Feb. 14, 1939. B. R. AUSTIN 2,146,714

"ZIPPER" FASTENER

Filed Nov. 7, 1936

Fig. 1.

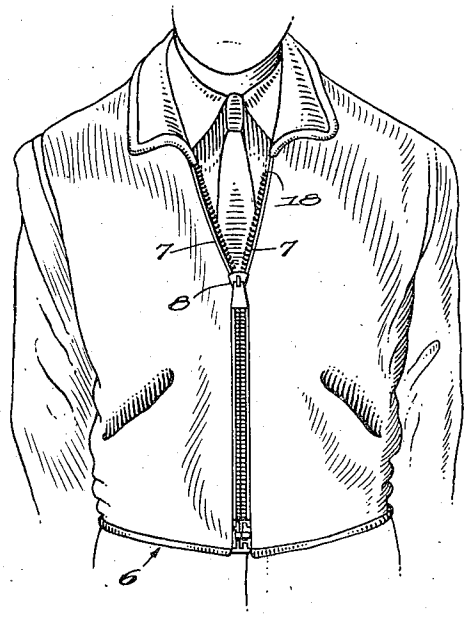


Fig. 2.

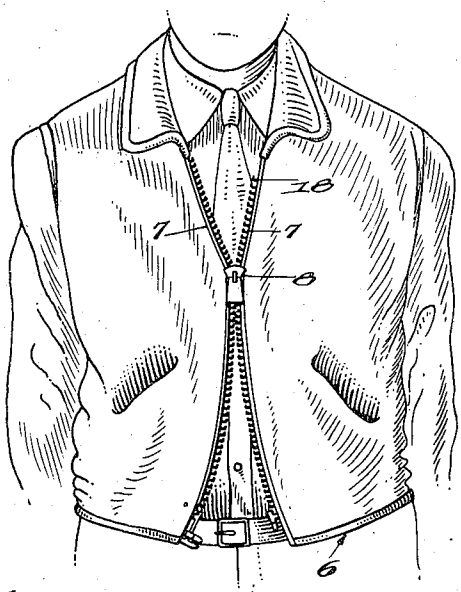


Fig. 4.

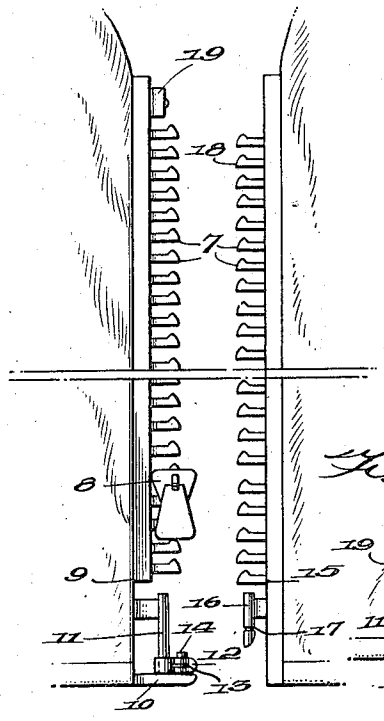


Fig. 3.

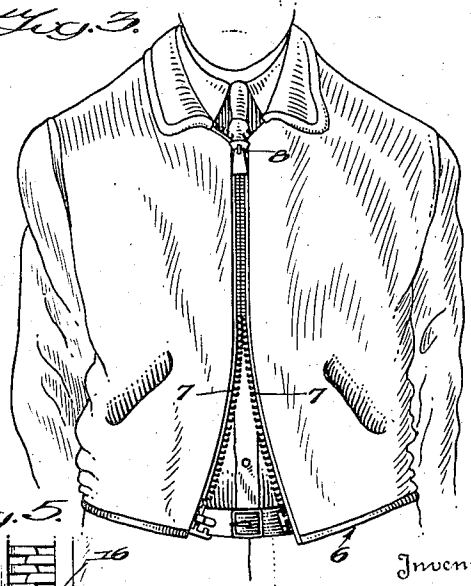
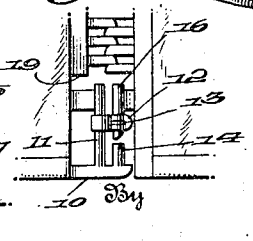


Fig. 5.



