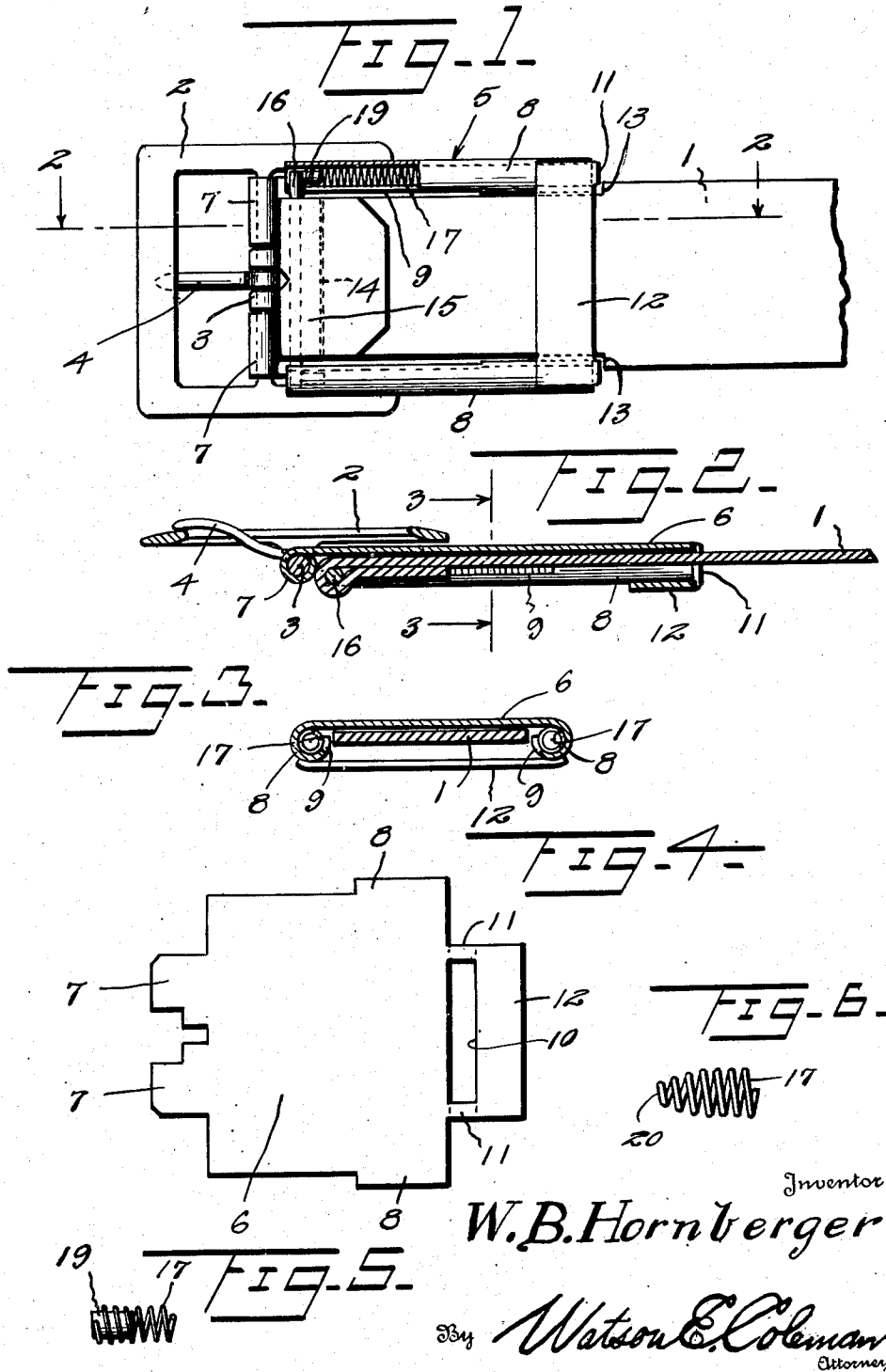


July 13, 1937.

W. B. HORNBERGER
YIELDABLE BELT CONNECTION

2,087,151

Filed Oct. 31, 1935



Inventor
W. B. Hornberger

By *Watson E. Coleman*
Attorney

UNITED STATES PATENT OFFICE

2,087,151

YIELDABLE BELT CONNECTION

William B. Hornberger, Littlestown, Pa.

Application October 31, 1935, Serial No. 47,680

2 Claims. (Cl. 24—188)

This invention relates to the class of belts, and more particularly waist belts.

The primary object of the present invention is to provide an improved resilient connection between a waist belt and a buckle, whereby the circumference of the circular area defined by the belt while being worn may be changed in accordance with the requirements of the body during periods of exertion or under any other conditions where a slight increase in the length or circumference of the belt is desirable.

Another object of the invention is to provide a resilient connection which while designed primarily for use in association with a body waist belt, may be used in connection with other types of belts where a yieldable connection or insert in the belt may be desired.

A still further object of the invention is to provide a device of the above described character which, when used in association with a body waist belt, will be relatively inconspicuous and may be employed as a decorative feature to carry a monogram or an emblem.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming part of this specification, with the understanding, however, that the invention is not confined to any strict conformity with the showing of the drawing but may be changed or modified so long as such changes or modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

Figure 1 is a view of the inner side of a belt at the buckle end showing the present invention applied thereto.

Fig. 2 is a section taken on the line 2—2 of Fig. 1.

Fig. 3 is a section on the line 3—3 of Fig. 2.

