

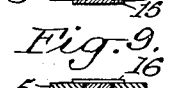
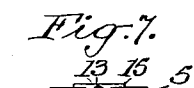
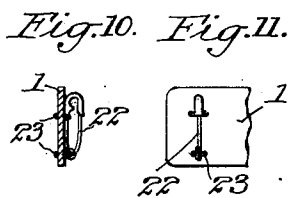
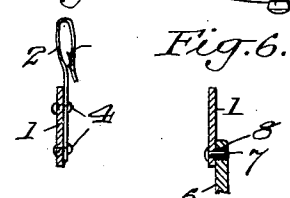
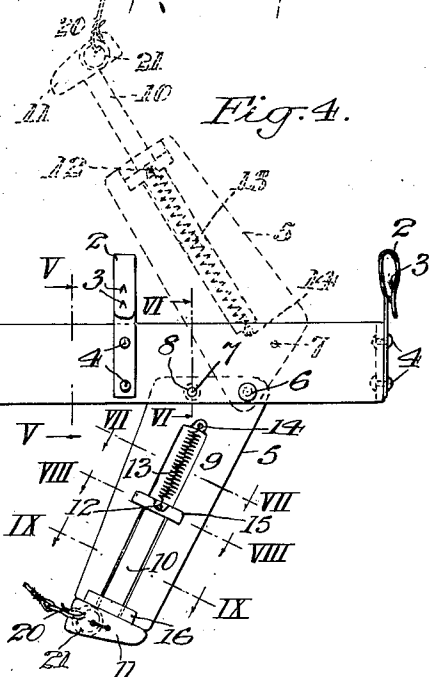
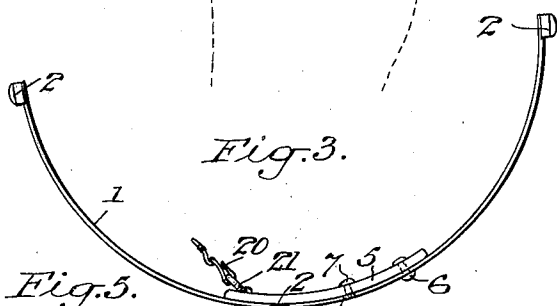
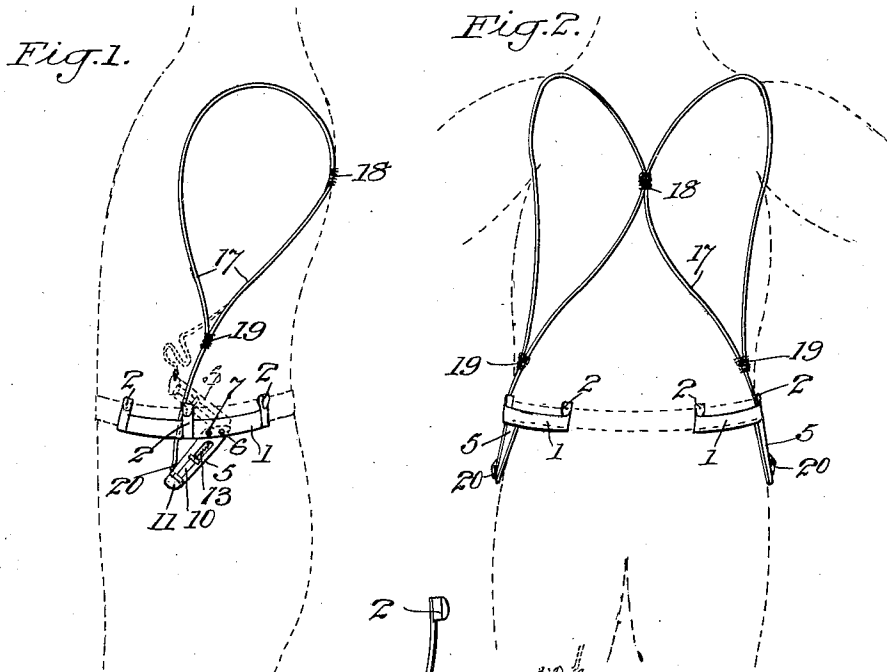
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E. S. CUSHMAN

2,503,804

GARMENT SUPPORTER

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Inventor:
Edward S. Cushman
by *Brothman*
his Attorneys

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GARMENT SUPPORTER

Edward S. Cushman, Sands Point, N. Y.

