

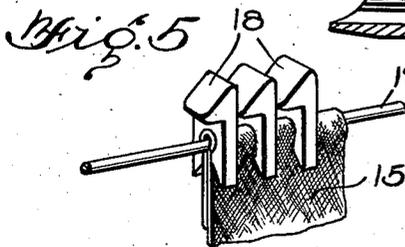
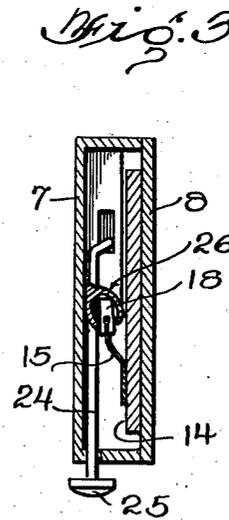
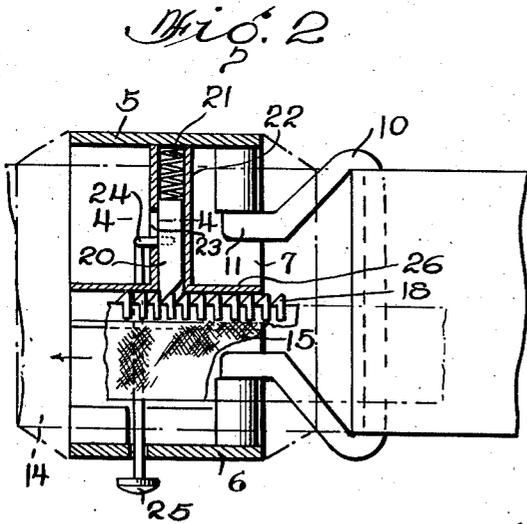
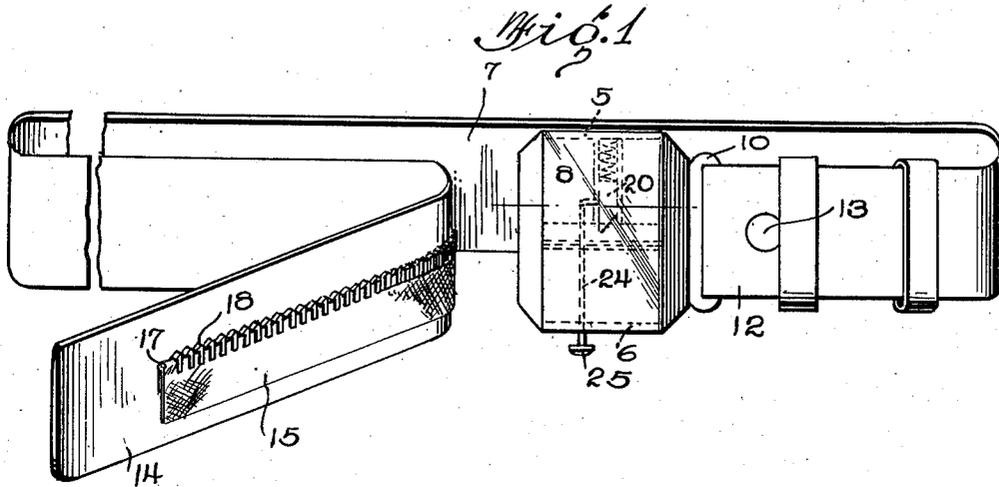
Aug. 2, 1938.

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2,125,775

SEPARABLE FASTENER OR BUCKLE

Filed Sept. 16, 1936



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UNITED STATES PATENT OFFICE

2,125,775

SEPARABLE FASTENER OR BUCKLE

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Application September 16, 1936, Serial No. 101,166

2 Claims. (Cl. 24-206)

This invention relates to improvements in separable fasteners and more especially to what are generally known as buckles. The invention will be hereinafter described with relation to its application to the well known belt buckle, although it is of course to be understood that it is subject to various applications, wherever it is desired to separably and adjustably connect two relatively movable members or strap ends.

One of the objects of the present invention is to provide an article of the above general character having relatively few parts which may be inexpensively manufactured and assembled.

A further object is to provide a separable fastener or buckle of durable construction, which will permit ready separation of the two members to be connected, as well as an adjustable connection thereof.

A further object is to provide a buckle of the above general character, which may be easily and quickly set to the desired degree of tightness, and in which the relatively movable parts will not be scarred or mutilated by the holding or attaching means as so frequently occurs in belt buckles where the engagement takes place directly upon one of the parts of the belt, for example.

Other objects will be in part obvious from the annexed drawing and in part hereinafter indicated in connection therewith by the following analysis of this invention.

This invention accordingly consists in the features of construction, combination of parts, the unique relation of the members, and in the relative proportioning and disposition thereof, all as more completely outlined therein.

