

W. F. WATKINS.
SNAP FASTENER.
APPLICATION FILED SEPT. 7, 1920.

1,389,173.

Patented Aug. 30, 1921.

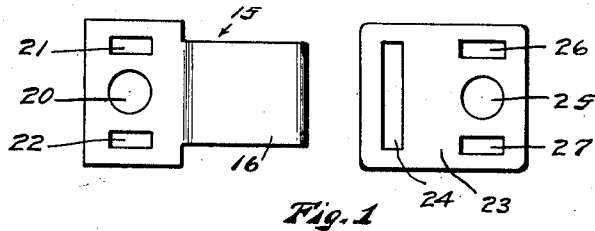


Fig. 1

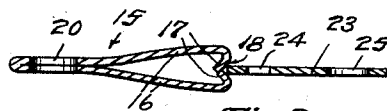


Fig. 2

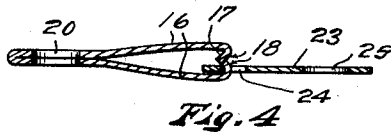


Fig. 4

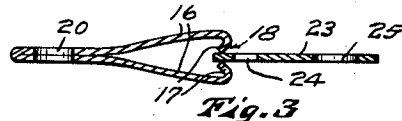


Fig. 3

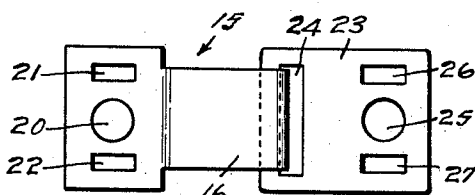


Fig. 5

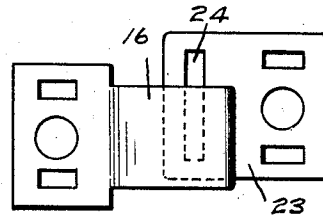


Fig. 6

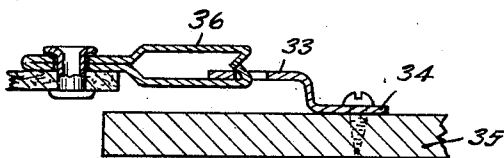


Fig. 9

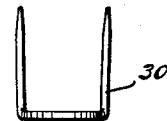


Fig. 7

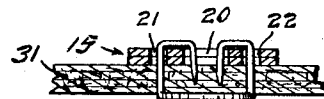


Fig. 8

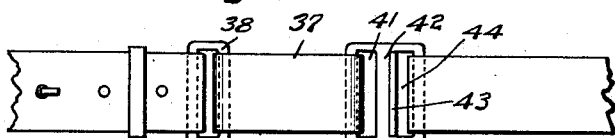


Fig. 10

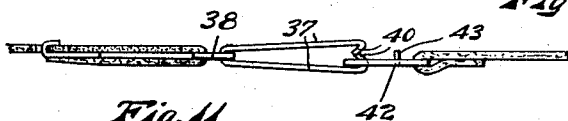


Fig. 11

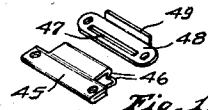


Fig. 12

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UNITED STATES PATENT OFFICE.

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SNAP-FASTENER.

1,389,173.

Specification of Letters Patent. Patented Aug. 30, 1921.

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To all whom it may concern:

Be it known that I, WILLIAM F. WATKINS, a citizen of the United States, residing at Seattle, in the county of King and State of Washington, have invented certain new and useful Improvements in Snap-Fasteners, of which the following is a specification.

This invention relates to improvements in snap fasteners and the object of this improvement is to provide a snap fastener of strong and simple construction comprising two separate parts that may be quickly and easily engaged with or disengaged from each other by suitable manipulation with the fingers but that will not become accidentally disengaged.

Another object is to provide a snap fastener that may be made in large or small size without altering its plan of construction and that is relatively thin and flat so that it will not be cumbersome and in the way.

A further object is to provide an inexpensive snap fastener that is formed in such a manner as to render it easy to apply to heavy fabrics and like materials by the use of rivets of the usual standard form of construction.

With the above and other objects in view as will appear from the following description the invention consists in the novel construction, adaptation and combination of parts of a snap fastener as will be more clearly hereinafter described and claimed.

