United States Patent [19]

Luger

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[45] **Dec. 24, 1974**

[54] **BELT REVERSING MECHANISM**

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[52] **U.S. Cl.** ..... **2/301,** 24/163 R

[51] **Int. Cl.** **A41f 19/00**

[58] **Field of Search** ..... 24/74 R, 79, 188, 178 R, 24/163 R, 163 BR, 168; 2/301, 300, 311, 2/313, 321, 316, 322, 325

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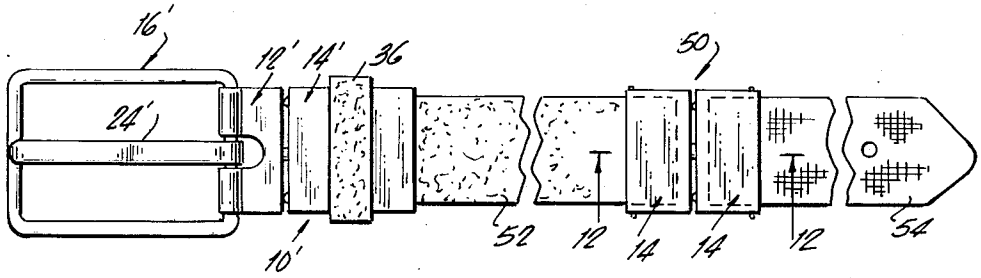
Primary Examiner—Geo. V. Larkin

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[57] **ABSTRACT**

A belt reversing mechanism including two clamping sections rotatably connected to each other by a rivet or an eyelet. In one embodiment, one clamping section is connected to a belt buckle and the other clamping section is connected to a belt so that the belt may be rotated with respect to the belt buckle. In a second embodiment, the two clamping sections are identical and serve to connect two belt sections so that they may be rotated with respect to each other so that either side of a belt section may be visible when the belt is worn.