To enable others skilled in the art to fully comprehend the underlying features of the invention, that they may embody the same by the numerous modifications in structure and relation contemplated by the invention, a drawing depicting a preferred form has been annexed as part of this disclosure, and in such drawing like characters of reference denote corresponding parts throughout the views, in which—

Fig. 1 is an elevational view, showing the complete buckle as applied to a belt, with the free end disconnected;

Fig. 2 is a sectional elevational view;

Fig. 3 is a transverse sectional elevational view taken substantially at right angles to Fig. 2;

Fig. 4 is a detail sectional view on line 4-4 of Fig. 2; and

Fig. 5 is a detail perspective view.

Referring now to the drawing in detail, the

main body portion of the buckle 5 is preferably of rectangular, hollow, open-ended construction, provided with a top wall, a bottom wall 6, a rear wall 7, and a front wall 8. This body portion is provided at one end with an attaching means such as a pivoted ring 10 secured or trunnioned at its ends 11 in sockets formed in the body portion and adjacent one of the walls thereof. This ring forms the point of connection with one end of the strap or belt 12 which passes through the ring prior to being bent back upon itself and secured in any well known manner, as by means of separable fastener or rivet 13. The opposite or free end of the belt, indicated at 14, is adapted to pass through the housing 5 and to be adjustably secured in desired position by holding means now about to be described.

Upon what may be termed the free end of the belt 14 there is mounted a ratchet element which, in the present case, is composed of a sheet or strip 15, of fabric or other flexible material, bent back upon itself over a wire 17 and secured along its lower surface to the inner side of the belt end 14, preferably by means of adhesive, thereby to prevent mutilation of the belt end as would occur if stitching or rivets were used.

Upon this wire 17 are mounted a plurality of teeth 18, of generally rectangular shape, beveled at their tops and bifurcated at their lower ends thereby to embrace the wire 17 and to be clamped thereabout. In other words, this entire ratchet element may be nothing more than one unit of the well known slide fastener in size, shape and construction, except for the use of the reinforcing wire which adds to the strength and durability of the device. This wire is materially helpful in connecting the two parts in holding position.

Cooperating with this slide fastener unit is a pawl 20 which consists preferably of a metallic tooth pointed or wedge-shaped at one end to engage between the ratchet teeth 18 of the slide fastener element when urged into holding position by means of a spring 21 mounted within a housing formed by the walls 22. One of these walls is slotted as indicated at 23, through which passes a wire or other operating means 24 extending downwardly for ease in operation through the bottom wall 6 of the housing and terminates in a button 25. Thus by pressing upwardly on the button 25 the tooth 20 will be raised against the action of the spring 21 and will permit the ratchet or slide fastener unit to be moved relatively to the right or left, as desired, but by beveling the teeth 18 and pawl 20 as shown the

belt may be tightened without pressing the button 25.

5 Within the housing or body member 5 there is mounted a U-shaped channel or guide 26 of a size to accommodate the teeth 18 of the ratchet, which are spaced apart at that point from the belt 14, as shown more clearly in Fig. 3. This guide is adapted to prevent lateral movement of the ratchet out of engagement with the tooth or
10 pawl 20 and also to receive the end of the wire 17 when inserting the free end 14 of the belt into the buckle. This channel member or guide 26 may be enlarged or flared at the receiving end, if desired, to aid in the reception of the wire when
15 first connecting the strap ends.

It is believed that the operation of a device of this character is clear to those familiar with the subject. It may be stated that as herein illustrated, when it is desired to connect two strap
20 ends, for example, one of them (14) equipped with a slide fastener unit is inserted through the open end of the body member 5, the wire 17 passing into the channel or guide 26. During this operation the actuating button 25 may be pressed
25 upwardly, that is, assuming it to be on the bottom of the casing as shown, thereby to carry the pawl 20 out of the channel or guide member whereby the ratchet mechanism may be moved freely therethrough. The release or separation
30 of the ends of the belt is accomplished simply by pressing upon the button 25 whereupon the free end of the belt may be slipped out of the buckle.

From the above it will be seen that the present invention contemplates a simple and practical
35 belt buckle having relatively few parts, which may be inexpensively manufactured and assem-

bled. The buckle is of durable construction and permits an easy and quick release of the parts and very fine adjustment whereby any degree of tension may be exerted.

Without further analysis the foregoing will so
5 fully reveal the gist of the invention that others can by applying current knowledge readily adapt it for various applications without omitting certain features that from the standpoint of the prior art fairly constitute essential characteristics
10 of the generic or specific aspects of this invention, and therefore such adaptations should and are intended to be comprehended within the meaning and range of equivalency of the following claims. 15

I claim:

1. A device of the character described comprising a hollow body member having a through channel, means on the body member for attaching the same to one of two strap members adapted to be connected, the other of said strap members being adapted to pass through the open body member, a ratchet mounted upon the free end of one of the strap members comprising a plurality
20 of vertically disposed teeth, a wire upon which the teeth are mounted, and a flexible support for the wire secured to the free end of the strap member, and cooperating means in the body member adapted to engage with the ratchet teeth. 25

2. In a strap end connector, a wire supporting
30 element, a flexible strip straddling said wire and secured to said strap end, and a plurality of teeth mounted along said wire and flexible strip, the plane of said teeth extending in a direction parallel to that of said strap end. 35

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