Sept. 19, 1939. J. S. BENNETT 2,173,468

GARMENT SUPPORT

Filed Nov. 26, 1937

FIG. 1.

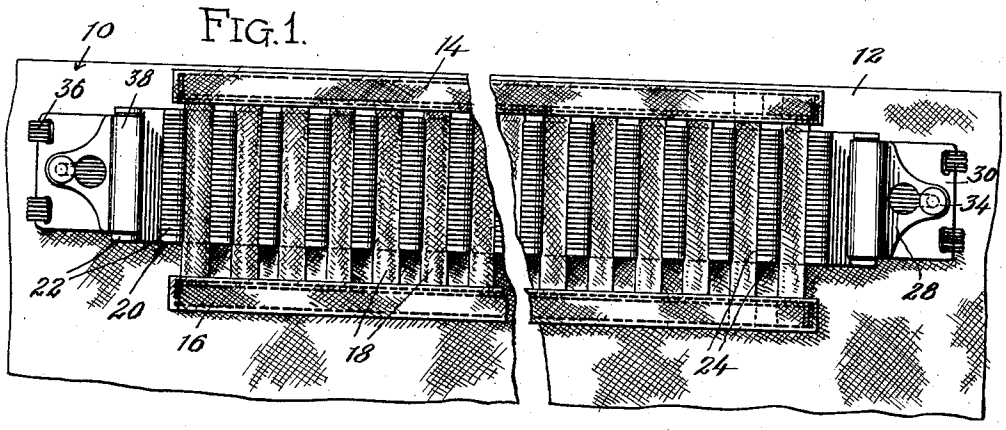


FIG. 2.

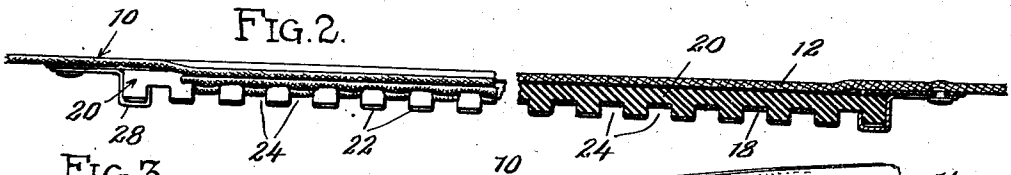


FIG. 3.

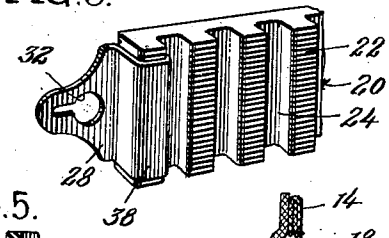


FIG. 4.

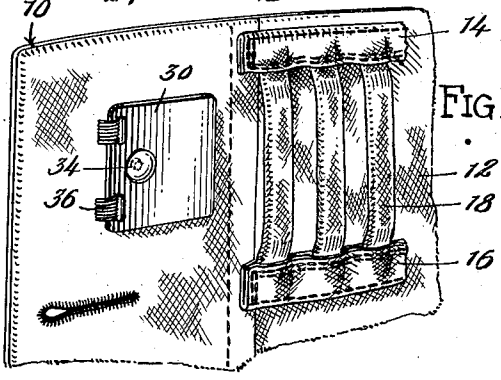
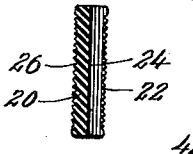


FIG. 5.



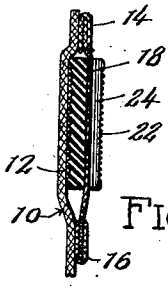


FIG. 6.

FIG. 7.

