

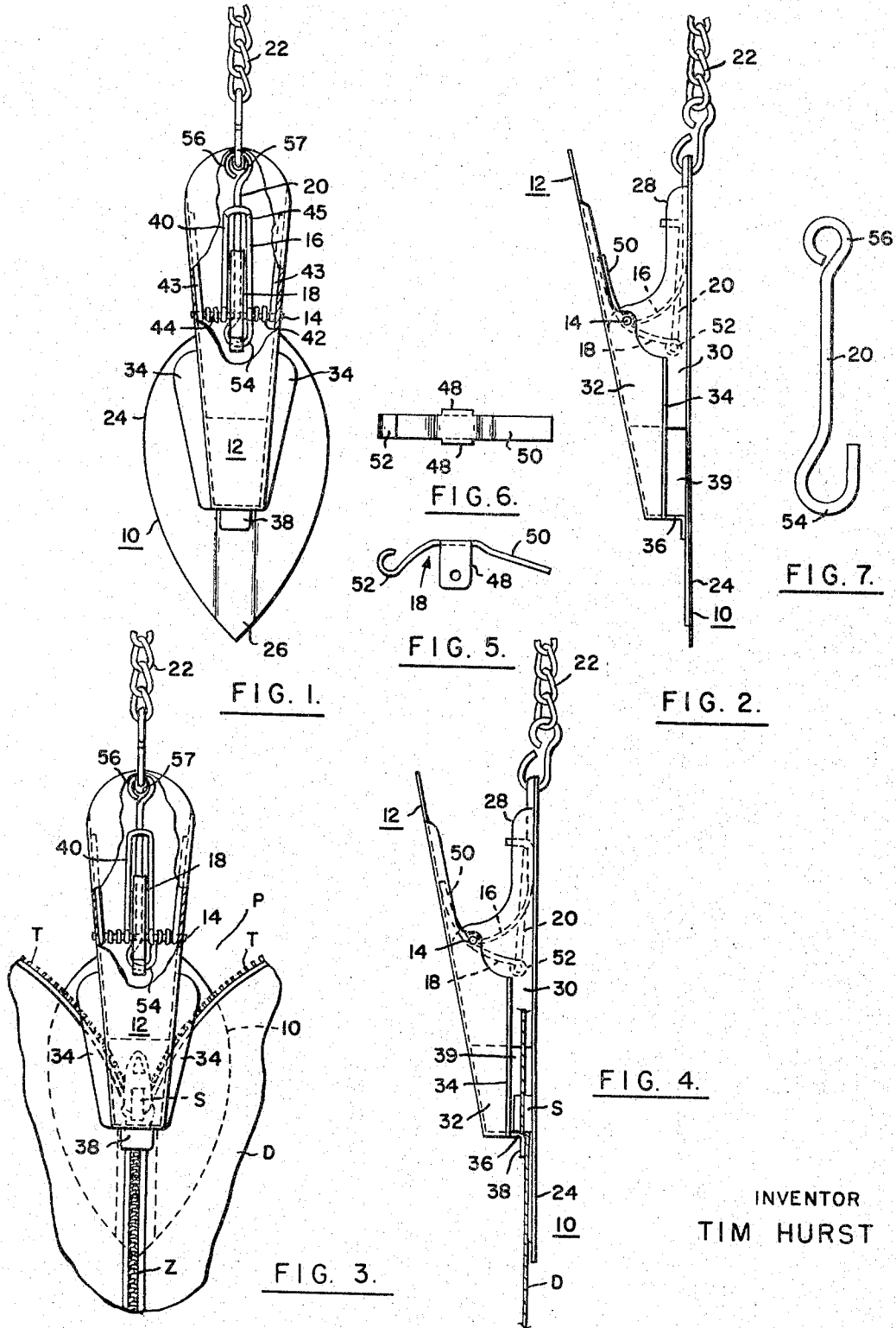
Dec. 5, 1967

T. HURST

3,355,779

DEVICE FOR CLOSING ZIPPERS

Filed March 3, 1966



INVENTOR
TIM HURST

3,355,779

DEVICE FOR CLOSING ZIPPERS

Tim Hurst, 1322 W. Bristol St., Philadelphia, Pa. 19140

Filed Mar. 3, 1966, Ser. No. 531,591

5 Claims. (Cl. 24—205.15)

ABSTRACT OF THE DISCLOSURE

A zipper closing apparatus having a flat base member to support the zipper, a spring actuated top member to clamp the zipper therebetween and a chain actuated locking element which holds the apparatus in clamped condition while the chain is pulled to advance the zipper.

