July 29, 1952 J. R. WHITEHOUSE 2,604,632

EXPANSION BUCKLE

Filed June 16, 1949

Fig. 1.

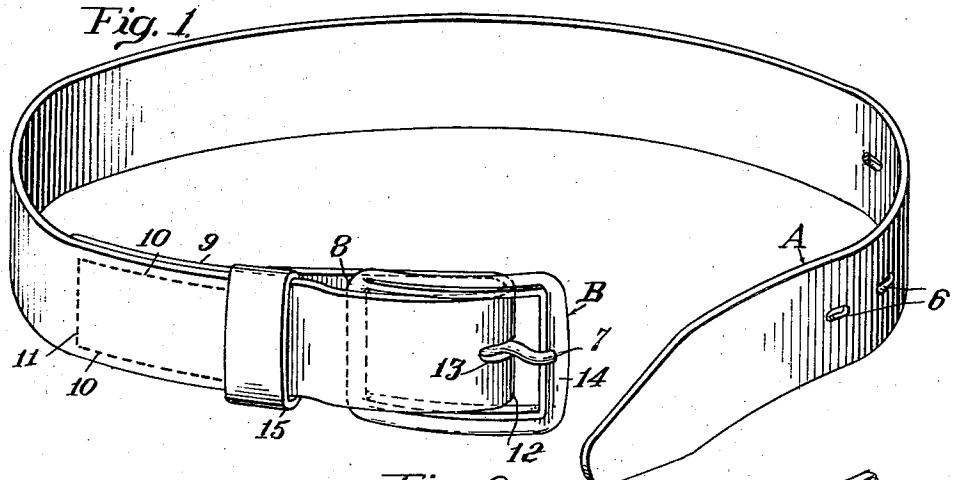


Fig. 2.

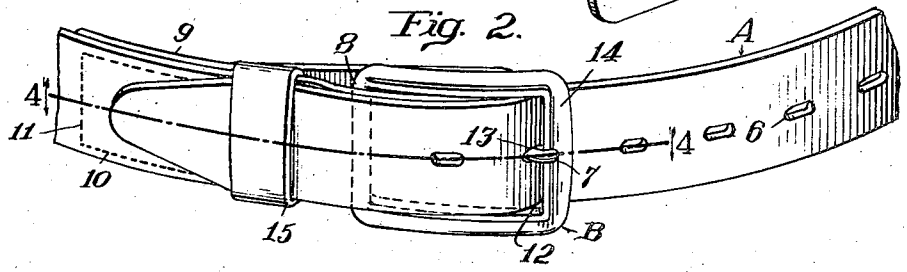


Fig. 3.

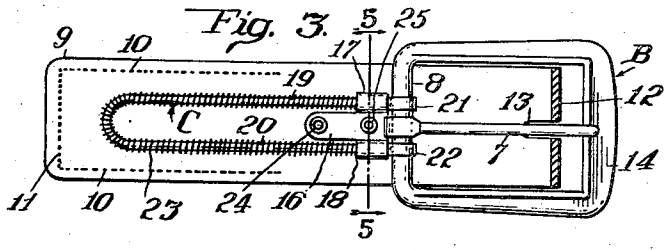


Fig. 5.

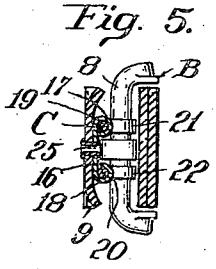
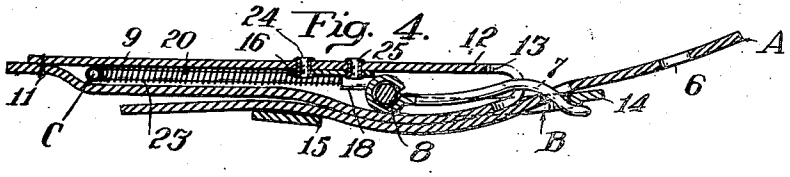


Fig. 4.



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EXPANSION BUCKLE

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6 Claims. (Cl. 2—322)

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This invention relates to belts or bands for personal wear.

One object of the present invention is to provide in a resilient and expansible belt or band buckle, a simple and inexpensive assembly of parts which are operatively connected together and to an anchor plate, requiring only the need to apply the preassembled parts to the belt or band by merely securing the anchor plate fixedly to the belt or band.

Another object of the present invention is to provide in a resilient and expansible belt or band fastening buckle a simple and inexpensive assembly of parts wherein the parts are coupled closely together and easily and readily applied in assembled condition to the belt or band.

