May 21, 1946. S. SEGAL 2,400,844

EXPANSIBLE BELT

Filed Dec. 8, 1944

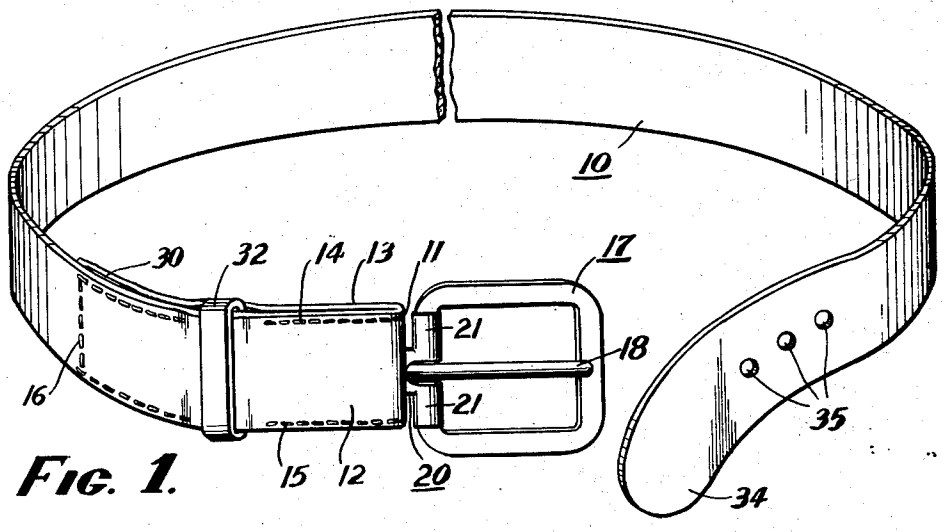


FIG. 1.

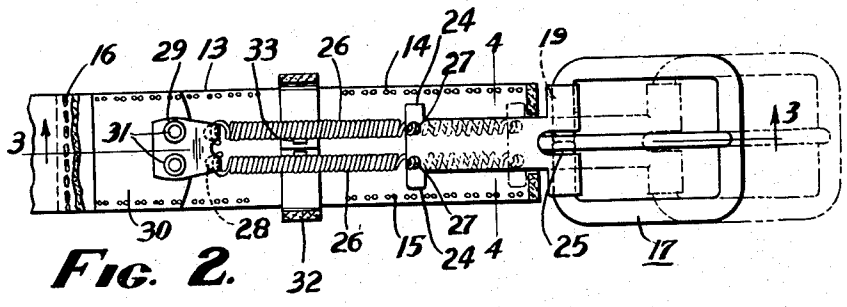


FIG. 2.

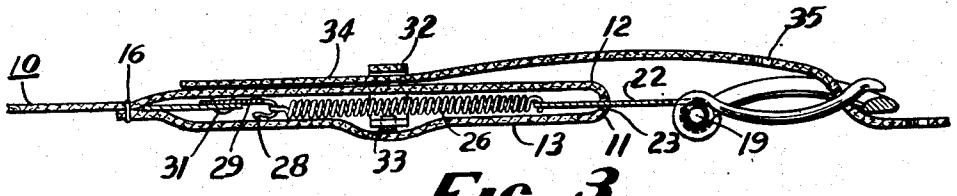


FIG. 3.

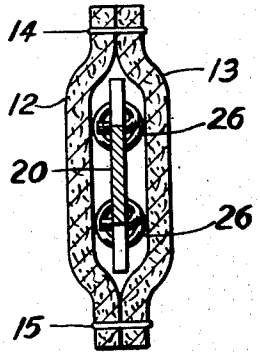


FIG. 4.

INVENTOR.
SAMUEL SEGAL
BY Leonard L. Kalish

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EXPANSIBLE BELT

Samuel Segal, New York, N. Y., assignor to Pioneer Suspender Company, Philadelphia, Pa.

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3 Claims. (Cl. 2—339)

The present invention relates to belts and similar fastenings and supports for clothing and it relates more particularly to new and improved belt constructions having resilient and expansible buckle closures.

An object of the present invention is to provide a new and improved construction for belts and other similar fastening and supporting devices for clothing. Another object of the present invention is to provide a novel belt construction having an improved resilient and expansible buckle closure for providing greater comfort to the wearer. Still another object of the present invention is to provide a belt having a resilient and expansible buckle closure of relatively inexpensive, efficient and dependable construction and neat appearance.

Other objects and advantages of the present invention are apparent in the following detailed description, appended claims and accompanying drawing.

While it has been suggested in the past to provide resilient and expansible belt buckles, the conventional constructions heretofore employed have had the disadvantages of relatively costly construction, not entirely satisfactory operation, and generally unsightly appearance.

