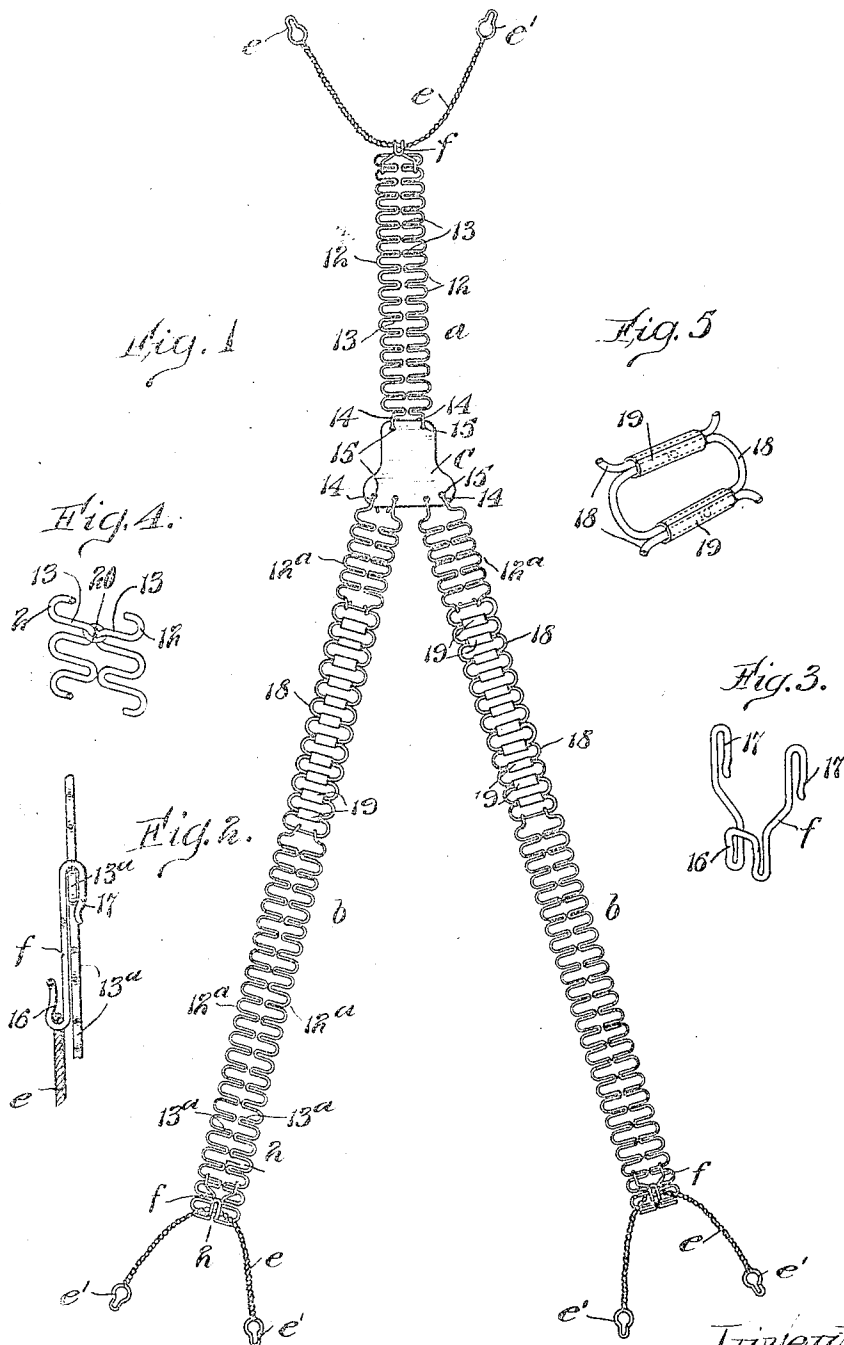


1,054,156

Patented Feb. 25, 1913.



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UNITED STATES PATENT OFFICE.

FRED V. WADE, OF EAST BRIDGEWATER, MASSACHUSETTS.

SUSPENDERS.

1,054,156.

Specification of Letters Patent.

Patented Feb. 25, 1913.