A still further object of the present invention resides in the provision of a resilient and expansible belt or band buckle wherein after assembly of all of the parts together for operation, one of the parts is secured to the inner face of the belt or band adjacent one end thereof and such end of the belt or band then folded back upon the body of the belt or band over the resilient and expansible parts of the assembly and sewed or stitched to the body of the belt or band and in such a way as to provide a loop in which all of the parts, except a portion of the buckle and its tongue, are enclosed within the belt or band.

With the above and other objects in view, the invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings and pointed out in the claims hereto appended, it being understood that various changes in the form, proportions, and minor details of construction, within the scope of the claims, may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

In the accompanying drawings:

Fig. 1 is a perspective view of a belt or band embodying the invention, the belt or band being open;

Fig. 2 is a fragmentary elevation of the belt or band fastened together;

Fig. 3 is a face view of the resilient and expansible assembly prior to folding a part of one end of the belt or band back over the body of the belt or band;

Fig. 4 is a longitudinal sectional view taken on the line 4—4 of Fig. 2;

Fig. 5 is a transverse sectional view taken on the line 5—5 of Fig. 3.

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Referring now more particularly to the accompanying drawing, the reference character A indicates a belt or band for personal wear and may be composed of any suitable material.

The belt or band A is provided near one end with spaced perforations 6 to provide for the interchangeable reception of the tongue 7, pivoted at its inner end and slidable on the rear bar 8 of a substantially rectangular open buckle frame B for the usual adjustable adaptation of the belt to the comfort of the wearer.

The belt or band at the end opposite the said perforated end has a portion 9 which is folded over on the body of the belt or band and sewed or stitched, as at 10 and 11, to the inner face of the body of the belt or band in a manner such as to provide a short loop 12 in which the buckle frame B slides with its outer end projecting beyond said loop 12. The said tongue 7, pivoted to the rear bar 8 of the buckle frame B, extends through a slot 13 at the outer end of said loop 12 to engage the front bar 14 of the open buckle frame, said slot 13 being of a length to permit the tongue 7 to slide in said slot 13 under influence of pivotal movement of said tongue 7 on the rear bar 8 of the buckle frame. The belt or band A has the usual guide loop 15 secured thereto in any suitable manner between the body of the belt or band A and the folded over portion 9 thereof.

To render the buckle belt or band buckle fastening resilient and expansible for the wearing comfort of the wearer, an assembly of parts has been made up in a manner to provide for easy and ready organization of the parts and a subsequent application of the structural features as a closely coupled, simple and inexpensive unit or assembly. The new resilient and expansive buckle fastening structure is formed and connected to the buckle A in a manner such as not to take away from the finished belt or band the usual appearance of articles of the instant character.

To these ends, the new assembly consists of a short, narrow anchor plate 16 having short, spaced, upstanding, tubular sleeves 17 and 18 at the inner end thereof.

A substantially U-shaped, elongated, narrow member C is provided with spaced legs 19 and 20 and a connecting bight portion. The legs 19 and 20 of the U-shaped member are of round formation in cross-section, throughout their lengths except at their extremities beyond said tubular sleeves, where they are flattened and bent loosely around the rear bar 8 of the buckle frame

A, as indicated at 21 and 22, respectively, thus forming a permanent but pivotal connection between the U-shaped spring holder C and the rear bar 8 of the buckle frame, and between which flattened and bent portions 21 and 22, the buckle tongue 7 is pivoted, as shown. These flattened and bent portions 21 and 22 form stops for engagement with the outer ends of the tubular sleeves 17 and 18 of the anchor plate 16 upon retraction of the buckle frame A incident to expansion of a light gauge resilient spring 23 supported on and conforming substantially to the size and shape of the aforesaid substantially U-shaped member C, the free ends of said spring bearing constantly against the inner ends of the said tubular sleeves 17 and 18 to provide for effective compression of the expansible spring 23 in any outward sliding movement of the U-shaped member C. The sleeves 17 and 18 of the anchor plate are adjacent the flattened ends 21 and 22 of the U-shaped member C and with the connection of the latter with the buckle constitute the sole support of the U-shaped member.

Thus it will be seen that the buckle frame B and its tongue, along with the U-shaped member C and the resilient and expansible spring 23 and the anchor plate 16, are organized into a unit or assembly and as such the assembly needs to be merely anchored to the inner face of the belt or band by rivets 24 and 25. The buckle end portion 9 of the belt or band is then folded inwardly across the slot 13 with the buckle tongue protruding through said slot 13. The folded back portion 9 is then sewed or stitched to the inner face of the body of the belt or band, as indicated at 10 and 11.

The completed article is such that all parts of the assembly, except portions of the buckle frame and buckle tongue, are effectively concealed within the belt or band when worn. It will be apparent that the new belt or band takes on the general appearance of similar articles and yet providing for resilience and expansiveness for the comfort of the wearer.