4 Claims, 14 Drawing Figures



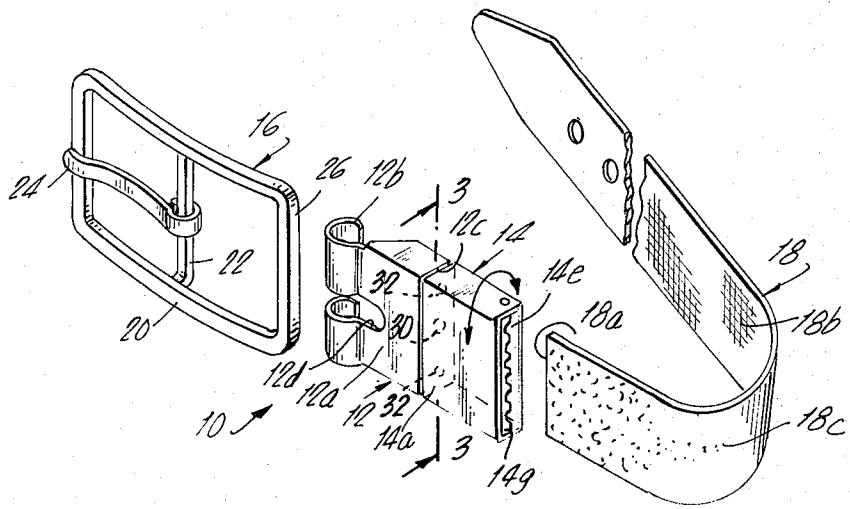


FIG. 1

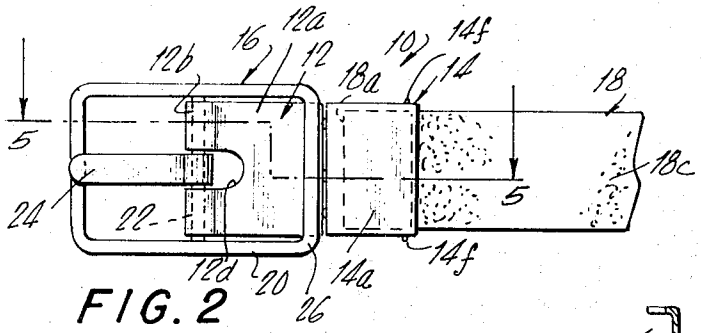


FIG. 2

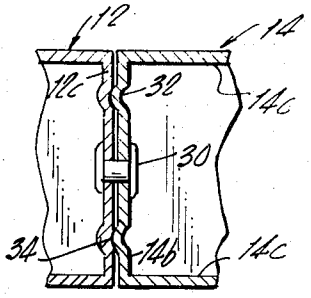


FIG. 3

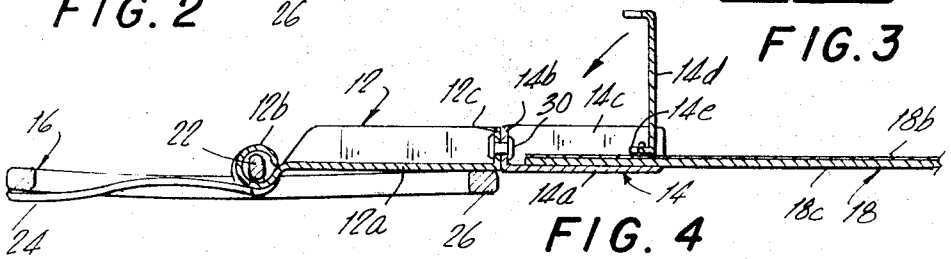


FIG. 4

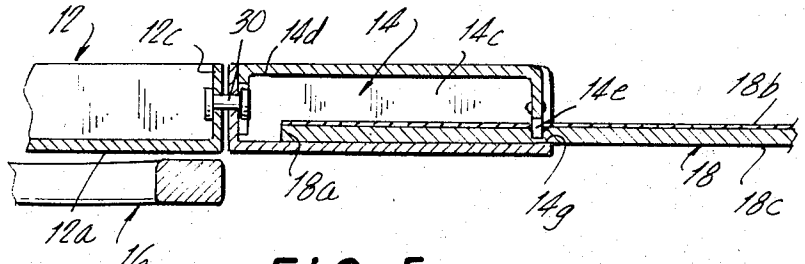


FIG. 5

FIG. 6

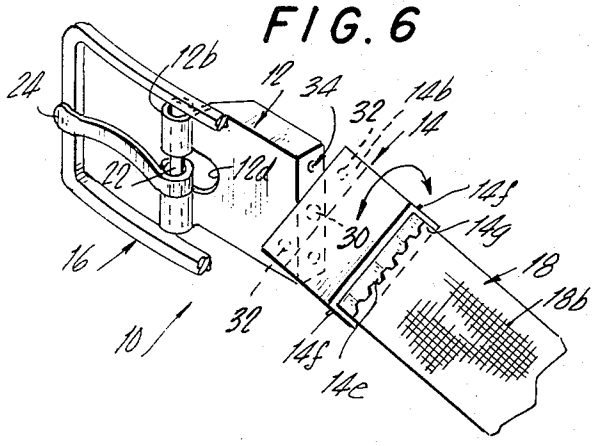


FIG. 7

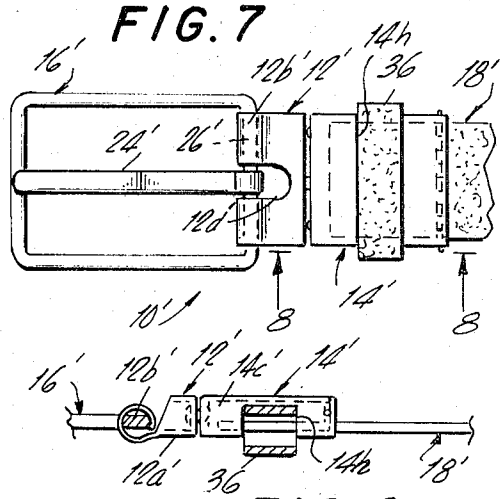


FIG. 8

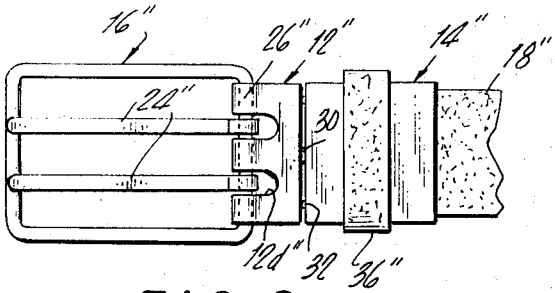


FIG. 9

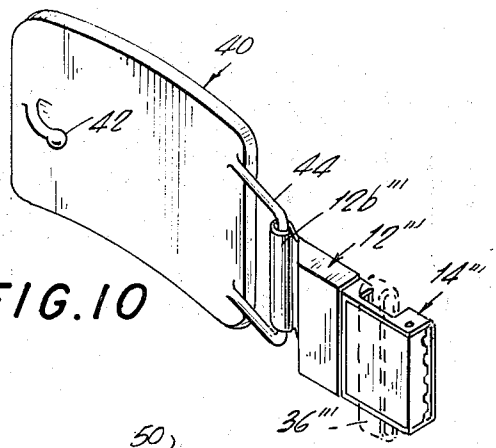


FIG. 10

FIG. 11

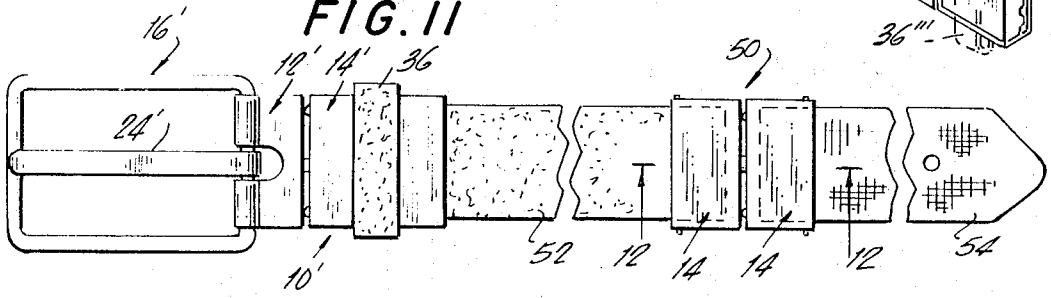
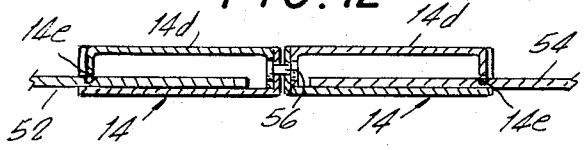


FIG. 12



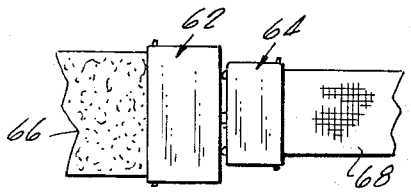
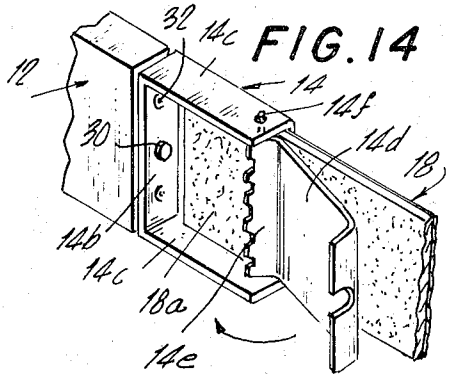


FIG. 13

FIG. 14



BELT REVERSING MECHANISM

The present invention relates generally to belt apparatus and, in particular, to a belt reversing mechanism which may be used to connect the various parts of a belt so that a belt or belt section may be rotated and worn so that either side is visible.

In the field of belts and belt buckles, it has long been known to construct a belt that is reversible, i.e., the belt may be worn so that either side is visible. Such constructions have been of two types. In one arrangement, the belt is removably connected to the belt buckle and to reverse the belt, it is necessary to detach the belt from the belt buckle, turn the belt 180° along its longitudinal axis and reattach it to the belt buckle so that the other side of the belt is visible when worn. Of course, such a belt reversing arrangement is awkward and quite inconvenient. In a second arrangement, the belt buckle is reversible so that the belt buckle does not have to be detached from the belt: the belt and belt buckle are rotated 180° so that the other side of the belt and belt buckle are visible when worn. However, in such arrangements, the prong of the belt buckle must be constructed so as to be operable on either side of the belt buckle. Of course, such belt reversing constructions are costly and impractical. Further, in such belt reversing constructions the belt is of a fixed size and is not adjustable.

In addition, it has long been possible to removably connect belt sections together. However, it is desirable to construct a mechanism which would allow one section of the belt to be rotated with respect to another so that either side of a belt section may be selected to be visible when the belt is worn. However, present belt reversing constructions are not completely satisfactory as they do not allow a section of belt to be easily reversed with respect to a belt buckle or another section of the belt, and also do not allow for adjustment in belt size.