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12 Claims. (Cl. 2—310)

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This invention relates to a garment supporter and, more particularly, to means of the suspender type for supporting trousers, which means is invisible even when coat and vest are removed.

An object of the invention is to provide such a garment supporter which includes elements carried by the shoulders of the wearer and elements attachable to the waist seam of the trousers, with means connecting the said elements so as to permit raising and lowering of the trousers without disconnection.

Another object is to provide such a garment supporter in which the elements attachable to the trousers are removable so as to be successively used in connection with different pairs of trousers.

Another object is to provide such a garment supporter in which the elements attachable to the trousers do not require any special construction of the trousers, but are fully adaptable to attachment to any usual trouser waist seam or band.

Another object is to provide such a garment supporter in which the connection between the elements carried from the shoulders of the wearer and the elements attachable to the trousers may be made and maintained in use with the elements supported from the shoulders hidden by the shirt of the wearer, without requiring any change in the normal form or construction of the shirt.

Another object is to provide such a garment supporter in which the elements attachable to the trousers are fitted to be located above each side hip of the wearer and so conform to the normal human figure and the customary shape of trousers as to be comfortable and inconspicuous.

Another object is to provide such a garment supporter which includes means for locking the elements with the trousers in elevated normal position while permitting lowering of the trousers without disconnection or disarrangement of the adjustment of the elements whereby the trousers may, after lowering, be restored to normal raised position exactly as they were before lowering.

Another object is to provide such a garment supporter in which the locking of the elements for holding the trousers in elevated position and the unlocking of the elements is accomplished by

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the flexibility of one or more of the elements themselves.

Another object is to provide such a garment supporter in which the relationship of the elements supported from the shoulders and the elements attachable to the trousers is such that sagging of the front of the trousers will be prevented and the waistline of the trousers will remain substantially horizontal with substantially straight vertical front creases on the trouser legs, regardless of the individual figure of the wearer.

Another object is to provide such a garment supporter in which the elements attachable to the trousers may be used with garments differing substantially in waistband measurement, whereby the commercial demand for the whole line of waistband measurements, from the smallest to the largest, may be supplied by the manufacture of only two or three different sizes of the said elements.

Another object is to provide such a garment supporter in which the elements attachable to the trousers which permit lowering and raising thereof, are extensible so as to enable the wearer to increase at will the lowering of the garment.

Another object is to provide such a garment supporter in which the extensible means just mentioned is resilient so as to tend to restrict the extent of the lowering of the garment.

Another object is to provide certain improvements in the form, construction, arrangement and material of the parts whereby the above named and other objects inherent in the invention may be effectively attained.

Practical embodiments of the invention are shown in the accompanying drawing in which

Fig. 1 represents an elevation of the garment supporter in position on the wearer, with certain elements shown in different positions in full and dotted lines.

Fig. 2 represents a rear view of the garment supporter in operative position on the wearer.

Fig. 3 represents a top edge view, on an enlarged scale, of the elements attachable to one side of the trousers.

Fig. 4 represents an outside elevation of the elements shown in Fig. 3, certain parts being shown in different positions in full and dotted lines.

Fig. 5 represents a section taken in a plane of

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the line V—V of Fig. 4, looking in the direction of the arrows.

Fig. 6 represents a detail section taken in the plane of the line VI—VI of Fig. 4, looking in the direction of the arrows.

Fig. 7 represents a section taken in the plane of the line VII—VII of Fig. 4, looking in the direction of the arrows.

Fig. 8 represents a section taken in the plane of the line VIII—VIII of Fig. 4, looking in the direction of the arrows.

Fig. 9 represents a section taken in the plane of the line IX—IX of Fig. 4, looking in the direction of the arrows.

Fig. 10 represents a detail section, partly in elevation, of a modified form of fastening element; and

Fig. 11 represents a detail elevation taken at right angles to Fig. 10.

It is quite generally recognized that the kind of support given to trousers by suspenders, or the like, is preferable to that afforded by a belt because, among other reasons, the suspenders hang the trousers from the shoulders of the wearer, do not require any uncomfortable constriction around the waist, are independent of the figure of the wearer at and near the waistline, and may readily be adjusted for varying the height of the trousers on the wearer. However, the use of belts in place of suspenders has long been in large vogue, especially in the warm weather, because of the unsightly appearance of suspenders when the wearer's coat and vest are removed. Numerous attempts have been made to solve this problem which generally, if not always, have involved some special construction or design of trousers and/or shirt, together with complications in the means employed and uncomfortable and unsatisfactory performance in use. The present invention is designed to overcome these difficulties and to provide an arrangement which can be produced in quantity at low cost, and can be used with satisfaction without regard to the physical form or size of the wearer and without calling for any change in the standard or normal design or construction of trousers and shirts.

