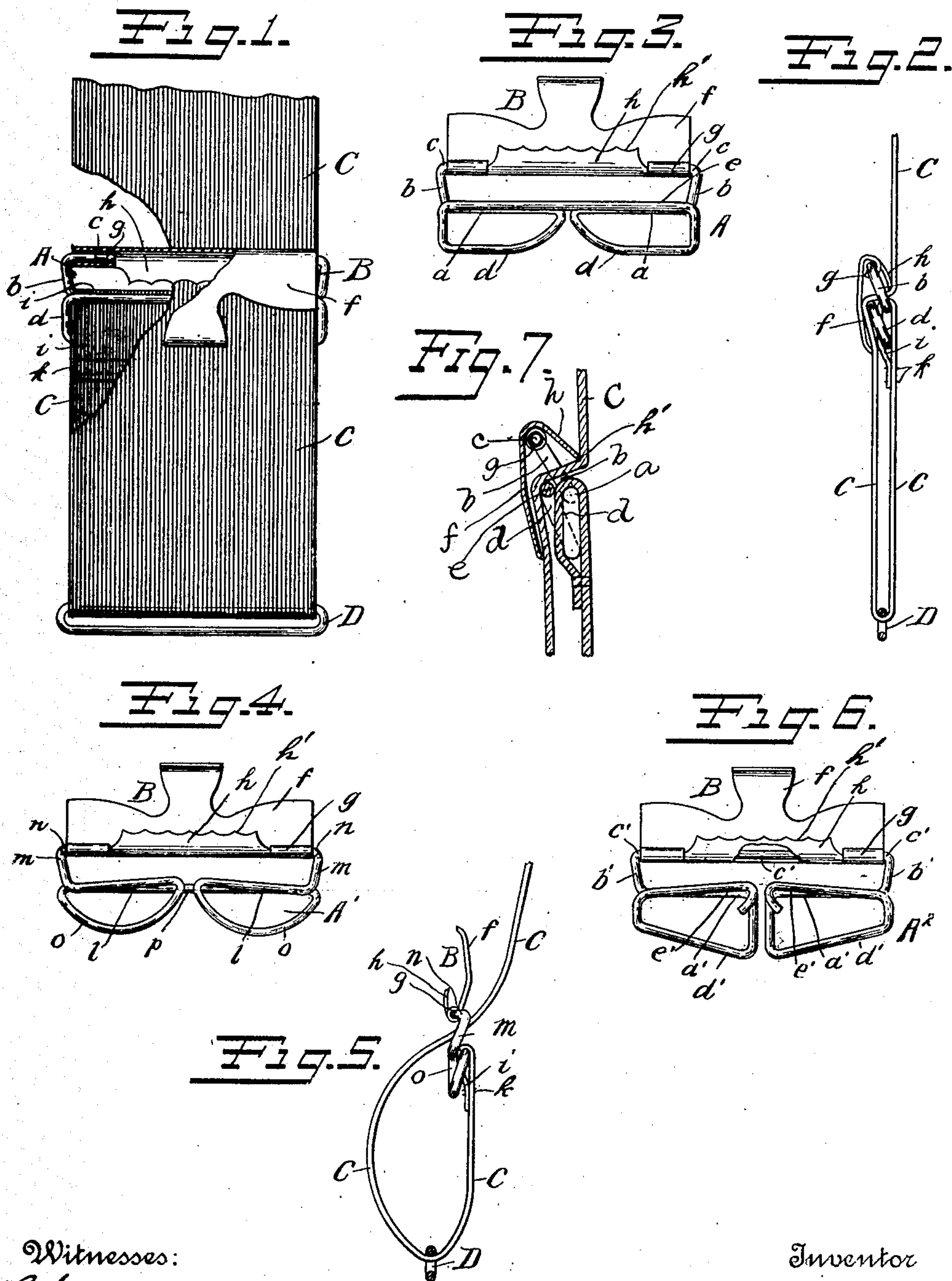


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BUCKLE.  
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918,449.

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# UNITED STATES PATENT OFFICE.

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## BUCKLE.

No. 918,449.

Specification of Letters Patent.

Patented April 13, 1909.

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*To all whom it may concern:*

Be it known that I, WALTER A. HOLDEN, a citizen of the United States, residing at Ansonia, in the county of New Haven and State of Connecticut, have invented a certain new and useful Improvement in Buckles, of which the following is a specification.

My invention relates to buckles of the lock lever class designed to carry the extremity of a webbing and to operate along the running portion of the latter to form an adjustable loop.

The object of my invention is to provide a buckle of this character wherein the extremity of the webbing is carried by a different member of the buckle from that which coacts with the web locking lever and which may be so strung with the webbing that the rear face portion of the back is substantially covered presenting what is commonly known in the trade as the "rustless" effect.

Another object is to mount the member which coacts with the web holding lever in such a manner that the same will yield in response to the action of the latter thereby locking the lever in its closed position when the webbing is slack and enabling the body of the buckle to contract in depth when the webbing is under draft or tension, and a further object is to construct a light and durable back for a buckle of this type which can be readily and economically made out of a single piece of wire.