In the accompanying drawings Figure 1 is a plan view of a snap fastener constructed in accordance with this invention showing the two parts thereof separated a short distance from each other. Fig. 2 is a longitudinal sectional view of the same showing the two parts moved together in the position they might occupy just prior to snapping the said two parts into engagement with each other. Fig. 3 is a sectional view showing the manner of effecting the engagement of the two parts. Figs. 4 and 5 are sectional and plan views respectively, showing the two parts after they are engaged. Fig. 6 shows a relative position the two parts of the clip may assume during the process of disengaging or separating the same. Fig. 7 is a view in elevation of a standard form of staple or split rivet that may be used for securing this snap fastener to a piece of fabric or other material to which it is to be secured. Fig. 8 shows the split rivet after it has been insert-

ed and clenched. Fig. 9 is a sectional view showing a slightly modified form of the invention. Figs. 10 and 11 are views in plan and edge elevation respectively of the invention as adapted for use as a belt clasp or for a similar purpose and Fig. 12 is a view in perspective of a clip of the type used in the smaller sizes of construction.

The device is adapted for a great many different uses as for instance it may be used on automobile curtains, on overalls, as a clip on suspenders, on machinists' and mechanics' aprons, as a clasp for belts, as a substitute for hooks and eyes and buttons on clothing and in many other ways.

Like reference numerals designate like parts throughout the several views of the drawings.

Referring to Figs. 1 to 8 inclusive the numeral 15 designates a snap member formed of a single piece of resilient metal bent double mid-way of its length and provided with slightly divergent or spaced apart forwardly extending ends 16 that terminate in inwardly bent hook members 17 that preferably overlap each other substantially as shown and are normally held in contact with each other by the resilience of the two sides of the snap member and whose outer surfaces 18 form a V shaped recess that extends across the front end of the snap member.

At the rear end the two parts of the snap member preferably lie flat upon each other and form a base that is perforated with a centrally located round hole 20 and two rectangular or elongated holes 21 and 22 disposed on opposite sides of the round hole.

23 designates a clip or eyelet member in the form of a flat plate provided near its forward end with a transverse slot 24 that is adapted to engage within the hooks 17 of the snap member and provided near its rear end with three holes 25, 26 and 27, corresponding in shape and relative location to the holes 20, 21 and 22 in the snap member.

The eyelet member 23 is snapped into the snap member 15 by placing the forward edge of the eyelet member in contact with the inclined surfaces 18 of the snap member, see Fig. 2, and exerting enough pressure against such surfaces to cause the two parts of the snap member to be spread apart and pass over that portion of the plate 23 in front of the slot 24, see Fig. 3, and then drop into the slot 24, see Fig. 4. After the two mem-

bers are snapped together they cannot be pulled apart, except by a pull sufficiently hard to straighten out the hook portions 17.

The eyelet member 23 is disconnected from the snap member 15 by pressing the wall that forms the rear edge of the slot 24 against the inclined surfaces 18 of the snap member hard enough to force the two parts of the snap member to spread apart and slide rearwardly on the eyelet member after which the two members may be disconnected by relative sidewise and separating movement, see Fig. 6, the metal at the ends of the slot 24 preventing the hook members 17 from catching within such slot when the slot does not completely register with the hook members.

In securing the parts of this snap fastener to the material on which they are used the same may be sewed on by stitching through the three holes 20, 21 and 22 or 25, 26 and 27 or riveted by passing a single rivet through the material and through the holes 20 or 25 or they may be secured by means of split rivets 30, see Figs. 7 and 8, that are passed through the material 31, thence through the holes 21 and 22, and are clenched into the holes 20.

The split rivets are preferably used on all snap fasteners that are applied to canvas, drill, duck and similar heavy fabrics. The single rivets are preferably used where the devices are secured to leather straps or where a pivotal connection is desired and the fasteners are preferably sewed on to lighter fabrics in substantially the same manner as hooks and eyes.