Turning now to the embodiments of the invention illustrated in the accompanying drawing, it should be noted at the outset that the elements of the garment supporter intended to be attached to the trousers are duplicated at each side of the wearer, as indicated in Fig. 2, so that the said elements for only one side will be set forth in detail, the one fitted for the left side of the wearer being selected for that purpose.

An arcuate shaped member is denoted by 1, and it is preferably composed of some elastically resilient material such as Celluloid, one of the modern plastics or stainless steel. The said member is formed from flat sheet material and is shown as of sufficient length to encompass a substantial portion of the side of the wearer and of such width as to conveniently be associated with the waistband of trousers.

At its ends and intermediate thereof, the member 1 is provided with devices for attaching it to the trousers, which devices preferably take the form of spring fasteners such as are well shown in Figs. 4 and 5. Each of the said fasteners consists of a strip of spring metal 2, one end of which is bent backwardly upon itself, in hook-like form, and provided with barbs 3 which may be formed by punching out the metal. The resiliency of the metal causes the end carrying the barbs 3 to re-

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sist movement away from the main body of the strip 2 so that anything forcibly inserted therebetween will be firmly held against withdrawal. The other end of the fastener is secured to the member 1 by rivets 4, or other suitable means.

As a result of the construction just described, it will be clear that the member 1 may be attached to the waistband of trousers by locating the said member within the trousers and forcing it downwardly so that the hook portions of the fasteners 2, 3 embrace the upper edge and adjacent portion of the said waistband, as well shown in Fig. 1. In this position, the resiliency of the spring metal and the action of the barbs 3 prevent removal of the member 1 from the trousers by an upward pull thereon unless and until the barbs 3 are manually separated from the body of the strip 2, whereby the trousers may be held in proper position on the wearer by suspenders, or the like, secured to the member 1 and its mate at the opposite side of the wearer.

An arm 5, which is preferably composed of material the same as or similar to the member 1, though somewhat thicker to promote rigidity, is pivoted, as by a headed pin 6, to the member and adapted to swing to and from the positions shown in full and dotted lines in Fig. 4. The said arm carries a stud 7 that is fitted to enter a hole 8 formed in the member 1 for locking the arm 5 in the position shown in full lines in Fig. 4. The engagement of the stud with the hole and disengagement therefrom may be manually effected due to the resiliency of the member 1, which resiliency, moreover, tends to maintain the stud in locking position within the hole. If desired, the arm 5 may be composed of some light metal, such as aluminum or magnesium.

For the purpose of increasing the effective length of the arm 5, it is formed with a central slot 9 in which is telescopically received a slide 10 which has an enlarged outer end forming a head 11. The inner end of the slide is connected at 12 to one end of a retractile coil spring 13 which has its other end fixed to the arm 5 as indicated at 14, whereby the spring normally tends to draw the slide inwardly with respect to the arm 5 and maintain the head 11 against the outer end of the arm. At one end of the slide 10 is a pair of wings 15, 15 which bear upon opposite surfaces of the arm 5 and at the extremity of the arm is secured a pair of cleets 16, 16 which bear upon opposite surfaces of the slide, to maintain the slide in parallelism with the arm for reciprocation in the slot 9. The cleets 16, 16 also act as stops to limit outward movement of the slide 10.

Suspenders 17, which may be composed of any suitable material, such as elastic or non-elastic tape, preferably consist of a pair of loops which are secured together at the back of the wearer as indicated at 18, while each loop is united with itself at each side of the wearer as indicated at 19, 19. Below the points 19, 19, single ends of the suspender loops depend and to the extremity of each is secured a suitable fastening device, such as a conventional snap hook denoted by 20, or the like, for the purpose of removably fastening the suspenders to rings carried by the head 11 of each arm 5, one of the said rings being shown and marked 21.

The modified form shown in Figs. 10 and 11 is the same as the form shown in the other figures, except that safety pins, one of which is shown and marked 22, are substituted for the fasteners 2, 3; the safety pins being conveniently secured

to the member 1 by thread or wire 23 passing through suitable perforations in the member. In using this form of the invention, the safety pins are fastened to the inner side of the trousers' waistband.

