E. N. HUMPHREY.

CAST-OFF FOR SUSPENDER ENDS.

APPLICATION FILED DEC. 2, 1909.

986,060. Patented Mar. 7, 1911.

Fig. 1.

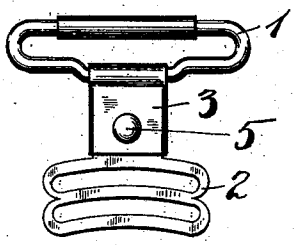


Fig. 2. Fig. 3. Fig. 4. Fig. 5.

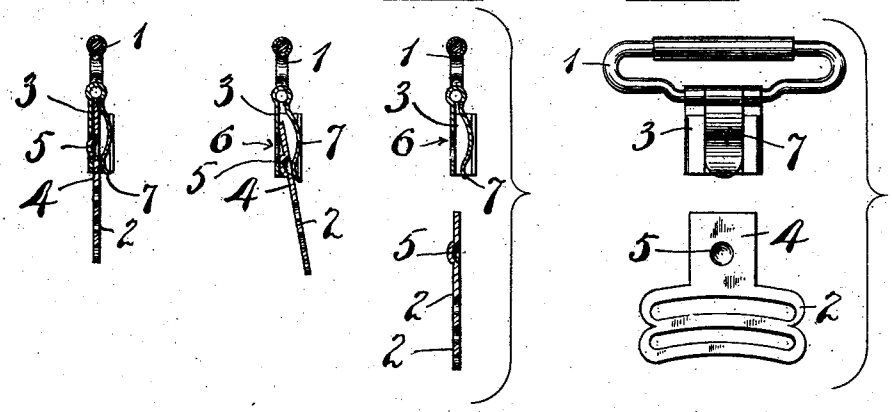
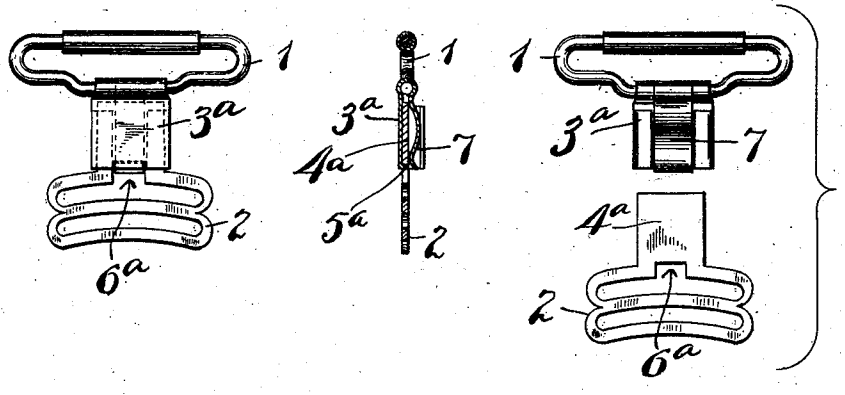


Fig. 7. Fig. 8. Fig. 6.



Witnesses:
Fred'k. Wm. Dannenfelser.
Chas. A. Peard.

Inventor
E. N. HUMPHREY.
By his Attorneys
Baxter Burnes Tuttle

UNITED STATES PATENT OFFICE.

ERNEST N. HUMPHREY, OF NEW BRITAIN, CONNECTICUT, ASSIGNOR TO TRAUT & HINE MANUFACTURING COMPANY, OF NEW BRITAIN, CONNECTICUT, A CORPORATION OF CONNECTICUT.

CAST-OFF FOR SUSPENDER-ENDS.

986,060. Specification of Letters Patent. Patented Mar. 7, 1911.

Application filed December 2, 1909. Serial No. 530,895.

To all whom it may concern:

Be it known that I, ERNEST N. HUMPHREY, a citizen of the United States, residing at New Britain, county of Hartford, State of Connecticut, have invented certain new and useful Improvements in Cast-Offs for Suspender-Ends, of which the following is a full, clear, and exact description.

My invention relates to a new and improved cast-off device for suspender ends and the like, the object of the invention being to improve and simplify the mechanical construction in a variety of ways, producing in the end a device which is easily manipulated and operated and which when in place very effectively connects the two parts of the suspender, or other supporter, with which it is connected.

In the drawings Figure 1 is a front elevation of the complete device. Fig. 2 is a central vertical cross section, showing the parts connected. Fig. 3 is a similar view, showing the parts partially separated. Fig. 4 is a similar view, showing the parts completely separated. Fig. 5 is a front elevation of the parts shown in Fig. 4. Fig. 6 is a view similar to Fig. 5 but of a modification, the parts being separated. Fig. 7 is a view of the rear side of the modification shown in Fig. 6, the parts being connected. Fig. 8 is a vertical cross section of Fig. 7.