Accordingly, it is an object of the present invention to provide a belt reversing mechanism which allows a belt or belt section to be easily and quickly rotated by a simple manual operation and also allows the belt size to be easily adjusted. More particularly, it is among the objectives of the present invention to provide a belt reversing mechanism wherein the belt strap or a part thereof may be rotated with respect to the belt buckle; wherein the belt reversing mechanism may function to rotatably connect belt sections together; wherein a belt may be formed which includes a plurality of belt sections rotatably connected by such belt reversing mechanisms so that one or more belt sections may be rotated with respect to the other belt sections so that one belt is capable of producing a large number of different color combinations; wherein the belt reversing mechanism allows the size of a belt to be easily and quickly adjusted.

In accordance with an illustrative embodiment demonstrating objects and features of the present invention, there is provided a belt reversing mechanism including two clamping sections rotatably connected to each other by a rivet or an eyelet. In one embodiment, one clamping section is connected to a belt buckle and the other clamping section is connected to a belt so that the belt may be rotated with respect to the belt buckle. In a second embodiment, the two clamping sections are identical and serve to connect two belt sections so that they may be rotated with respect to each other to produce different color combinations, etc. The buckle clamping section includes a hook member adapted to be connected to a belt buckle and the belt clamping section includes a belt housing and a clamping member mounted on the belt housing to pivot between an open and closed position. In its open position, the clamping member and belt housing define a belt-receiving slot through which the belt is inserted into the belt housing, and in its closed position, the clamping member engages the belt and securely holds it within the belt housing.

Advantageously, the present invention allows a belt to be rotated with respect to a belt buckle so that the reverse side of the belt is visible when worn or it allows one belt section to be rotated with respect to another belt section so that the other side of either of the belt sections is visible. Further, the belt and belt sections may be easily and quickly rotated by the simple manual operation of rotating one clamping section of the reversing mechanism with respect to the other clamping section. In addition, the size of a belt may be adjusted to fit a particular user by simply cutting the belt to the proper size and inserting it within the belt clamping section.

The above brief description as well as further objects, features and advantages of the present invention will be more fully appreciated by reference to the following detailed description of a presently preferred, but nonetheless illustrative embodiment demonstrating objects and features of the present invention, when taken in conjunction with the accompanying drawings, wherein:

FIG. **1** is an exploded perspective view showing the belt reversing mechanism of the present invention adapted to be connected to a belt buckle and a belt;

FIG. **2** is a top plan view of the belt reversing mechanism of the present invention connected to a belt and belt buckle;

FIG. **3** is a cross sectional view, taken along the line **3—3** in FIG. **1** and looking in the direction of the arrows, showing in detail the means for rotatably connecting the buckle clamping section to the belt clamping section to form the belt reversing mechanism of the present invention;

FIG. **4** is a cross sectional view illustrating the belt clamping section in its open position and having a belt inserted therein;

FIG. **5** is a fragmentary sectional view, taken along the line **5—5** of FIG. **2** and looking in the direction of the arrows, showing the belt clamping section in its closed position and having a belt secured thereto;

FIG. **6** is a perspective view illustrating the belt reversing mechanism of the present invention being used to rotate the belt clamping section and belt relative to the buckle clamping section and buckle;

FIG. **7** is a top plan view of a modified form of the belt reversing mechanism of the present invention which is modified so that it may be used with an end bar type buckle;

FIG. **8** is a fragmentary cross sectional view taken along the line **8—8** of FIG. **7** and looking in the direction of the arrows, illustrating the belt clamping section having a loop connected thereto;

FIG. **9** is a top plan view of a modified form of the belt reversing mechanism of the present invention

which is modified so that it may be used with an end bar type buckle having two prongs;

FIG. **10** is a further modified form of the present invention illustrating the buckle clamping section of the belt reversing mechanism which is modified to be used with a plate type buckle;

FIG. **11** is a top plan view, with parts broken away, illustrating the belt reversing mechanism used to rotatably connect a belt buckle and belt in one form and in a second form used to rotatably connect two belt sections;

FIG. **12** is a fragmentary cross sectional view, taken along the line **12—12** of FIG. **11** and looking in the direction of the arrows, illustrating in detail a form of the belt reversing mechanism which includes two identical belt clamping sections;

FIG. **13** is a top plan view of the belt reversing mechanism of the present invention serving to rotatably connect two belt sections of different widths; and

FIG. **14** is a perspective view in detail of the belt clamping section of the present invention.

