Dec. 10, 1929. E. G. CARLSON 1,738,561

EXTENSION DEVICE

Filed June 15, 1928

Fig. 1.

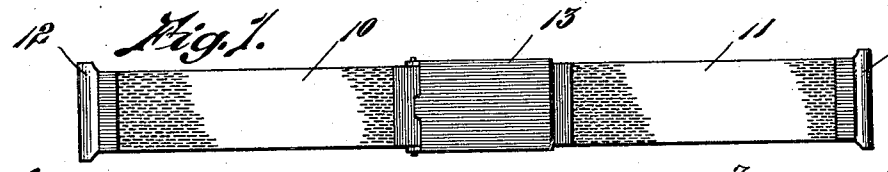


Fig. 2.

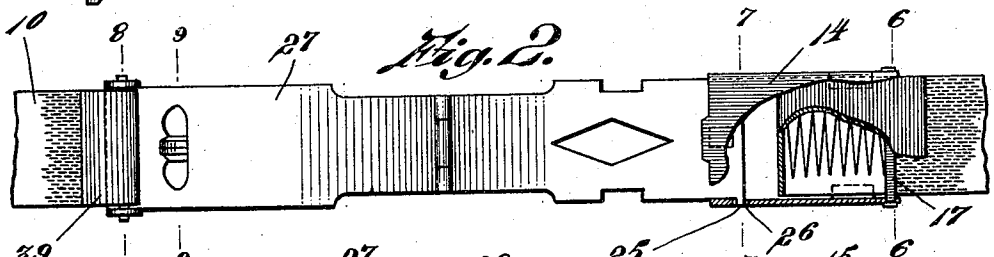


Fig. 3.

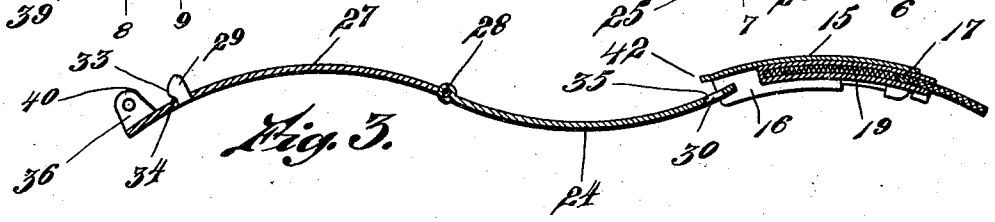


Fig. 5.

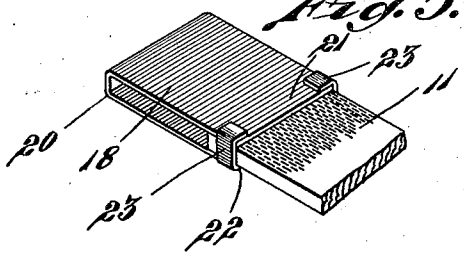


Fig. 4.

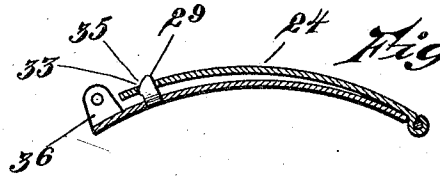


Fig. 6.

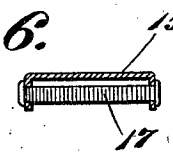


Fig. 8.

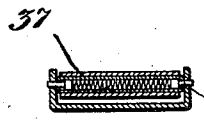


Fig. 7.

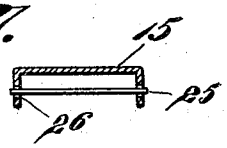


Fig. 9.

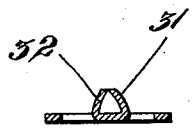
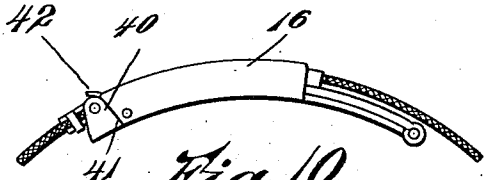


Fig. 10.



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ATTORNEYS.