In operation or use, and referring to both forms of the invention, a member 1 is secured to the trousers' waistband at each side and the suspender loops are thrown over the shoulders of the wearer underneath his outer shirt. The wearer then steps into the trousers as usual and fastens the suspenders thereto by engaging the snap hooks 20 with the rings 21 while the arms 5 are in the elevated position shown in dotted lines in Figs. 1 and 4. The trousers are then brought to correct height for wear by swinging the arms 5 downwardly into the full line position shown in Figs. 1 and 4, and locking them in that position by causing the studs 7 to enter the holes 8. When it is desired to lower the trousers, it is merely necessary to flex the arms 5 and/or members 1 so as to remove the studs 7 from the holes 8, and then swing the arms 5 to the raised position shown in dotted lines in Figs. 1 and 4. The freedom or slack provided in this position of the garment supporter may be increased by manually downward pressure on the members 1 which will expand springs 13 and permit slides 10 to be projected outwardly from arms 5 to or toward the extended position shown in dotted lines in Fig. 4. When it is desired to remove the trousers, the wearer will disengage the hooks 20 from the rings 21, with or without raising the arms 5 to the elevated position shown in dotted lines in Figs. 1 and 4. It may be added that the suspenders 17, 18, 19 may be provided with any well-known or approved means for adjusting their effective length, various forms of such means being so well-known to those in this art as to call for neither illustration nor description.

While the arms 5 have been shown and described as provided with the slides 10 and associated parts for increasing the effective length of the arms, this feature is not necessary in order to obtain the essential benefits of the invention, as the structure will operate satisfactorily with the rings 21 secured directly to the arms 5 and the slides 10 and associated parts eliminated. This will simplify and reduce the cost of manufacture, but it will sacrifice the added flexibility or range of slack that is afforded by the inclusion of the slides 10. It may also be added that it is possible and practical to lower the trousers by merely swinging the locked arms 5 and the members 1 inwardly and upwardly, after the front of the trousers has been unbuttoned, although this requires turning the waistband of the trousers outwardly.

In practice it has been found that the garment supporter, when composed of plastic, is comfortable and effective in use when the member 1 is about twelve inches long, one and one-fourth inches wide, and one-sixteenth of an inch thick; while the arm 5 has a length of about four inches from pivot 6 to ring 21, a width of about one and one-fourth inches at its end carrying the ring and about one and three-fourth inches at its other end, with a thickness of about one-eighth of an inch. These dimensions, however, are set forth merely for the purpose of giving an informative example of suitable size and proportions, and it will be clear that great variations in dimensions are permissible in accordance with the demands of production or the views of the designer. When the structure includes the slides

10 and associated parts, the effective length of the arms 5 when in elevated position will be increased about 50% in the construction shown in the drawings, but it will also be clear that the amount of this increase is likewise subject to the choice of the designer and manufacturer. When manufacturing in accordance with the dimensions hereinabove mentioned, a spacing of about seven-eighths of an inch between the pivots 6 and studs 7 has been found practical and effective but, here again, substantial variation is permissible, although it is desirable not to have the said pivots and studs so close together as to weaken the locking effect when the studs 7 are in the holes 8.

A feature of some importance and advantage resides in the fact that, as shown in Figs. 1 and 4, the ring 21 is in a position forward of the hole 8 and stud 7, i. e. the ring 21 is nearer to the front of the trousers, when the arm 5 is in depressed operative position. This causes the garment supporter to hold the waistband of the trousers in a substantially level position and prevent sagging of the front of the trousers and buckling of the front creases regardless of the figure of the wearer. In use the garment supporter is invisible except for the tips of the fasteners 2, 3 which may, if desired, be concealed by a comparatively loosely applied belt; and it should be remarked that this invention requires no special design or construction of trousers or shirt because the elements attachable to the trousers will cooperate with any ordinary waistband or seam, while the ends of the suspenders which carry the snap hooks 20 can pass through the slits ordinarily provided at the sides of men's outer shirts between the depending front and rear portions. Experience has shown that it is best to locate the central or intermediate fastener 2, 3 at the top of the trousers' side seam, as this insures a substantially level support for the trousers.

It will be understood that various changes may be resorted to form, construction, arrangement and material of the several parts without departing from the spirit and scope of the invention; hence I do not intend to be limited to details herein shown and described except as they may be included in the claims or required by disclosures of the prior art.