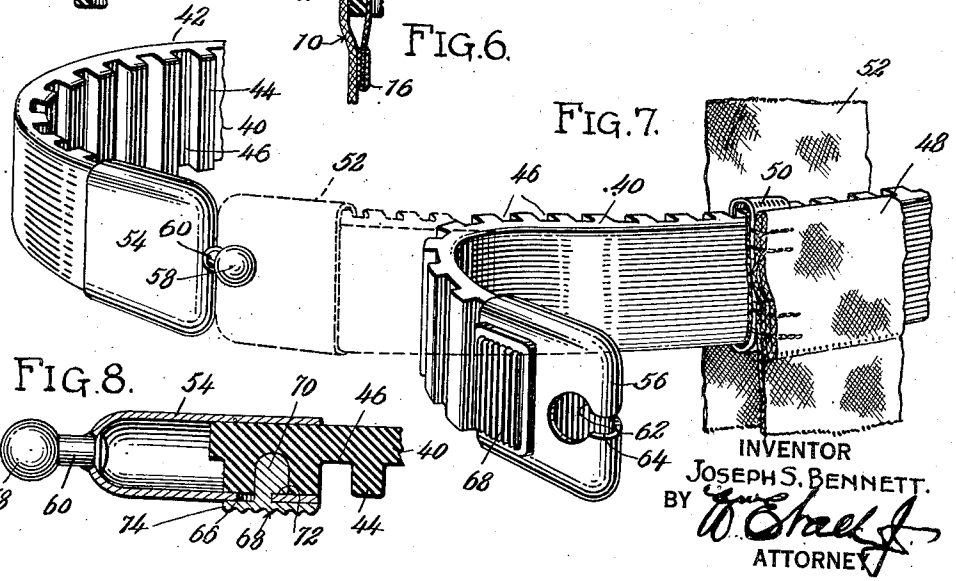


FIG. 8.

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Patented Sept. 19, 1939

2,173,468

UNITED STATES PATENT OFFICE

2,173,468

GARMENT SUPPORT

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Application November 26, 1937, Serial No. 176,431

7 Claims. (Cl. 241—7)

My invention relates to belts or the like, for supporting wearing apparel, such as trousers, skirts, etc., and is concerned more particularly with garment-supports adapted to be worn on the inside of the garment to be supported.

It is common knowledge that the garment to be supplied, if an ordinary belt is worn, tends to drop or fall to some extent as the wearer assumes a normal standing position after having sat down, reached up, or executed any of a number of ordinary body movements. This is due primarily to slippage induced through lack of friction between the garment to be supported and the garment therebeneath. A tightening of the belt, instead of inducing friction, only adds to body discomfort and a more or less unsightly appearance at the waistline, by exposing to view the lining of the outer garment. Suspenders, if worn with a belt, while they act to hold up the garment to be supported, have no effect whatsoever in holding the undergarment in place.

An object of the present invention is to improve upon that type of belt ordinarily worn as a trouser support. In its broadest aspect, the present invention may be said to comprise a band or strip of elastic material having a relatively high coefficient of friction in and of itself. Soft live rubber, compounded or pure, is recommended as a material in that it possesses inherently the surface friction and elasticity required. Instead of wearing the support on the outside of the garment to be supported, it is intended that it shall be worn on the inside of the waistband so as to contact directly with the shirt or other garment therebeneath. The support or band, on its inner surface, is appropriately deeply transversely corrugated, so that when circumferentially stressed and thereafter permitted to spring back to its original size and form, it effectively puckers and frictionally holds the material of the shirt within the grooves and between the ridges of the transverse corrugations. In this manner, not only is the coefficient of friction of the band itself utilized to prevent slippage, but added to this inherent surface friction is the augmented friction induced by the spread and contraction of the inner corrugated surface.

In the preferred embodiment of the invention, the support or band is adapted to be fastened directly to the waistband of the garment to be supported; end clamps or fittings, each comprising a part fastened to the support and a part fastened to the garment, being provided for this purpose. As a further means of fastening the band to the garment to be supported, a novel form of loop organization is used. Preferably, the loop organization comprises a plurality of individual loops closely spaced on the inside of the waistband to engage snugly in the grooves of the transverse corrugations. Thus engaged, the loops not only hold the band or support against circumferential displacement, and the garment to the belt, but they also, when the band is stressed and the tension thereafter relieved, draw in the waistband uniformly and neatly along the length of the support so as to insure comfort and the desired snugness of fit at the waistline. No puckering or gathering of the material of the garment into unsightly bulges can possibly occur. The loops, moreover, due to their depth of fit within the grooves of the transverse corrugations in no way interfere with or impair the friction contact between the band and the garment beneath. To remove the band, it is only necessary that it be rolled or reversed as to position beneath the loops. In so doing, the deeply corrugated surface of the band is brought into contact with the waist band per se, as distinct from the loops, so that sliding thereof in and out is thus made smooth and easy.