Accordingly, the present invention contemplates the provision of a simple and inexpensive resilient and expansible buckle construction for belts or the like which is simple, dependable and efficient in operation so as to provide maximum comfort for the wearer and which, at the same time, is not unsightly in appearance.

For the purpose of illustrating the invention, there is shown in the accompanying drawing one form thereof which is at present preferred, although it is to be understood that the various instrumentalities of which the invention consists can be variously arranged and organized and that the invention is not limited to the precise arrangements and organizations of the instrumentalities as herein shown and described.

Referring to the accompanying drawing in which like reference characters indicate like parts throughout:

Figure 1 represents a perspective view of one embodiment of the present invention.

Figure 2 represents a fragmentary front elevational view of the embodiment of Figure 1; parts being broken away better to reveal the construction thereof.

Figure 3 represents a horizontal cross-sectional view generally along the line 3—3 of Figure 2.

Figure 4 represents a vertical cross-sectional view along the line 4—4 of Figure 2.

In one embodiment of the present invention shown generally in Figures 1 to 4, I may provide a belt of leather or other flexible material indicated generally by the reference character 10.

One end of the belt 10 is folded back upon itself as at 11 to provide a loop having a front panel 12 and a rear panel 13. The panels 12 and 13 are sewn together at their upper and lower edges by rows of stitching 14 and 15 respectively; a transverse row of stitching 16 closing the inner ends of said panels.

A buckle 17 having a conventional tongue 18 is pivotally mounted externally of the fold or loop 11 in a manner to be hereinafter described; the tongue 18 being rotatably mounted upon the rear or posterior bar or bridge of said buckle 17.

A connector member generally denoted 20 includes a pair of laterally-spaced sleeves or hollow circular bearings 21 which rotatably surround buckle bar or bridge 19 on either side of the tongue 18; the bearings 21 permitting rotation of the buckle 17 relative to the connector or link 20. Since the sleeves 21 extend on either side of the tongue 18 to the ends of the bar 19, they also serve to center the tongue on said bar and to prevent undesirable lateral shifting thereof. The connector member 20 also includes a thin flat elongated shank portion 22 which extends from and is integral with the sleeves or bearings 21 and passes through a thin transverse slot or gap 23 formed in the fold or loop 11 of the belt 10; the slot 23 being generally centrally positioned along the fold 11 and preferably extending not substantially more than half the transverse dimension thereof so as not unduly to weaken the belt at said fold 11.

A pair of transversely-extending shoulders 24 are provided at the inner end of the shank portion 22 of the connector member 20; the shoulders or lugs 24 extending substantially beyond the ends of the slot 23 and being adapted to limit the outward movement of the buckle 17 and connector member 20. That is, the outward movement of the buckle 17 and the connector member 20 is stopped when the laterally extending shoulders or lugs 24 contact the inner surface of the fold or loop 11 as shown in dotted lines in Figure 2. Relative to the laterally extending bearings 21 the shank 22 may be said to be reduced, the loop 11 may be characterized as an anterior portion of the loop defined by the panels 12 and 13, the posterior or distal lugs 24 characterize with shank 22 a substantially T shaped end, and

the anterior or proximal bearings 21 of the connector or link 20 define with shank 22 a substantially T shaped end.

An axial slot 25 is formed at the forward end of the portion 22 of the connector member 20, generally intermediate the sleeves 21 thereof; the slot 25 being sufficiently long to permit substantial rotation of the tongue 18 upon the buckle bar 19.

The connector member 20 is resiliently mounted within the loop of the belt by means of a pair of laterally-spaced normally compressed helical springs 26 which are connected, at one end, within a pair of small openings 27 formed adjacent the innermost end of the connector member 20 and which are connected, at the other end, to the hooks 28 of a metal attachment plate 29. The attachment plate 29, in turn, is connected or anchored to a leather strip 30 by a pair of rivets 31. The leather strip 30 has generally the same transverse dimension as the panels 12 and 13 and is fastened near the rear end of said panels by the stitching 14 and 15. Optionally, the leather strap 30 may also be adhesively secured to one of the panels 12 and 13. I prefer not to pass the transverse stitching 16 through the leather strip 30 in order to avoid excessive bulkiness at the end of the loop; the strip 30 terminating somewhat short of the stitching 16.

A leather loop 32 having its free ends connected by a metal staple 33 is fastened within the fold of the belt 10; the loop 32 having one side disposed on the outside of the front panel 12 and having its other side disposed inside the loop adjacent the rear panel 13 and behind the springs 26. The loop 32 is adapted to retain the free end 34 of the belt 10 in the manner shown in Figure 3 when the buckle tongue 18 is engaged within one of the belt holes 35 in conventional manner.

A small gap is left in the stitching 14 and 15 on either side of the loop 32 so as to permit some slight movement of the loop 32 while generally retaining it in proper position to receive the free end 34 of the belt 10.