This invention relates to zippers, and particularly to a device for closing a zipper located, for example, in the back of a lady's dress.

An object of the invention is to provide a device which facilitates closing a zipper located in the back of a lady's dress.

Another object is to provide such a device which is quickly attached to the dress in operative position before the dress is put on, easily operated by the lady after the dress is put on, and quickly detached from the dress by the lady after the zipper is closed.

Another object is to provide such a device which keeps the undergarments separated from the zipper teeth, and which helps to align the zipper teeth so that they interlock readily as the device advances the zipper slide.

Another object is to provide such a device which automatically locks in closed position when it is raised to operate the zipper slide.

Other objects of the invention will become apparent when the following description is read with reference to the accompanying drawing, in which:

FIGURE 1 is a plan view of a device embodying the invention, the device being shown in unlocked condition;

FIGURE 2 is a side view of the device shown in FIGURE 1;

FIGURE 3 is similar to FIGURE 1 but shows the device applied to a zipper in the back of a lady's dress and the zipper partially closed, at which time the device is in locked condition;

FIGURE 4 is a side view of the device as shown in FIGURE 3;

FIGURE 5 is an enlarged side view of the locking element of the device;

FIGURE 6 is a plan view of the locking element shown in FIGURE 5; and

FIGURE 7 is an enlarged view of a rod for operating the locking element.

The following description is addressed to the specific form of the invention shown in the drawing. It is not directed to the scope of the invention, which may be practiced in a variety of forms.

Referring to the drawings, the device embodying the invention comprises a base member 10 and a top member 12 disposed in mutually overlying relation and pivoted together by means of a pin 14. Mounted upon the pin 14 are a torsion spring 16 which operates to yieldably to close the fore end of the device, and a locking element 18 operable for coacting with the spring 16 to keep the fore end of the device closed during the operation of closing the zipper. A rod 20 and a chain 22 are provided for operating the device.

The base member 10 includes a sheet metal part 24 with a broad, flat main body and a central longitudinally extending area 26 which is slightly depressed. Seated

upon and affixed to the depressed area 26 is a sheet metal part 28 with opposite side flanges 30 rising from its main body.

The top member 12 includes a sheet metal part with opposite side flanges 32 depending from its main body and terminating in laterally outwardly extending flange parts 34 disposed in coplanar relation, and with a flange 36 depending from the fore end of its main body and terminating in a laterally forwardly extending flange part 38 engaging the underlying main body of the base member. The flange 36 is of a length sufficient to position the flange parts 34 a substantial distance above the main body of the base member 12. Each end of the pin 14 extends through one of the flanges 30 and the adjacent flange 32.

The fore ends of the flanges 30 are disposed a substantial distance to the rear of the flange 36. Thus, on each side of the device an opening, designated 39, is formed, the opening being defined by the main body of the part 24, the overlying flange 34, the fore end of the flange 30 and the opposed flange 36.

The torsion spring 16 is provided with a section intermediate the opposite ends thereof which is formed into a loop, as at 40, which bears upon the base member 10, as at 45. The opposite ends of the spring 16 make several turns respectively in opposite directions about the pin 14, as at 42 and 44, and then extend therefrom, as at 43, to bear upon the main body of the top member 12.

The locking element 18 is disposed between the turns 42 and 44 of the spring 16 at an angle to the base member 10. It is provided with a pair of ears 48 depending from opposite sides thereof. The pin 14 extends through the ears 48. One end 50 of the element 18 extending from the ears 48 normally is disposed in underlying spaced relation to the main body of the top part 12, which the other end of the element 18 extending from the ears 48 is hooked, as at 52, about one end 54 of the rod 20, which rod extends rearwardly under the pin 14 along the base member 10 and under the closed end of the loop 40 of the spring 16.