What is claimed is:

1. A resilient and expansible belt or band buckle assembly, comprising an open, substantially rectangular shaped buckle frame, a tongue pivotally connected to the rear bar of said frame, an anchor pate having spaced, upstanding, open-ended sleeves forming guides, the anchor plate being fixedly attached to the belt, a U-shaped member including spaced legs and a connecting bight portion at the inner end thereof, the legs of said U-shaped member being slidable in said sleeves and having their free ends permanently but pivotally connected to the rear bar of said frame on opposite sides of the pivotal connection of said tongue with the rear bar of the frame thus maintaining the tongue substantially medial of the frame, and a coiled spring supported on said U-shaped member and taking the shape of the latter and having the free ends thereof constantly bearing against the inner ends of said sleeves, and said sleeves serving as a stop for the rear bar of the buckle when the buckle is in a retracted position.

2. A resilient and expansible belt or band buckle assembly, comprising an open, substantially rectanguar shaped buckle frame, a tongue pivotally connected to the rear bar of said frame, an anchor plate having integral spaced, upstanding, open-ended sleeves forming the guides, the anchor plate being permanently attached to the

belt, a U-shaped member including spaced legs and a connecting bight portion at the inner end thereof, the legs of said U-shaped member being slidable in said sleeves and having their free ends permanently but pivotally connected to the rear bar of said frame on opposite sides of the pivotal connection of said tongue with the rear bar of the frame thus maintaining the tongue substantially medial of the frame, and a coiled spring supported on said U-shaped member and taking the shape of the latter and having the free ends thereof bearing against the inner ends of said sleeves, the pivotal connections of the said legs of the U-shaped member with the rear bar of the open buckle frame constituting spaced stops for engagement with the guide sleeves to limit inward movement of the frame against the expanding action of said spring.

3. A resilient and expansible buckle for belts or bands for personal wear including an open buckle frame and a tongue pivoted to the rear bar of the frame and extensible over the front bar of the frame, an anchor plate permanently secured within the belt or band and having integral sleeves on opposite sides thereof, at one end of the same and in a different plane, a U-shaped member having the opposite legs thereof parallel and slidable in the respective sleeves and their free ends pivotally connected to the rear bar of said open frame, a single coiled spring supported in U-shaped form on said U-shaped member and bearing constantly at its free ends against the inner ends of the respective aforesaid sleeves, said sleeves at their outer ends forming stops for engagement by the aforesaid pivotally secured ends of the aforesaid U-shaped member to limit inward movement of the buckle frame on the belt or band.

4. An assembly of closely coupled elements for association with a belt or band fastening buckle to render the fastening resilient and expansible for the comfort of the wearer, comprising an anchor plate fixedly attached to the belt adjacent the buckle, a U-shaped member including spaced parallel legs and a connecting bight portion at the inner end thereof, said legs being slidably engageable at their outer ends with spaced guide sleeves integral with the anchor plate at each side thereof and in a different plane, the free ends of the legs being flattened and permanently but pivotally connected to a rear bar of the buckle, the slidable connection of the legs of the U-shaped member with portions of the anchor plate and their pivotal connection at their inner ends with the buckle constituting the sole means for support of the U-shaped member, and a coiled spring supported on the legs and bight portion of the U-shaped member, the free ends of said spring bearing constantly against the inner end portions of the sleeves.

5. The assembly of elements as defined in and by claim 4 wherein the outer end portions of the sleeves serve as stop means for the flattened portions of the U-shaped member that are pivotally connected to the rear bar of the buckle when the buckle is in a retracted position.

6. A resilient and expansible buckle for belts or bands for personal wear having a buckle end and a free end including an open buckle frame and a tongue pivoted to the rear bar of the frame and extensible over the front bar of the frame, an anchor plate fixedly secured within the belt or band adjacent the buckle end, the plate having open-ended spaced sleeves on opposite sides

thereof at one end of the same and in a different plane, a U-shaped member including spaced legs and a connecting bight portion at the inner end thereof, the legs being slidable in the open-ended sleeves, the free ends of the legs being permanently but pivotally connected to the rear bar of the frame on opposite sides of the tongue thus maintaining the tongue substantially medial of the frame, the anchor plate through the slidable connection of the U-shaped member with the sleeves constituting the sole means of connection of the buckle to the belt, and a single coiled spring supported in U-shaped form on the U-shaped member and bearing constantly at its free ends against the inner ends of the respective aforesaid sleeves, the sleeves at their outer ends forming stops for engagement by the pivotally secured ends of the U-shaped member to limit

inward movement of the buckle frame on the belt or band.

JOHN RALPH WHITEHOUSE.

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