This cap is, after adjustment, slipped under an eye or cross strap *h*. The loops *c'*, carry the attaching straps *d*, as shown in Fig. 1, or they may themselves constitute the attaching devices as in Fig. 3, when they are provided with the slides *k*. If now the suspenders (*i. e.* the loops *c'*) are to be lengthened, the string is drawn out laterally at *c*², *c*², between the openings *a*², *a*³, to form laterally extending loops as shown in dotted lines Fig. 1. The slack of these loops is now taken up by drawing the loops *c'*, down, thus lengthening the same. If the suspenders are to be shortened, the sections *c*², are again drawn out laterally to form loops, but the slack of these loops, is taken up, by drawing the connected or upper ends of the string *c*, up, thus shortening the loops *c'*.

It will be seen that a spontaneous lengthening of the suspenders during use cannot take place, as the sections *c*², are normally always taut.

What I claim is:

1. The combination of a suspender, or similar article which is perforated at its end, with a string *c*, drawn through the perforations, and forming two pair of loops *c'*, and two pair of laterally distensible sections *c*², by which the loops *c'*, may be adjusted, substantially as specified.

2. The combination of a suspender, or similar article, having upper and lower central perforations *a'*, *a*², and three pair of intermediate lateral perforations *a*³, *a*⁴, *a*⁵, with a string *c*, drawn through such perforations, to form loops *c'*, and distensible sections *c*², substantially as specified.

3. The combination of a suspender, or similar article having the perforations *a'*, *a*², *a*³, *a*⁴, *a*⁵, with strings *c*, drawn through such perforations and with the cap *e*, adapted to connect the string ends, and the strap *h*, substantially as specified.

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

PAUL ORTMANN.

Witnesses:

MAX MATTHÄI,
CARL BORNGRAEBER.