When the novel belt of the present invention is buckled and in use it permits substantial resilient movement of the buckle relative to the fold or loop 11. In this way, the belt is free to expand and contract resiliently and thus to provide greater comfort for the wearer than is possible with the conventional flexible but non-extensible leather belt. At the same time, due to the positive stop means provided by the overhanging lugs or shoulders 24, the buckle cannot inadvertently be over-extended by any excessive pull such as might otherwise tear the strip 30 free from its connections or might otherwise damage the resilient connection.

Furthermore, due to the fact that the slot 23 is centrally disposed upon the fold or loop 11 and occupies preferably not substantially more than half its transverse dimension, the fold 11 has sufficient strength to withstand excessive pulls upon it.

The novel construction of the present invention provides a simple, efficient and non-bulky construction which is inexpensive to produce and which provides maximum comfort for the wearer. In addition, the belt is extremely neat in appearance;—the relatively small portion or reduced shank 22 of the connector member 20 being wholly concealed by the free end 34 of the belt when the buckle is extended so that the belt resembles the conventional belt in use. Briefly recapitulating the anterior portion of the loop embodies the slot 23 which slidably guides the intermediately disposed shank 22 of the link 20 having the posterior lugs 24 connected to the normally compressed but extendible and laterally spaced compensatory springs 26. The bearings 21 of course are integral with the shank and are disposed on the anterior portion of the link 20. These anterior bearings rotatably guide the posterior bridge 19 of the buckle which also has an anterior bridge cooperating with the pivoted tongue 18 which is adapted to interlock with the perforations 35 severally of the free terminal 34 to removably buckle the latter.

The present invention may be embodied in other specific forms without departing from the spirit or essential attributes thereof, and it is therefore desired that the present embodiment be considered in all respects as illustrative and not restrictive, reference being had to the appended claims rather than to the foregoing description to indicate the scope of the invention.

Having thus described my invention, what I claim as new and desire to protect by Letters Patent is:

1. For providing resilient and expansible garment support, a belt of flexible non-resilient material having a fastening opening adjacent one end and having its other end folded inwardly to form front and back panels to define a loop having a slot, stitching connecting said panels along their top and bottom sides and along the turned-in edge to provide a generally closed pocket, the fold of said pocket having a thin slot formed therealong generally equidistant the top and bottom sides and extending for not appreciably more than half the length of said fold, a connector member having a shank normally concealed within and slidably guided by the walls of said slot, said connector member having a pair of laterally spaced sleeves formed at its outer end and having a pair of laterally spaced shoulders formed at its inner end, said shoulders extending beyond the ends of said slot and serving in cooperation with said loop to limit the outward movement of said connector member, an attachment plate fastened adjacent the rear end of said pocket, a pair of laterally-spaced helical springs connected at their forward ends to the inner end of said connector member and connected at their rearward ends to said attachment plate and adapted to urge said connector member inwardly within said pocket, and a buckle having a bar and a fastening tongue pivotally mounted on said bar, the sleeves of said connector pivotally enclosing said buckle bar on either side of said tongue.

2. In combination, a belt having a loop integral therewith and embodying an anterior portion including a slot, a link having a reduced shank movably confined within said loop and slidably guided by the walls of said slot and including spaced bearing means extending laterally of said shank and disposed outside of said loop and defining a gap, extendible and normally compressed spaced springs having posterior end means secured within said loop and anterior end means connected to said link for normally holding said link retracted and said bearing means adjacent said anterior portion, a swingable buckle having a posterior bridge rotatably guided by said bearing means and adapted to be actuated for projecting said shank through and outside

of said slot against the resistance of said spring means and having an anterior bridge, a tongue disposed within said gap and rotatably carried by said posterior bridge and cooperating with said anterior bridge to removably buckle a portion of said belt, and spaced means projecting laterally of said shank at the posterior end of the latter and cooperating with said anterior portion to limit the projection of said shank out of said slot.

3. In combination, a belt having a loop integral therewith and embodying an anterior portion including a slot, a link having a reduced shank movably confined within said loop and slidably guided by the walls of the said slot and including spaced bearing means outside of said loop and extending laterally of said slot and shank and defining a gap and characterizing with said shank a substantially T-shaped anterior end, normally compressed and extendible and spaced springs having posterior end means secured within said loop and anterior end means connected to said link for normally holding said link retracted and said bearing means against said anterior portion, a buckle having a posterior bridge rotatably guided by said bearing means and adapted to be actuated for projecting said shank through and outside of said slot against the resistance of said spring means and having an anterior bridge, a tongue disposed within said gap and rotatably carried by said posterior bridge and cooperating with said anterior bridge to removably buckle a portion of said belt, said spaced bearing means cooperating with said loop for limiting the retraction of said shank into said loop, and said link having laterally extending lugs defining with said shank a posterior substantially T-shaped end cooperating with said anterior portion to limit the projection of said shank out of said loop.

SAMUEL SEGAL.