The advantages of a garment-support thus characterized are many. It is inexpensive to manufacture, and can be made in one size or length and cut down to suit the individual waistline measurement of the wearer. It not only holds up the garment to be supported, but by its frictional contact with the garment beneath, holds the latter neatly and comfortably in place. It admits of ventilation at the waistline due to the unfilled space between the ridges of the corrugations. Due to its inherent elasticity it automatically accommodates itself to slight changes in girth, thus adding materially to the comfort of the wearer regardless of body movement. Moreover, with a width-to-thickness ratio of approximately four to one, sufficient vertical or crosswise stiffness is obtained to cause the top edge of the outer garment to curve inwardly over the top edge of the belt rather than outwardly, which is the case when an ordinary belt is drawn tightly around the waist.

Other objects and advantages of the invention will be hereinafter more fully set forth.

In the drawing, wherein like characters denote like or corresponding parts throughout the several views:

Fig. 1 is an inside elevation, partly broken away, of a portion of a waistband showing the garment-support and its mode of attachment;

Fig. 2 is a part edge and part sectional view of the organization of Fig. 1;

Fig. 3 is a fragmentary perspective view of one of the band ends showing the manner in which the end fittings or clamps are fastened in place;

Fig. 4 is a fragmentary perspective view of part of a trousers waistband showing the belt loop organization and the fitting part by means of which the band end is fastened to the trousers—the band per se having been removed;

Fig. 5 is a transverse section of the band or support;

Fig. 6 is a view similar to Fig. 5 showing the relation of the band or support to the belt loops and to the waistband to which the belt loops are attached;

Fig. 7 is a perspective view of a modified form of garment-support or belt, and

Fig. 8 is a fragmentary sectional view of one end of the modified form of belt illustrated in Fig. 7.

Referring to Fig. 1, **10** designates the garment to be supported (trousers or the like). On the inside of the waistband **12** of the trousers, a loop organization is stitched or otherwise sewed. The loop organization primarily comprises a fabric strip **14** fastened along the top edge of the waistband and a second fabric strip **16** in parallelism with the first, also fastened to the waistband but spaced from its upper edge. These strips **14—16** are folded into U-shape, and extending from one to the other thereof into the folds are a number of closely spaced loops or strips **18** beneath which the belt or band **20**, when fitting in place, is adapted to engage.

The belt or band **20** is preferably made of rubber or the like, and has a width-to-thickness ratio of approximately four to one. On its inside face the band **20** is deeply corrugated to provide ridges **22** and grooves **24** within the latter of which the closely spaced loops **18** are adapted to snugly fit. On its opposite face, the band is longitudinally corrugated as at **26**, the latter corrugations being relatively shallow and provided solely for the purpose of adding to the coefficient of friction of the band per se.

At each end of the band **20** a fitting or clamp is provided. Each clamp comprises a part **28** fastened to the band end and a part **30** fastened to the waistband. The part **28** fastened to the band end is provided with an eye **32** through which a button or lug **34** mounted on the other said fitting part is passed in attaching and detaching the band or belt. The part **30** of the fitting is adapted to be sewed or otherwise fastened to the waistband as indicated at **36**. By sliding the one fitting part relatively to the other, as by stretching the band **20**, the two fitting parts may be quickly connected or disconnected as desired. As a simple mode of attachment for the fitting part **28**, said part may be shaped as indicated at **38**, to receive within its embrace one or more of the ridges **22** of the band (see Fig. 3). Preferably, the width of the loops **18** is slightly greater than the width of the grooves **28** within which they are respectively adapted to engage.