1 represents the upper member of the cast-off, which in this instance is in the form of a loop.

2 represents the lower member of the cast-off, which in this instance is likewise in the form of a loop.

3 is a case constituting part of the upper member.

4 is a plate constituting part of the lower member. The plate 4 is insertible into the case 3, and when in place is locked therein by the following instrumentalities.

5 is a projection or shoulder, in this instance in the form of a struck-up nib on plate 4, the base of the nib furnishing a shallow shoulder, as best seen in Fig. 4.

6 is a perforation or recess in the front of the case 3, of a size suitable to receive the shoulder 5.

7 is a spring in the case 3. This spring is formed integrally with the back of the case and is rolled around the lower bar of the loop 1 and then directed downwardly, as shown, to a point near the bottom of the case. The space between the back of the case and the under side of the spring near the lower bar of the loop 1 forms a pocket for receiving the extreme end of the plate 2 when the latter is in place so as to hold that end of the plate close to its seat on the base of the case. (See especially Figs. 2 and 8.) As shown, the extreme lower end of the spring 7, which is substantially coincident with the lower end of the case, is preferably curled up slightly so as to furnish an inlet space into which the end of the plate may be easily inserted.

When the plate 4 is pushed into the space within the case 3, it is entered underneath the spring 7. As soon as the projecting shoulder 5 encounters the lower edge of the case, the plate 4 may be swung to the position shown in Fig. 3 and forced farther into place until said projection lies opposite the opening 6. Upon releasing the lower member 2, the spring 7 by direct contact with the plate 4 moves the same into the position shown in Fig. 2, in which the shoulder 5 enters the recess 6, thus securely locking said parts together and preventing accidental or unintentional separation. If it is desired to separate the parts, it is merely necessary to tilt them to approximately the angle indicated in Fig. 3, whereupon the shouldered portion 5 is removed from the recess 4, so that the parts 1 and 2 may be readily pulled apart and separated, as shown in Fig. 4.

The part 2, including the plate 4 and shoulder 5, may be struck up from sheet metal and produced with the greatest economy. The other part of the cast-off, namely, the loop 1 and case 3 is preferably formed partly of sheet metal and partly of wire. In this instance the loop 1 is formed of wire and the case 3 from sheet metal. As shown, the case is blanked out in such a manner that it may be shaped up into the form shown, the sides turning in to partially inclose the within space, the upper end being rolled around the bar of the loop 1, the middle portion being extended down to form the spring 7, which is arranged between the inturned sides of the case, as best seen in the rear elevation Fig. 5. The end of the spring 7 is preferably turned up slightly to provide an easy entrance for the plate 4 and so as to direct it into the case on the right side of the

spring, namely, on that side facing the recess or perforation 6.

Instead of arranging the locking shoulder 5 upon the lower removable member, this locking shoulder may be formed on the other member. With that end in view, reference may be had to Figs. 6 to 8, wherein the case is indicated at 3^a and the lower member at 4^a. 5^a is the locking shoulder, in this instance formed by a rearwardly extending shoulder at the lower edge of the face plate of the case 3^a. 7 is the spring, as before. In this particular instance, a recess 6^a is formed in the lower member 4 to receive the locking shoulder 5^a. As will be seen upon reference to Fig. 8, the locking shoulder 5^a engages the lower member 4^a in such a way as to support the same so long as said plate 4^a is held in the position indicated in Fig. 8. The spring 7 serves, as in the first instance, to hold the parts in this position against accidental or unintentional disengagement. In this case, as before, the operation of engaging and disengaging the two parts of the cast-off is accomplished in the same manner, one part being merely tilted relatively to the other against the action of the spring, until the locking shoulder on one becomes disengaged from the other.

It will be observed that in all instances means is provided to prevent the lateral twisting of one part relatively to the other. In the drawings, the plate member 4 is so shaped as to be supported against lateral displacement within the case without putting any appreciable strain upon the locking shoulder, thus relieving the latter of the responsibility of doing this work.

What I claim is:

In a cast-off fastener, two separable parts including a case and a plate, said case having a guide passage open at its lower end for the insertion of said plate, a loop supporting said case, a spring formed integrally with said case, that part of the case forming said spring being wrapped around said loop and extended down the face of said case to form a pocket to receive and hold the adjacent end of the plate member, said spring continuing down the face of said case; to a point near the lower end thereof and arranged to bear directly upon said plate, a locking shoulder on one of said separable parts and a recess on the other part to receive the same, said spring yieldingly holding said locking shoulder in said recess.

ERNEST N. HUMPHREY.

Witnesses:

STANLEY PARKER,

W. J. WORAM, JR.