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UNITED STATES PATENT OFFICE

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EXTENSION DEVICE

Application filed June 15, 1928. Serial No. 285,750.

This invention relates to an extension device for use more particularly with a wrist watch strap; and has for its object to provide a plurality of hingedly connected sections which may be unfolded to extend the effective length of the strap with stud and recess means between two of the sections to hold them in folded position.

A further object of the invention is the provision of an opening in one of the sections with a stud on another of the sections to extend through the opening and frictionally engage an edge thereof with each of the engaging parts tending to move the part engaged in a longitudinal direction to retain the sections in folded position.

This invention further consists in the provision of a resiliently sliding part in one of the sections to which one end of the strap is connected, whereby elastic action is provided either when the device is in folded or contracted position on the wrist or when the device is unfolded to permit a still further extension of the strap to be passed over the hand in removing the strap and its wrist watch from the wrist.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawings:

Figure 1 is a top plan view of the extension device in contracted or folded position showing the parts of the wrist watch strap attached thereto.

Figure 2 is a top plan view of the sections of the device in unfolded position with portions broken away to show the construction by which an elastic action is obtained.

Figure 3 is a side view in central section of the device extended as illustrated in Figure 2.

Figure 4 is a sectional side view of two of the sections with the spur on one of the sections extending through the opening in another of the sections.

Figure 5 is a perspective view of the sliding part attached to one end of the strap.

Figure 6 is a section on line 6—6 of Figure 2.

Figure 7 is a section on line 7—7 of Figure 2 showing the hinge mounting of one plate section in the side walls of the channel section.

Figure 8 is a section on line 8—8 of Figure 2 showing the resilient pin for connecting one end of the strap to the end of the section.

Figure 9 is a section on line 9—9 of Figure 2 through the spur.

Figure 10 is a side elevation of the device in folded position.

In the use of unfoldable devices for temporarily extending the length of a wrist watch strap for removing the strap and watch from the wrist by passing the same over the hand of the wearer, it is often desirable to provide some elasticity of the strap so as not to bind the wrist as it is enlarged due to the use of the muscles of the hand and arm, which I have accomplished by slidably mounting a part to which the strap is connected in one of the sections with yielding means between the part and the section tending to house the part and move the strap to contracted position, and in this construction I have provided a stud on one of the sections so formed as to require a longitudinal resiliency between the parts in snapping the stud over the edge of an opening in another section to hold the sections in folded position which action also serves to tightly close the joint between the ears on one of the sections and the edge of the wall of the channel section to enhance the appearance of the device; and the following is a detailed description of the present embodiment of this invention illustrating the preferred means by which these advantageous results may be accomplished:

With reference to the drawings, 10 designates one of the strap parts and 11 another of the strap parts, each of which is provided with a suitable end member 12 for connection to a wrist watch. The opposite ends of the strap parts are connected to an extension device 13 which may be unfolded as illustrated in Figure 2, to temporarily extend the effective length of the strap for passing the strap

with a watch attached over the hand of the wearer without separation of any of the parts.

This extension device has a body section 14 generally channel-shape in cross section with a top wall 15 and side walls 16 between which at one end thereof a cross bar 17 extends. A U-shaped slide 18 is mounted with its arms on each side of the cross bar 17 with a spring 19 acting between the bridge portion 20 thereof and the bar 17 to move the slide into housed or contracted position, as illustrated in Figure 3. The end of the strap part 11 is suitably fastened between the free ends 21 and 22 of the arms of the U slide by means of fingers 23 binding the ends thereto.

The two plate sections 24 and 27 are hinged together and hinged to the channel section. The intermediate plate section 24 has outwardly extending trunnion portions 25 pivotally mounted in the openings 26 in the channel walls while a pin and eye joint 28 pivotally connects the two plate sections together whereby both plates may be swung and folded one against the other and be swung to be partially housed in the channel section 14.