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"ZIPPER" FASTENER

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Application November 7, 1936, Serial No. 109,791

3 Claims. (Cl. 24—205)

This invention relates to an improvement in so-called "Zipper" fasteners.

It is the purpose and object of the invention to provide a "Zipper" fastener structure wherein the closed portion may be opened to any extent desired without moving the "Zipper" clip.

It frequently happens that in closing a "Zipper" fastener on hand bags, coats, and the like, a handkerchief, necktie, or the like becomes caught in the fastener, which precludes the return of the clip back over the "Zipper" track to reopen the same. It furthermore often happens that the wearer of a coat equipped with a "Zipper" fastener desires to have the garment open at the bottom in the manner permitted through the use of buttons. In accordance with the present invention, the closed portion of the "Zipper" may be opened at will without moving the clip so that any object that may have been caught in closing the "Zipper" can be readily freed therefrom.

A still further object of the invention is to provide a "Zipper" fastener structure wherein the closed portion of the structure may be opened without movement of the clip or slider and wherein provision is made for permitting the slider to be returned to its normal starting position after a closed portion of the structure has been opened.

Other objects and advantages of the invention will be apparent during the course of the following description.

In the accompanying drawing forming a part of this specification and in which like numerals are employed to designate like parts throughout the same:

Figure 1 is a front elevational view of a garment, such as a jacket, with the "Zipper" fastener structure embodying this invention applied thereto and employed in the conventional way to close a portion of the fastener structure;

Figure 2 is a front elevational view of the "Zipper" fastener structure illustrated in Figure 1 but with the closed portion of the structure open, while the clip or slider has remained in the position illustrated in Figure 1;

Figure 3 is a front elevational view of the garment illustrated in Figures 1 and 2 with the clip or slider moved to the upper or final end of the fastener structure and with the lower portion of the closed part separated or opened;

Figure 4 is a detail elevational view showing the "Zipper" fastener structure with the two rows of fastener elements separated and with the clip or slider connected to one row of elements; and

Figure 5 is a detail, sectional, elevational view of the lower portion of the "Zipper" fastener structure.

Referring to the various figures, the reference character 6 designates in its entirety the garment, or other article, which is provided with the "Zipper" fastener structure embodying this invention. This garment has suitably fastened to the adjacent edges of the same the rows of fastener elements 7. As illustrated in Figure 4, these fastener elements 7 are of conventional and well-known form, and each consists of a projection on one face and a recess or cavity in the opposite face, with the projection and recess of each element interlocking with a recess and projection on two adjacent fastener elements of the opposed row.

A conventional form of clip or slider 8 is provided and consists of the two diverging grooves or tracks which function to cause the fastener elements 7 of the opposed rows to approach each other at a proper angle to cause interlocking of the respective projections and sockets. In Figure 4 the row of fastener elements 7 which are associated with the left-hand edge of the garment terminates at 9. Beyond this termination of the fastener elements, there is positioned a clip mounting 10 which consists of a guide rail 11 fastened at its opposite ends to the garment edge and slidably receiving a clip 12 which is of hollow formation and is provided with an inwardly directed rib 13 extending longitudinally of the clip 12 and transversely of the guide rail 11. An upstanding pin 14 is carried by the clip mounting 10 for receiving the ribbed portion of the clip to retain the same against angular movement relative to the guide rail 11. The remaining edge of the garment has its row of fastener elements 7 terminating at 15. Beyond this terminal 15, the garment has fastened thereto a pin 16 which projects downwardly and is provided with a circumferential groove 17.