The rearward terminal portion of the rod 20 is provided with an eye 56 disposed over an opening 57 in the base member 12. The terminal element of the chain 22 extends through the eye 56 and the opening 57.

Referring particularly to FIGURES 3 and 4, a dress D is provided with an opening P in the back thereof, which opening may be closed by a zipper Z with teeth T. The device is applied to the dress before the lady puts the dress on.

In the operation of the device, the ends of the base member 10 and top member 12 are pressed together to pivot the top member 12 about the pin 14 against the influence of the spring 16 to open the device, i.e., to raise the flange part 38 from the base member 10. Thereupon, the base member 10 is placed inside the dress, between the zipper tapes and the lady's underclothing, and to top member 12 is placed outside of the dress, over the zipper tapes, as shown in FIGURE 3. With the slide of the zipper, designated S, directly under the fore end of the top member 12, the device is released, whereupon the device closes under the influence of the spring 16. The flange part 38 now overlies interlocked teeth of the zipper, and slide S engages the flange 36. The portions of the zipper tapes bearing teeth that are not interlocked extend respectively freely through the openings 39, under the flange parts 34. The lady now puts the dress on and throws the chain 22 over her shoulder. Thereupon she pulls upwardly on the chain. The rod 20 moves upwardly relative to the base member 10, there being some lost motion due to the size of the hole 57.

Thus the locking element 18 pivots about the pin 14, and is held by the rod 20 in locking position, i.e., with the end 50 thereof in engagement with the main body of the top member 12.

As the device is pulled upwardly, the slide S of the zipper is raised and the teeth of the zipper are brought together to interlock in known manner. It will be noted that so long as the chain 22 is being pulled, the element 18 coacts with the spring 16 to keep the device closed. When the lady ceases to pull on the chain, the locking element automatically ceases to coact with the spring 16 to keep the device closed. After the zipper is closed, the lady may reach back over her shoulder and press the ends of the base member 10 and the top member 12 together again to open the device and detach it from the dress.

I claim:

1. In a device for closing zippers, the combination comprising a sheet material base member having a broad, flat main body, and a pair of flanges rising respectively from opposite sides thereof, a sheet material top member having a main body, a pair of flanges depending respectively from opposite sides thereof terminating in coplaner laterally outward extending flange parts, and a flange depending from the fore end thereof, said members being disposed in mutually overlying relation with the opposite side flanges of each member respectively disposed adjacent to the opposite side flanges of the other member, the opposite side flanges of the base member being disposed a substantial distance rearwardly from the flange depending from the fore end of the top member, a pin extending through the opposite side flanges of said members and pivotally interconnecting said members, the flanges depending from the fore end of said top member being at a substantial distance from the fore end of said base member and being engaged with the main body of said base member, the flanges at the opposite sides of said top member being disposed in superimposed spaced relation to the main body of said base member,

and spring means on said pin yieldably urging the flange depending from the fore end of said top member into engagement with the underlying main body of said base member.

2. The combination according to claim 1 wherein the flange depending from the fore end of the top member terminates in a laterally forwardly extending flange part.

3. The combination according to claim 1 wherein an elongated locking element pivotally mounted upon the pin is operable for engaging the top member and holding the flange depending from the fore end of said top member down on the underlying main body of the base member, and means is provided for automatically actuating said locking element when the device is in use.

4. The combination according to claim 3 wherein the locking element is disposed at an angle relative to the main body of the base member, and the means for actuating said locking element includes a rod pivotally connected to the fore end of said locking element and extending rearwardly therefrom along the main body of the base member, and pull cord means connected to the free end of said rod.

5. The combination according to claim 4 wherein the free end of the rod overlies an opening in the main body of the base member, the pull cord means is a link chain with a terminal element extending through the free end of the rod and through said opening for sufficient lost motion between said terminal element and the main body of said base member for axial shifting movement of said rod.

References Cited

UNITED STATES PATENTS

1,344,500	6/1920	Giardino.
3,006,051	10/1961	Maeder.
3,017,680	1/1962	Duncan.
3,276,087	10/1966	Hanson.

BERNARD A. GELAK, *Primary Examiner*.