What I claim is:

1. A garment supporter comprising, means attachable to trousers, means supportable by the shoulders of a wearer, means for connecting the two first named means, said connecting means including a pivoted arm adapted to swing to depressed and elevated positions for supporting the trousers in wearing position and in slackened position, means for locking the arm in depressed position, and means for increasing the effective length of the arm when in elevated position.

2. A garment supporter comprising, means attachable to trousers, means supportable by the shoulders of a wearer, means for connecting the two first named means, said connecting means including a pivoted arm adapted to swing to depressed and elevated positions for supporting the trousers in wearing position and in slackened position, means for locking the arm in depressed position, and resilient means for increasing the effective length of the arm when in elevated position.

3. A garment supporter comprising, a pair of flexible elongated members fitted to be arranged one at each side of the wearer and having means for attachment to and in substantial parallelism

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with the waistband of trousers with one end of the member toward the front and the other end to the rear, a pair of comparatively rigid arms each having one end pivoted to a said member to swing to positions with their free ends above and below the members, and cooperative elements on the members and arms for locking the latter with their free ends below the members, said elements on the said members being located nearer the front ends of the members than the pivot points of said arms when the members are attached to trousers in operative position, the flexibility of said members permitting engagement and disengagement of said locking elements.

4. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end pivoted to said members and adapted to swing to positions with their free ends above and below the members for supporting the trousers in lowered position and in wearing position respectively, and cooperative elements on the members and arms for positively locking the latter with their free ends below the members.

5. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end pivoted to said members and adapted to swing to positions with their free ends above and below the members for supporting the trousers in lowered position and in wearing position respectively, cooperative elements on the members and arms for positively locking the latter with their free ends below the members, and means on the free ends of said arms for connecting them with suspenders.

6. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end pivoted to said members and adapted to swing to positions with their free ends above and below the members for supporting the trousers in lowered position and in wearing position respectively, and cooperative elements on the members and arms for positively locking the latter with their free ends below the members; one of each pair of said parts being flexible to permit manual engagement and disengagement of the locking elements.

7. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end pivoted to said members and adapted to swing to positions with their free ends above and below the members for supporting the trousers in lowered position and in wearing position respectively, and cooperative elements on the members and arms for positively locking the latter with their free ends below the members, said members being flexible to permit manual engagement and disengagement of the locking elements.

8. A device for supporting men's trousers as a

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whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end fastened to the members and their other free end depending therefrom at an acute angle toward the front of the trousers when the members are attached to the waist band thereof as above set forth, means on said free ends for connecting said arms with suspenders, and cooperative elements on the members and arms for positively locking the latter in said depending position.

9. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end fastened to the members and their other free end depending therefrom at an acute angle toward the front of the trousers when the members are attached to the waist band thereof as above set forth, means on said free ends for connecting said arms with suspenders, and cooperative elements on the members and arms for positively locking the latter in said depending position with the means for connecting the arms with suspenders nearer the front of the trousers than the point at which each arm is locked to its member.

10. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof, arms having one end fastened to the members and their other free end depending therefrom at an acute angle toward the front of the trousers when the members are attached to the waist band thereof as above set forth, means on said free ends for connecting said arms with suspenders, and cooperative elements on the members and arms for positively locking the latter in said depending position with the means for connecting the arms with suspenders nearer the front of the trousers than the point at which each arm is locked to its member, said locking elements being located nearer the ends of said members which are adjacent the front of the trousers than are the points at which the arms are fastened to the members.

11. A device for supporting men's trousers as a whole in wearing position and in lowered position comprising, a pair of flexible elongated members provided with means for attaching them to and in substantial parallelism with the waist band of trousers at each side above the hip portions thereof with one end of the members toward the front of the trousers and the other end toward the rear, a pair of comparatively rigid arms each having one end pivoted to a said member and the other end free to swing to positions above and below the members, and cooperative elements on the members and arms for positively locking the latter with their free ends below the members, the flexibility of said members permitting engagement and disengagement of said locking elements.

12. A device for supporting men's trousers as a whole in wearing position and lowered position comprising, elongated members provided with means for attaching them to and in substantial

parallelism with the waistband of trousers at each side above the hip portions thereof, arms having one end fastened to the members and their other free end depending therefrom at an acute angle toward the front of the trousers when the members are attached to the waistband thereof as above set forth, means on said free ends for connecting said arms with suspenders, and means fixing the arms to the members in said depending position with the means for connecting the arms with suspenders nearer the front of the trousers than the said fixing means.

EDWARD S. CUSHMAN.

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