Fig. 4 is a view of the blank from which the body of the invention is formed.

Fig. 5 is a view in detail of an end of a spring.

Fig. 6 is a view illustrating a modified form of reinforcing an end of a spring.

Referring more particularly to the drawing wherein like numerals of reference indicate corresponding parts throughout the several views, the numeral 1 indicates a portion of a belt of the type commonly employed to encircle the waist, and the numeral 2 indicates a buckle with which one end of the belt is connected. The buckle 2 has the usual cross bar 3 which carries the tongue 4 and the cross bar 3 usually has the end of the belt 1 joined thereto, the belt

being provided with a loop through which the bar passes, the central portion of the loop being cut out to provide an eye for the tongue 4.

The present invention is indicated generally by the numeral 5 and forms a resilient connecting means between an end of the belt 1 and the bar 3. This structure 5 comprises an elongated plate 6 which at one end is formed to provide the pair of spaced aligned sleeves 7 through which the buckle bar 3 passes, as illustrated in Fig. 1. The plate 6 is therefore oscillatably mounted upon the bar 3 so that the buckle can move relative to the plate as it would do normally relative to the belt 1 if it were attached to the belt in the usual manner.

Along each side the plate 6 is turned inwardly or rolled to form the side cylinders 8, each of which is cut away from the end adjacent the sleeves 7 through a portion of its length, as indicated at 9, these cut-out areas being directed inwardly or in opposed relation.

At the end of the plate 6 opposite the sleeves 7 a portion of the plate is cut out, at 10, thus forming the narrow end pieces 11 and a flat cross bar 12. These end pieces are turned to extend across the ends of the cylinders 8 and to bring the bar 12 into position across the plate 6 and connecting the cylinders 8 as shown in Fig. 2.

Fig. 4 illustrates a metal blank from which the plate 6 is formed, showing the cylinder portions 8 before turning and the ends of the plate straight before the sleeves 7 at one end are formed and before the portions 11 and 12 are bent in over the ends of the cylinders 8 in the manner illustrated in Fig. 2.

After the bar 12 has been turned in to connect the inner sides of the cylinders 8 at the end of the plate remote from the sleeves 7, the opening 10 provides a means for the extension of the end of the belt 1 longitudinally of the inner face of the plate 6 between the cylinders 8. The belt which is preferably of substantially the same width as the plate 6, is cut out at its side edges, as indicated at 13, so that the portion of reduced width which is thus formed is disposed between the cylinders 8. The free end of this portion of reduced width of the belt 1 is turned back and stitched, as indicated at 14, to form the sleeves 15 through which a pin 16 extends, and this pin 16 has its ends extended into the cylinders 8. Disposed within each cylinder 8 is an expansion spring 17. Each of these springs bears at one end against the portion 11 of the plate which extends across the end of the cylinder while at its other end it has a filling of lead

or any other suitable metal placed therein, as indicated at 19, against which an end of the pin 16 bears. This filling 19 may be in the form of a pin carried by the cross pin 16, and is provided to prevent the end of the spring from contracting and collapsing when compressive force is applied thereto through the opening 16. In addition to having one end of each spring provided with a lead filler, as illustrated in Fig. 5, or having a pin upon each end of the pin 16 for extension into this spring, each of the springs may have its forward end contracted, as illustrated at 20 in Fig. 6 whereby the collapse of the spring end may be prevented when pressure is applied thereto.

From the foregoing, it will be apparent that in the use of the present resilient coupling between the belt 1 and the buckle 2, the other end of the belt 1 (not shown) is connected with the buckle in the usual manner, and when any expansive strain is then placed on the belt the connection between the same and the buckle will give by the ends of the pin 16 moving longitudinally in the openings 9 of the cylinders 8 and effecting the compression of the springs 17. As soon as the strain upon the belt is released, the springs will re-act to force the pin back into its position adjacent the bar 3 of the belt buckle so as to restore the belt to its normal condition.

While the spring end illustrated in Fig. 6 is shown without a metal insert or filler, it is to be understood that, if found desirable, this reduced end may also be provided with a metal body such as is illustrated and described in connection with Fig. 5.

What is claimed, is:

1. A belt connection, comprising a buckle hav-

ing a cross bar, an elongated plate oscillatably joined at one end to said cross bar, cylinders formed longitudinally of the plate and in spaced relation, belt guiding means at the other end of the bar, a pair of expansion springs each housed in a cylinder, each of said cylinders having a longitudinally extending recess opening at the end adjacent the buckle, a bar extending transversely of the plate and having each end engaging an end of a spring and movable in a cylinder recess, and a tongue oscillatably mounted on said buckle cross bar for engagement with a belt having an end passed through the buckle, the second mentioned bar being designed to have the belt secured at its other end thereto.

2. A waist belt connection, comprising a buckle in the form of an open frame having a cross bar and a tongue oscillatable on the cross bar, an elongated plate having a slot in and centrally of one end edge and having the plate material at the sides of the slot formed in two aligned sleeves, said sleeves having the portions of said cross bar at the two sides of the tongue extending therethrough whereby the buckle is freely oscillatable relative to the plate, a tube lying along each longitudinal edge of the plate on its rear face and having a slot extending longitudinally thereof on the side facing the other tube, a spring in each tube, a bar extending across the rear face of the plate and having each end extending into a slot and engaging the end of the spring, said last bar normally lying adjacent to said sleeves, and a strap having an end disposed between said tubes and secured to said last bar.

WILLIAM B. HORNBERGER.