A garment-support characterized as above set forth, when applied to trousers, gives a neat, smooth external appearance throughout, even though the waistband be larger than the wearer's waist. No buckling and unbuckling of the belt is required. All that is necessary is to button or fasten the trousers around the waist. The loops are easily applied, and can be quickly machine-stitched in place. To remove the support it is only necessary to unfasten the end clamps, reverse the band by turning or rolling it under the loops, and then sliding it out. This latter feature is important. The trousers, with the band removed, may be then dry cleaned, laundered, or otherwise serviced without subjecting the elastic portion of the support to the deteriorating effects resulting from such service. It should also be noted that the spaces beneath the loops are longer than the width of the band, so that the transverse corrugated face of the latter may be easily rolled over or reversed.

The fabric loops are preferably machine-stitched to the waistband when both the fabric and the waistband are flattened and smoothed out. The spacing of the loops is determined by the spacing of the transverse corrugations as it is desirable that all loops, when the band is fitted in place, shall snugly engage one each in each of the grooves of the transversely corrugated surface. The loop organization may extend completely around the waistband or it may be extended only partially therearound or in spaced sectional lengths as desired. Two twelve inch section lengths, if the latter arragement is selected, are deemed sufficient. In any event, it is preferred that the spacing of the loops be slightly greater than the spacing of the corrugated slots. Thus spaced, when assembled, the waistband is caused to pucker slightly between each loop when there is no tension on the band, and the extent of this pucker is governed by the extent of greater spacing of the loops as compared with the lesser spacing of the grooves in the band. The puckering between loops, considered separately, is hardly noticeable, but collectively they endow the waistband with a good degree of flexibility. For example, with $\frac{3}{16}$'' grooves and ridges on the bands, and $\frac{3}{16}$'' loops with ¼'' spacing between, a $\frac{1}{16}$'' pucker per groove is obtained. This is equal to thirty-two puckers per foot or $3\frac{2}{16}$'' in all, i. e., a flexibility of 2'' without allowing for any stretch to hold the band in place.

In the modification of Figs. 7 and 8, the band per se more nearly approximates the function of a belt. Many of the advantages of the above described garment-support, however, are retained. The band comprises a strip **40** of rubber, smooth on its outer surface **42** and corrugated on its inner surface to form alternate ridges **44** and grooves **46** throughout all or a substantial part of its length. Fig. 7 shows how the belt is applied, **48** representing the waistband of the garment to be supported having belt loops **50** stitched to the inner surface thereof beneath which the belt is threaded. The undergarment material shown at **52** accommodates itself to the belt corrugations so that there is at all times firm frictional engagement between it and the belt.

In the modification, the belt as a whole is freely removable. To this end, it is provided with buckle elements **54** and **56** respectively provided with a ball end **58** joined to the element **54** by a shank **60** of reduced diameter, and with a slot **62** having its inner end enlarged to receive the ball **58** and its outer end **64** of smaller width to engage the shank **60**. The elements **54** and **56** comprise metallic strips of U-shape (see Fig. 8) each having a transverse slot **66**. The belt is assembled to the buckle by inserting an end thereof into the buckle element with the corrugated surface on that side of the element in which is formed the slot **66**. A key **68** of metal, Bakelite, or the like, is provided to lock the belt to the buckle, this

key comprising a substantially T-shaped member having an inner limb 70 which is inserted through the slot 66 and into one of the grooves 46 of the corrugations, the limb being kerfed as at 72 so that, when the belt is drawn outwardly with respect to the buckle element, that part of the member adjacent the slot 66 locks into the kerf 72 to prevent withdrawal of the key member. The key member is likewise provided with flanges 74 overlapping the edges of the slot 66 to give a neat appearance; these flanges being exteriorly knurled to make assembly and disassembly of the belt and buckle easier.