Sections 14, 24 and 27 are held in folded position by means of a stud or spur 29 on section 27 extending through an opening 30 in section 24 and frictionally engaging the marginal end and edge of the opening which is remote from the hinge connection of the sections 24 and 27. The spur is formed from the sheet stock of the section and lies in a plane generally longitudinal of the section as distinguished from a transverse direction so that its greatest resistance to bending is in this plane. The spur 29 is formed by cutting spaced portions of the section 27 and folding together the two parts 31 and 32 each having an overhanging portion 33 on its edge distal or remote from the hinge connection forming an undercut portion 34 into which the marginal edge 35 of the opening 30 extends to hold the sections in close engagement by a longitudinal resilient action. This spur 29 also serves as a guide for the side edges of the opening 30 to align the sections 24 and 27 in folded position.

Ears 36 are formed adjacent the end section 27 into which the resiliently mounted portions 38 of a pin 37 extend to detachably connect the tip 39 of the strap part 10. The edges 40 of the ears 36 are shaped to fit closely against the edges 41 of the walls 16 of the channel section 14 and the longitudinal tension required to snap the spur 29 thru the opening 30 holds these edges in close contact to present a more highly attractive and finished appearance to the device when in folded position.

A fingerpiece 42 is formed by extending the top wall 15 of the channel section 14 beneath which the thumbnail or finger may be inserted to initially swing the sections one upon the other in moving the same to unfolded position.

By the formation of the spur with its maximum dimensions extending in a longitudinal direction with reference to the device, as illustrated in the drawings, and causing its edge to do the holding and receiving the friction for snapping the parts to and from closed position, the maximum strength of such fastening is provided which will withstand the abuse to which such constructions may be subjected in use.

The sections of the device are curved to generally conform to the curvature of the arm on which they are worn, which curvature also allows longitudinal resiliency by bending or straightening out of the sections toward a single plane to assist in the snapping together of the parts by the spur 29 extending thru the opening 30.

By the provision of an elastic or yielding action between the strap and the extension the same may be worn with greater comfort on the wrist of the wearer and yet an added extension may be secured where desired for positioning the same over an unusually large hand.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. In a wrist watch strap, an extension device comprising a plurality of sections hinged together to be folded one on another, one of said sections having an opening therethrough, a spur on a second section positioned to extend through said opening, said spur having its greatest resistance to bending lying on a plane extending generally longitudinally of the device with its edge distal from the hinge connection having an overhanging portion to extend over the edge of said opening remote from the hinge connection to hold the sections together, there being sufficient resiliency of the parts longitudinally of the device to permit said spur to be frictionally withdrawn from said opening, and a third section having depending sides within which said other sections nest when in folded position.

2. In a wrist watch strap, an extension device comprising a plurality of sheet metal sections hinged together to be folded one on another, one of said sections having an opening therethrough, a spur on a second section positioned to extend through said opening, said spur being struck up from the sheet stock and lying in a plane generally longitudinally of the section and presenting its edge for cooperating with the edge of said opening remote from the hinge connection to hold the

sections together and aligned in folded position, and a third section having depending sides within which said other sections nest when in folded position.

3. In a wrist watch strap, an extension device comprising a plurality of sections hinged together, one of said sections having an opening therethrough, a spur on a second section positioned to extend through said opening, said spur comprising two separate sheet metal parts struck up transversely from the section on which they are positioned and meeting at their opening entering end and having their edges overhanging in a direction longitudinally of the device to engage the edge of the opening remote from the hinge connection whereby a longitudinal resiliency is required to snap the parts to and from engagement, and a third section having depending sides within which said other sections nest when in folded position.

4. In a wrist watch strap, an extension device comprising a plurality of sections hinged together, one of said sections having side ears between which one end of the strap is secured, another of said sections being channel shape with side walls, the edges of said ears and the end edges of said side walls being shaped to fit together, and means for moving and holding said edges in abutting relation whereby there is no gap between them.

5. In a wrist watch strap, an extension device comprising a plurality of sections hingedly connected together to unfold to temporarily lengthen the strap, one of said sections being channel shaped in cross section, a cross bar extending between the walls of said channel section adjacent one end thereof, a U-shaped slide mounted in said channel section about said bar, a spring acting between said bar and the bridge portion of the U-slide, one of the arms of the U-slide having fingers to extend over the other arm for securing one end of the strap between the arms of said slide, and means for attaching the free end of another of said sections to another end of the strap.

In testimony whereof I affix my signature.

EDWIN G. CARLSON.