Referring now specifically to the drawings and in particular to FIGS. **1** through **6,** there is shown one form of the belt reversing mechanism of the present invention, generally designated by the reference numeral **10,** which includes a buckle clamping section **12** and a belt clamping section **14.** Buckle clamping section **12** is adapted to be connected to a suitable belt buckle **16** and belt clamping section **14** is adapted to be attached to a suitable belt or belt strap **18.**

In FIGS. **1** through **6,** the belt reversing mechanism **10** is shown attached to a belt buckle **16** of the type referred to as a center bar buckle which may have one, two or more prongs and in the particular form shown includes a buckle body **20** having a center bar **22** on which a single prong **24** is pivotally mounted and an end bar **26,** as is well known in the art.

As shown in FIGS. **1** and **4,** buckle clamping section **12** includes a main body portion **12***a*, a hook portion **12***b* and an upstanding end wall **12***c*. Clamping section **12** is shown to include one prong-receiving cutout **12***d* formed therein in order to accommodate prong **24.** However, it should be understood that if belt buckle **16** is provided with two or three prongs, then clamping section **12** would be provided with a corresponding number of cutouts **12***d*.

As most clearly shown in FIGS. **4, 5** and **14,** belt clamping section **14** includes a belt housing **14***a* having an upstanding end wall **14***b* and upstanding side walls **14***c*. A clamping member **14***d* having gripping or clamping teeth **14***e* formed on one end thereof is pivotally mounted on belt housing **14***a*. More particularly, side walls **14***c* are provided with suitable holes for receiving mounting pins **14***f* formed on belt clamping section **14,** which pins extend laterally from clamping teeth **14***e*. Accordingly, as shown in FIG. **4,** when clamping member **14***d* is in its open position, it defines a belt-receiving slot **14***g*. The end **18***a* of belt **18** is adapted to be slid into belt housing **14***a* through belt-receiving slot **14***g*. Of course, the size of belt **18** may be adjusted by cutting it to the proper size before it is inserted in belt housing **14***a*. As shown in FIG. **5,** when clamping member **14***d* is pivoted to its closed position, it is also received within the upstanding walls of belt housing **14***a*. In this manner, clamping teeth **14***e* engage belt **18** to securely hold it within belt housing **14***a*.

As shown most clearly in FIG. **3,** upstanding end wall **12***c* of buckle clamping section **12** and upstanding end wall **14***b* of belt clamping section **14** are rotatably attached to each other by any suitable arrangement, such as by a rivet or eyelet **30.** In addition, upstanding end walls **12***c* and **14***b* are provided with corresponding dimples **32** which coact to form locking snaps **34.** Accordingly, as shown in FIG. **6,** rivet **30** allows belt clamping section **14** and belt **18** to be rotated 180° with respect to buckle clamping section **12** and belt buckle **16** so that either side **18***b* or **18***c* of belt **18** may be selected by the wearer to be visible when worn. In addition, after belt **18** and belt clamping section **14** are rotated 180°, locking snaps **34** function to lock buckle clamping section **12** relative to belt clamping section **14** so they are not free to rotate while being worn by the user.

In FIGS. **7** and **8,** there is shown a modified form of the belt reversing mechanism **10'** of the present invention which is shown used in conjunction with a belt buckle **16'** of a type commonly referred to as an end bar buckle in which prong **24'** is pivotally mounted on end bar **26'**, rather than on the center bar of the belt buckle as in FIGS. **1** to **6.** In order that the belt reversing mechanism **10** of the present invention may be used with an end bar buckle of the type shown, a belt-receiving loop **36** may be mounted on belt clamping section **14'**. As shown in FIG. **8,** side walls **14***c'* of belt clamping section **14'** are provided with cutouts **14***h* so that loop **36** is attached to belt clamping section **14'** by simply passing it through cutouts **14***h*. In addition, hook portion **12***b'* is formed to wrap around end bar **26'**.

Turning now to FIG. **9,** there is shown a modified form of the belt reversing mechanism shown in FIGS. **7** and **8.** As with a center bar type buckle, end bar buckles may also include two or more prongs and, as shown in FIG. **9,** belt buckle **16''** is shown utilizing two prongs **24''** pivotally mounted on end bar **26''**. In addition, buckle clamping section **12''** has been modified to include a corresponding number of cutouts **12***d''*.