In Fig. 9, I have shown a slightly modified form of the invention in which the eyelet member has a snap engaging portion 33, that is offset from the base portion 34 thereof so that when the base portion is secured to a non-flexible piece of material 35, the eyelet portion 33 will be spaced from such non-flexible member to permit a snap member 36, to be engaged therewith. If the snap member 36 is to be secured to a non flexible member it may be offset in substantially the same manner as the eyelet member.

In Figs. 10 and 11, I have shown the invention as applied to a belt clasp comprising a snap member 37 having a separable clip 38, at its rear end and having hook members 40, at its forward end to engage within a slot 41 in an eyelet member of clip 42.

The clip 42 is preferably provided to the rear of the slot 41 with an outwardly projecting lug 43 that serves as a stop to prevent the hook members 40 from entering a second slot 44 when the device is being unclasped. In the device shown in Fig. 9 the part that connects the offset portion 33 and the base portion 34 will act as a stop, while in the device shown in Figs. 1 to 8 inclusive

the edge of the material and the rivet in the clip member 23 function as a stop. It will be understood however that a lug or stop similar to the lug 43 may be used when needed on any form of clip constructed in accordance with this invention.

In Fig. 12 I have shown a snap fastener of the type used on clothing in place of hooks and eyes, buttons and the like and comprising a snap member 45 having hook portions 46 arranged to engage within a slot 47 in a relatively narrow clip 48 that has its rear edge turned up as at 49 to form a stop and prevent the hooks 46 from passing entirely over the clip and becoming locked in such a manner as to render them difficult to remove.

This snap fastener is strong and simple in construction, cheap to manufacture, easy to install, easy to manipulate, not liable to be accidentally disengaged and is relatively flat so that it is not cumbersome or in the way. The smaller sizes of these fasteners made for use on clothing and the like are thin enough and substantial enough so that they may be run through a clothes wringer without damaging the wringer or the fastener.

From the foregoing description taken in connection with the accompanying drawings the form of construction and method of operation of this snap fastener will be readily apparent, but, while I have described what I now consider to be the preferred embodiment of the invention, it will be understood that the device shown is merely illustrative and that such changes may be resorted to as are within the scope of the following claims:

What I claim is:

1. In a snap fastener, a snap member having two spaced apart resilient portions provided with inwardly projecting normally contacting hook like ends with the terminal end of one hook normally engaging the outer flat face of the other hook and a clip member having an opening within which said hook like ends may engage.

2. In a snap fastener, a snap member having two spaced apart resilient portions provided with hook like ends that are bent inwardly at more than ninety degrees to form external V shaped guide means with the terminal end of one hook normally engaging the outer flat face of the other hook, and a clip member having an opening within which said hook like ends may engage.

3. In a snap fastener, a snap member comprising a piece of resilient metal bent double mid way of its length and having its forwardly extending portions spaced apart and terminating in hook like ends that normally abut against each other and are bent inwardly at an angle of more than ninety degrees to leave external V shaped guide surfaces with the terminal end of one hook

normally engaging the outer flat face of the other hook, and a clip member having an opening within which said hook like ends may engage.

5 4. A snap fastener comprising a snap member formed of a thin flat piece of resilient metal bent double mid way of its length and having its two parts spaced from each other toward the forward end thereof
10 with the terminal end of one hook normally engaging the outer flat face of the other hook, hook members formed by bending the extremities of the two parts of said snap member inwardly at an angle of more than
15 ninety degrees thereby leaving a V shaped guideway that extends across the forward end thereof, and a clip formed of a thin flat piece of metal having a transverse slot near the forward edge thereof within which said
20 hook members may engage.

5. A snap fastener comprising a snap member formed of two spaced apart re-

silient portions having hook like ends that are bent inwardly at an angle of more than ninety degrees and abut against each other
25 with the terminal end of one hook normally engaging the outer flat face of the other hook, and a clip arranged to wedge said inwardly bent ends apart when it is pressed against the outer surfaces thereof said clip
30 having a perforation for the reception of said ends.

6. In a snap fastener a snap member having two spaced apart resilient portions provided with inwardly directed hook like abutting ends that afford externally disposed V
35 shaped guide means, a clip having an opening within which said hook like ends may engage and a stop member projecting from said clip to the rear of said opening.
40

Signed at Seattle, Washington, this 30th day of August, 1920.

WILLIAM F. WATKINS.