Figure 4 illustrates the two edges of the garment separated with the clip arranged to receive the pin 14. Figure 5 illustrates the lower edge portions of the garment associated and with the clip 12 moved along the guide rail 11 to cause the clip to receive the depending pin 16. In Figure 5 the inwardly directed rib 13 is received within the groove 17 of the pin 16 to retain the lower portions of the edges of the garment connected. Figure 5 also illustrates a few of the separable fastener elements 7 as being closed or interlocked. To effect this interlocking, the clip or slider 8 is moved downwardly of the left-hand row of separable fasteners onto the guide rail 11. The pin

16 then may be inserted into its respective angular groove or track in the slider. The clip or slider should then be moved upwardly until it clears the pin 16. This pin 16 will be found to register axially with the pin 14 on the clip carrier 10. The clip 12 then is moved upwardly along the guide rail 11 until it receives the depending end of the pin 16 and the rib 13 of the clip is engaged within the groove 17 of the pin 16. The "Zipper" clip or slider 8 is then moved along the rows of fastener elements 7 to any desired position, for example, as shown in Figure 1. The "Zipper" fastener structure may be left in this position if desired.

Should the wearer of the garment 6 desire to open the closed portion of the fastener structure without moving the slider 8 downwardly, he may do so by moving the clip 12 downwardly out of engagement with the depending end portion of the pin 16. The lower portions of the edges of the garment may then be pulled apart and the fastener elements 7 separated up to the slider 8. This condition is illustrated in Figure 2.

Figure 3 illustrates a further use of this form of "Zipper" fastener. In this illustration, the slider or clip 8 has been moved to the upper ends of the rows of fastener elements 7, and the clip 12 has been moved out of engagement with the depending portion of the pin 16. The lower portions of the edges of the garment are then pulled apart to separate the fastener elements 7 up to any desired point.

It will be appreciated that with the condition illustrated in Figure 2, the slider 8 can only be moved in one direction; namely, upwardly toward the upper ends of the rows of fastener elements. The slider cannot be moved in the opposite direction because the grooves formed in the slider will not bring the fastener elements located downwardly of the slider into proper angular relation to interlock the same. To take care of this condition, the slider must be moved to the upper ends of the rows of fastener elements. Figure 4 clearly illustrates that the row of fastener elements associated with the left-hand edge of the garment terminates at 18. Movement of the slider 8 beyond this termination of the fastener elements disconnects one row of elements from the slider. The slider remains connected to the other row of elements and is prevented from being disconnected from the same by means of the stop 19. After being separated from the right-hand row of fastener elements, the slider or clip 8 may be moved downwardly along the left-hand row of fastener elements, as illustrated in Figure 4, until it is returned to its initial starting point. The operation of re-connecting the fastener elements 7 may be repeated in the manner described above.

It is to be understood that the form of this invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size, and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

Having thus described my invention, what I claim is:

1. A "Zipper" fastener comprising complementary rows of fastening elements, a slider for closing the rows of fastening elements and means for releasably securing the starting ends of the rows of fastening elements together whereby when the rows of fastening elements have been closed by movement of said slider, they may be opened by releasing and pulling apart the starting ends, said means comprising a guide rail longitudinally aligned with one row of fastening elements, a pin longitudinally aligned with the other row of fastening elements and a clip movable on said guide rail into and out of securing engagement with said pin.

2. A "Zipper" fastener comprising complementary rows of fastening elements, a slider for closing said rows of fastening elements, and a releasable latch member carried at the starting end of the rows of fastening elements by which said starting end can be separated at will, said latch member comprising a guide rail longitudinally aligned with one of said rows of fastening elements, a pin longitudinally aligned with the other of said rows of fastening elements and a clip movable on said guide rail into and out of securing engagement with said pin.

3. An improved "Zipper" fastener comprising complementary rows of interlocking elements, a slide movable longitudinally of said rows for the purpose of attaching or separating said rows, a latch member carried at the starting end of said rows of interlocking elements, said latch member comprising a guide rail longitudinally aligned with one of said rows, a pin longitudinally aligned with the other of said rows and a clip movable on said guide rail into and out of securing engagement with said pin, and one of said rows terminating short of the terminal end of the second row in such manner that the first mentioned row will be released from the slide when said slide is moved to the extreme terminal end of said second row.

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