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To all whom it may concern:

Be it known that I, FRED V. WADE, of East Bridgewater, in the county of Plymouth and State of Massachusetts, have invented certain new and useful Improvements in Suspenders, of which the following is a specification.

This invention has for its object the provision of a pair of suspenders combining the desired elasticity afforded by suspenders of elastic woven fabric, with a great degree of strength and durability, and freedom from liability to discoloration.

The invention is embodied in a pair of suspenders, the back and shoulder strap members of which, as well as the button-engaging suspender ends, are made of wire, suitable provision being made for elasticity in the strap members, and for adjustability in the connection of the suspender-ends with the strap members.

The invention consists in the improvements which I will now proceed to describe and claim.

Of the accompanying drawings, forming a part of this specification,—Figure 1 represents a view of a pair of suspenders embodying my invention. Fig. 2 represents a section on line 2--2 of Fig. 1. Fig. 3 represents a perspective view of one of the suspender-end coupling members. Figs. 4 and 5 represent perspective views illustrating details.

The same reference characters indicate the same parts in all the figures.

In a pair of suspenders embodying my invention, the parts corresponding to the usual woven fabric back strap and shoulder straps are constructed of wire, the construction being such that the said parts have a suitable degree of elasticity so that they are adapted to extend under strain, and to automatically contract. For convenience, I will term the said wire substitutes strap members.

Referring to Fig. 1, *a* represents the back strap member, and *b, b* the shoulder strap members, said members being connected by a metallic connecting member *c*. Each of the suspender-ends *e* is composed of wire twisted together along the main portion, and bent at the end portions to form button-engaging eyes *e'*.

In the preferred embodiment of my invention here shown, the desired elasticity is provided by including in each strap member two lengths of manifold wire 12, the bends or

fold 13 of which are disposed in the manner shown in the drawings, the folds 13 being arranged in pairs. Each strap member is provided at one end with means for engaging the connecting member *c*, the preferred means being hooks 14 formed on the wires 12, and entering orifices 15 formed in the connecting member *c*. The folds 13 not only impart resilience to the strap members, but also serve as supports for coupling members *f* which connect the suspender-ends with the strap members. Each coupling member is preferably of the form shown in perspective in Fig. 3, it being composed of a length of wire bent at its central portion to form a hook 16 adapted to engage a suspender-end *e*, and also bent at its ends to form a pair of hooks 17 adapted to engage two of the folds 13, the hooks 17 being detachably engaged with said folds so that the coupling *f* may be adjustably secured to the corresponding strap member to afford the desired adjustability in the operative length of the suspenders. While each of the strap members *a* and *b, b*, may be of the construction above described, I prefer to make the portions of the shoulder strap which engage or bear upon the shoulders of the wearer of practically inelastic or inextensible construction, so that the shoulder-engaging portions will not be capable of opening and closing like the folds 13, and therefore will not have a tendency to pinch or engage the portions of the garment on which they bear. The shoulder-engaging portions of the straps *b* are each preferably composed of a series of elongated wire rings 18 which are hinged connected by metal sleeves, sockets, or rings 19. The elongation of the rings 18 permits them to be longitudinally bent or curved to conform to the curvature of the wearer's shoulder. The end portions of each shoulder strap *b* are preferably composed of manifold wires 12^a having the same form and relative arrangement as the wires 12 of the back strap *a*, the bends or folds 13^a at the front end portions of the shoulder straps constituting supports to engage the coupling members *f* which connect the front suspender-ends with the shoulder straps.

The wire employed may be of any suitable metal, and if made of an oxidizable metal, is preferably coated with nickel or otherwise treated to prevent rusting. The strap-connecting member *c* is preferably a thin metal plate.

The bands or folds 13 or 13^a may be connected at intervals by links 20 (Fig. 4) to prevent the separation of the manifold wires 12 or 12^a from each other.

I claim:

1. An improved suspender provided with shoulder members each provided with elastic and inelastic sections, the inelastic sections each comprising a series of wire rings, and means for pivotally connecting said rings.

2. An improved suspender provided with shoulder members each provided with elastic and inelastic sections, the elastic sections each comprising two independent manifold resilient wires arranged side by side.

In testimony whereof I have affixed my signature, in presence of two witnesses.

FRED V. WADE.

Witnesses:

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WILLIAM E. PATCH.