With these and other objects in view my invention consists in the details of construction and manner of operation more fully set forth in the following description and accompanying drawing in which like reference characters refer to corresponding parts.

In the drawings: Figure 1 is a front view of the buckle a portion of the lever and attached webbing being broken away; Fig. 2, a side elevation of Fig. 1; Fig. 3, a front view of the buckle showing the lever in its open position. Fig. 4, a front view of a modification; Fig. 5, a side view of the modification shown in Fig. 4 strung with webbing, Fig. 6, a front view of a further modification, and Fig. 7 is a central vertical section of the buckle shown in Figs. 1 and 2 but enlarged to show the position of the parts when the webbing is under stress.

Referring to Figs. 1, 2 and 3 the frame A is made out of a single piece of wire and consists of the transversely disposed web at-

taching member or rear bar *a*, *a* having its outer extremities bent upwardly and slightly forwardly to form the upper side members *b*, *b* which latter are bent inwardly at their upper extremities to form the pintles *c*, *c*. The inner adjacent ends of the bars forming the web attaching member *a*, *a* meet substantially and the wire is dropped abruptly therefrom to form the transversely disposed loops or bends *d*, *d* which latter are inclined slightly forwardly at their outer extremities and form spring supports for a transversely disposed web engaging member or front bar *e*, in a position immediately adjacent to but spaced forwardly from the web attaching member *a*, *a* leaving a narrow passage for the end of the webbing. If desired the web engaging member *e* may be provided with teeth or serrations or otherwise present a web gripping surface to the webbing. Hinged to the pintles *c*, *c* is the web locking lever B made out of sheet metal and bent to form a front portion or shield *f*, pintle sockets *g* and a web deflecting portion *h* provided with a web gripping edge *h'*. The extremity *i* of the webbing C is cramped or threaded between the web attaching member *a*, *a* and the web engaging member *e* being closely embraced by the outer extremities of the bends *d*, *d*. The extremity *i* is then folded forwardly over the web attaching member *a*, *a* around the bends *d*, *d* and may, if desired be sewed upon itself by stitches *k*. The extremity of the webbing C being thus secured to the buckle, the running portion is carried downwardly and returning upon itself passes upwardly in front of the web engaging member *e* and between the web attaching member *a*, *a* and the web locking lever B, the gripping edge *h'* of which latter is swung over the web engaging member *e* and slightly to the rear thereof to a position immediately above the web attaching member *a*, *a*, and coacts with the web engaging member *e* to deflect the running portion of the webbing out of its normal vertical alinement thereby frictionally engaging and holding the same when slack, and causing the webbing to draw and bind on the web engaging member *e* and the gripping edge *h'* when under draft or tension.

The buckle strung as described forms an adjustable loop in the webbing carrying the cast off piece D and embraces substantially the entire back A exposing only the upper side members *b*, *b* and the outer extremities



of the bends  $d, d$ . To unlock the buckle to release the running portion of the webbing for the purpose of adjusting the loop the lever B is turned to its open position, as shown in Fig. 3, in which position the running portion may pass freely through the buckle between the lever and the web attaching and engaging members  $a, a$  and  $e$ . The back A is prevented from tilting during the time the lever B is being manipulated and is properly balanced on the webbing when the latter is under draft or tension by means of the bends  $d, d$  which are confined within the adjustable loop and serve as feet to engage the webbing. The web engaging member  $e$  being carried by the outer extremities of the bends  $d, d$  is enabled to yield bodily rearwardly, when subjected to the strain of the webbing, and thus will close up on the web attaching member  $a, a$  and tightly grip the extremity  $i$  of webbing passing over the rear of the latter. This yielding movement results in contracting the depth of the buckle to its minimum dimension and further on account of the manner in which the wire is coiled upon itself, in the form substantially of a plurality of loops, the entire back is closely embraced and buried in the folds of the webbing and may yield or give slightly, in response to the various strains thereon, when the latter is under draft or tension, without distorting the normal configuration of the buckle. Any severe or sudden strain on the webbing which otherwise might cause the buckle to slip or break is thus responded to by the resiliency of the back.