In use, the wearer inserts the belt 40 through the inside belt loops on the trousers and, after tucking the shirt into the trousers, grasps the buckle elements to stretch the belt somewhat before engaging the buckle elements and relaxing the parts into final position. This preliminary stretching of the belt serves to spread the ridges 44 of the corrugations along the surface of the shirt, so that when the belt is relaxed the ridges will frictionally engage small increments of the shirt, puckering the intermediate shirt portions between ridges and into the grooves 46, thereby affording firm engagement of the belt with the shirt and allowing peripheral freedom of the shirt on the body of the wearer, since the body of the shirt is normally of considerably greater girth than the trousers.

While I have described my invention in detail in its present preferred embodiment, it will be obvious to those skilled in the art, after understanding my invention, that various changes and modifications may be made therein without departing from the spirit or scope thereof. I aim in the appended claims to cover all such modifications and changes.

I claim as my invention:

1. The combination with a garment to be supported, of a garment-support adapted to be worn on the inside thereof so as to contact directly the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being transversely corrugated whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form it effectively puckers and frictionally holds the material of the under garment within the grooves and between the ridges of the transverse corrugations, and means fastened to the garment to be supported and engaging in the grooves of the transverse corrugations adapted to pucker the former as tension on the elastic band is relieved.

2. The combination with a garment to be supported, of a garment-support adapted to be worn on the inside thereof so as to contact directly the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being transversely corrugated whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form it effectively puckers and frictionally holds the material of the under garment within the grooves and between the ridges of the transverse corrugations, and closely spaced loops fastened to the garment to be supported and engaging in the grooves of the transverse corrugations adapted to pucker the former as tension on the elastic band is relieved.

3. The combination with a garment to be supported, of a garment-support adapted to be worn on the inside thereof so as to contact directly the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being transversely corrugated whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form it effectively puckers and frictionally holds the material of the under garment within the grooves and between the ridges of the transverse corrugations, and loops fastened to the garment to be supported beneath which the elastic band is adapted to be fitted, said loops in one position of adjustment of said band being adapted to engage in the grooves of the transverse corrugations to pucker the garment to be supported as tension on the band is relieved, and said band when reversed as to position beneath said loops being adapted to freely slide therebeneath.

4. The combination with a garment to be supported, of a garment-support adapted to be worn on the inside thereof so as to contact directly the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being transversely corrugated whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form it effectively puckers and frictionally holds the material of the under garment within the grooves and between the ridges of the transverse corrugations, fittings mounted at the opposite band ends adapted to interlock in one or more of the grooves of the transverse corrugations, means for detachably fastening said fittings to the garment to be supported, and means fastened to the garment to be supported and engaging with said elastic band adapted to pucker the former as tension on the latter is relieved.

5. The combination with a garment to be supported, of a garment support adapted to be worn on the inside thereof, said support comprising a band of elastic material having one face only thereof relatively deeply transversely corrugated, and loops fastened to and on the inside of the garment to be supported engageable within the grooves of the transverse corrugations and beneath which the band is reversible as to position and beneath which it is freely slidable when reversed.

6. The combination with a garment to be supported, of a garment support adapted to be worn on the inside thereof so as to directly contact the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being relatively deeply transversely corrugated whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form, it effectively uniformly puckers and frictionally holds the material of the undergarment within the grooves and between the ridges of the transverse corrugations, the inner faces of the ridges of the transverse corrugations being substantially flat and provided with relatively sharply angled edges substantially coextensive with the width of the band whereby slippage of the material of the undergarment relatively to the band is prevented.

7. The combination with a garment to be supported, of a garment support adapted to be worn on the inside thereof so as to directly contact the garment therebeneath, said support comprising a band of elastic material having a relatively high coefficient of friction, the band on its inner face being relatively deeply transversely corrugated

whereby when circumferentially stressed and permitted thereafter to spring back to its original size and form, it effectively uniformly puckers and frictionally holds the material of the undergarment within the grooves and between the ridges of the transverse corrugations, the inner faces of the ridges of the transverse corrugations being substantially flat and provided with relatively sharply angled edges substantially coextensive with the width of the band whereby slippage of the material of the undergarment relatively to the band is prevented, and end fittings for said band detachably fastened thereto by the fitting engagement of a portion of said end fittings in one or more of the grooves of the transverse corrugations.

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