Turning now to FIG. **10,** there is shown a further modified form of the belt reversing mechanism **10** of the present invention. In this modification, belt reversing mechanism **10** is shown attached to a belt buckle **40** normally referred to as a plate type buckle which includes a hook **42** and a straight bar **44** formed on the underside thereof, and does not include a prong. Accordingly, buckle clamping section **12'''** is modified so that its hook portion **12***b'''* is formed to wrap around straight bar **44** and is not provided with any prong-receiving cutout. Although the belt clamping section **14'''** shown used with plate buckle **40** is of the type shown in FIGS. **7, 8** and **9,** it should be understood that the belt clamping section **14'''** may also be of the type shown in FIGS. **1** through **6** without loop **36'''** being used therewith.

The belt reversing mechanism **10** of the present invention may be also used to connect sections of belt together to form belts of various sizes with each belt section being rotatable with respect to the others so that a belt may be changed so that either side of each belt section may be visible when worn. More particularly, as shown in FIG. **11,** the arrangement of belt buckle **16'** and belt reversing mechanism **10'** shown in FIG. **7** has been combined with a twin belt clamping section **50** which includes two identical belt clamping sections **14** rotatably attached to each other. In this manner, any

number of belt sections **52, 54** may be connected to each other and may be rotated with respect to each other to provide any desired color combination of belt sections. As shown most clearly in FIG. **12,** the two belt clamping sections **14** are rotatably connected to each other in any suitable manner, such as by a rivet or eyelet **56,** so that belt sections **52, 54** may be rotated with respect to each other. In this manner, if each side of belt sections **52, 54** are of a different color, by simply rotating belt sections **52, 54** relative to each other, four different color combinations of the belt sections may be produced. Of course, if there are additional twin belt clamping sections **50** utilized to form the belt, the number of possible color combinations is further multiplied.

Further, as shown in FIG. **13,** the two components of twin belt clamping section **50** may be of different sizes to attach belt sections which are not only of different colors, but are also of different widths. More particularly, belt clamping sections **62, 64,** which are each identical in construction to belt clamping section **14,** may be used to attach belt sections **66, 68** which are of different widths.

From the foregoing, it will be appreciated that there has been provided in accordance with the present invention a belt reversing mechanism including a buckle clamping section which may be used on belt buckles of the center bar or end bar type having one, two or three prongs or may also be used on a plate type of buckle. The belt clamping section, which is rotatably attached to the buckle clamping section, is constructed to be easily and conveniently attached to a belt so that the belt and belt clamping section as a unit may be rotated with respect to the belt buckle and buckle clamping section. Further, in another form of the invention two belt clamping sections may be combined to form a belt reversing mechanism for connecting sections of belts together to form a belt. In addition, as the latter belt reversing mechanism is made up of two belt clamping sections which are rotatable with respect to each other, the various sections of a belt may be rotated with respect to each other to product belts having various color combinations and/or materials and/or patterns and/or belt sections of different widths.

A latitude of modification, change and substitution is intended in the foregoing disclosure, and in certain instances, some features of the invention will be used without a corresponding use of other features. Accordingly, it is appropriate that the appended claims be construed broadly and in a manner consistent with the spirit and scope of the present invention.

What is claimed is:

1. A reversible and adjustable belt comprising: a buckle; a belt section; a clamping member, said clamping member adjustably connecting said belt section to said buckle, said clamping member including a belt housing, a gripping member pivotally mounted on said belt housing, said gripping member being adapted to pivot between an open position defining a belt receiving slot through which said belt section is adapted to be inserted into said belt housing and a closed position wherein said clamping member is adapted to engage said belt section to secure it within said housing; and means for rotating said belt section at least 180° about its longitudinal axis relative to said buckle so that the inner surface of said belt section will become the outer surface.

2. A reversible and adjustable belt as recited in claim **1** wherein said means for rotating is comprised of a central pivot means coaxial to the longitudinal axis of said belt section.

3. A reversible and adjustable belt as recited in claim **2** further comprising a plurality of belt sections and a plurality of clamping members, each of said clamping members being adapted to engage two belt sections such that each section is rotatable about its longitudinal axis relative to its adjacent section.

4. The reversible and adjustable belt as recited in claim **3** wherein said buckle is connected to one belt section.

* * * * *