Referring to the modification shown in Figs. 4 and 5 the back A' consists of the divided web engaging member  $l, l$  bent upwardly and slightly rearwardly at its outer extremities to form the upper sides  $m, m$  which latter are bent rearwardly at their upper extremities and then inwardly to form the pintles  $n, n$ . The inner adjacent ends of the bars  $l, l$  forming the web engaging member meet substantially, and the wire is dropped abruptly therefrom to form the transversely disposed loops or bends  $o, o$  on the outer extremities of which latter is carried the web attaching member  $p$ . Hinged to the pintles  $n, n$  is the web locking lever B which is identical in construction with the lever B in the preceding figures. The extremity  $i$  of the webbing C is cramped or threaded between the web attaching member  $p$  and the web engaging member  $l, l$  being closely embraced by the outer extremities of the bends  $o, o$ . The extremity  $i$  is then folded around the web attaching member  $p$  and sewed upon itself by stitches  $k$ . The extremity of the webbing being thus secured to the buckle, the running portion is carried downwardly and returning upon itself passes upwardly in front of the ends  $o, o$  and the supporting member  $l, l$  between the

attaching member  $p$  and the lever B the gripping edge  $h$  of which latter coacts with the engaging member  $l, l$  to hold the running portion of the webbing in the same manner as in the preceding figures. In this modification the engaging member  $l, l$  is divided and thereby may be sprung readily to respond to the pressure of the gripping edge  $h$  of the lever when the buckle is being opened and closed. The web attaching member  $p$  being carried by the bends  $o, o$  will yield bodily, downwardly and rearwardly, when subjected to the strain of the webbing and recede from the engaging member  $l, l$  and the gripping edge  $h'$  without disturbing the relative arrangement between these two parts or their holding action on the running portion, thus permitting the buckle to respond to any sudden or severe strains on the webbing.

It is obvious that in either of the modifications above described that the wire may be bent in a manner to have the pintles joined in the form of a continuous bar. This would result in having the extremities of the wire meet substantially in the middle of the web engaging member or in the middle of the web attaching member depending on the modification desired, a particular instance being shown in Fig. 6 in which the continuous pintle bar  $c'$  constitutes the intermediate portion of the wire and is bent downwardly at its ends to form the upper side members  $b', b'$  and inwardly to meet substantially forming the web attaching member  $a', a'$ . The wire is then dropped abruptly from the meeting ends of the bars  $a', a'$  forming the web attaching member and is carried outwardly to form the transversely disposed loops or bends  $d', d'$  which latter are inclined slightly forwardly and have their outer extremities coiled inwardly to form the divided web engaging member  $e', e'$ . Hinged to the pintle bar  $c'$  is the web locking lever B which is identical in construction with the lever B in the preceding figures. The construction of this modification with the exception of the continuous pintle bar  $c'$  and the divided engaging member  $e', e'$  is the same as the buckle disclosed in Figs. 1, 2 and 3.

It may be noticed that the web attaching member holds the folded extremity  $i$  of the webbing in contact with the running portion passing beneath the web gripping edge  $h'$  of the lever when the buckle is closed and the webbing is slack or at rest. This, however, is not necessarily a gripping contact or engagement, since I may rely solely on the means hereinbefore described for gripping the running portion, and in fact the two reaches of the webbing separate or recede from each other at this point, when the webbing is under draft or tension, as shown in Fig. 7, due in part to tightening of the webbing and in



part to the yielding of the back. It is preferable, however, during the time the webbing is slack, as when the buckle is not under stress or is on display, that these portions of the webbing should touch, and when the webbing is under draft or tension should not pull apart to such a distance as to destroy the so called rustless effect. By eliminating the gripping action between these two portions of the webbing the back of the buckle presents a flush effect when strung much neater in appearance than in those rustless buckles having the two reaches jammed together. In the buckles above described it may be further noticed that the outer sides of the bends *d*, *d* and the sides *b*, *b* are of substantially the same length and are inclined in the same direction thus serving to preserve the symmetry of the buckle especially when viewed from the side.

While I have illustrated and described a particular style of lever it is obvious that I may employ any of the levers of this class well known in the art; and the buckle is susceptible of such further modification as may fairly come within the scope of my invention.

My invention is not confined to a buckle having a back made of a single piece of wire but is intended to comprehend all buckles having embodied therein the features pointed out in the appended claims.

Having now described my invention what I claim and desire to protect by Letters Patent is:

1. A buckle having a wire back comprising a web attaching member, a web engaging member disposed forwardly thereof, and a pair of transversely disposed bends depend-

ing from one of said members and carrying the other of said members on its outer extremities, and a web deflecting lever hinged to said back in a position to coact with said engaging member to hold the running portion of a webbing.

2. A buckle comprising a frame and a lever hinged thereto, the said frame having a web attaching member arranged to lie beneath the edge of the lever when the buckle is closed, a web engaging member arranged to coact with the edge of the lever to deflect the running portion of a webbing, and a spring support for one of said members.

3. A buckle having a web locking lever provided with a front portion and a web deflecting portion, and a back hinged thereto provided with transversely disposed front and rear members spaced apart and arranged to lie underneath the deflecting portion of the lever when the buckle is closed, and a spring support for said front member.

4. A buckle comprising a frame bent up out of a single piece of wire to form a web attaching member, a web engaging member disposed forwardly of said web attaching member and a spring support for one of said members, in combination with a web holding lever hinged to said frame, the said lever having a web deflecting member arranged to swing over the top of said web engaging member when the buckle is closed.

Signed at Ansonia, Connecticut, this 27th day of July, 1908.

WALTER A. HOLDEN.

Witnesses:

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