

Aug. 21, 1962

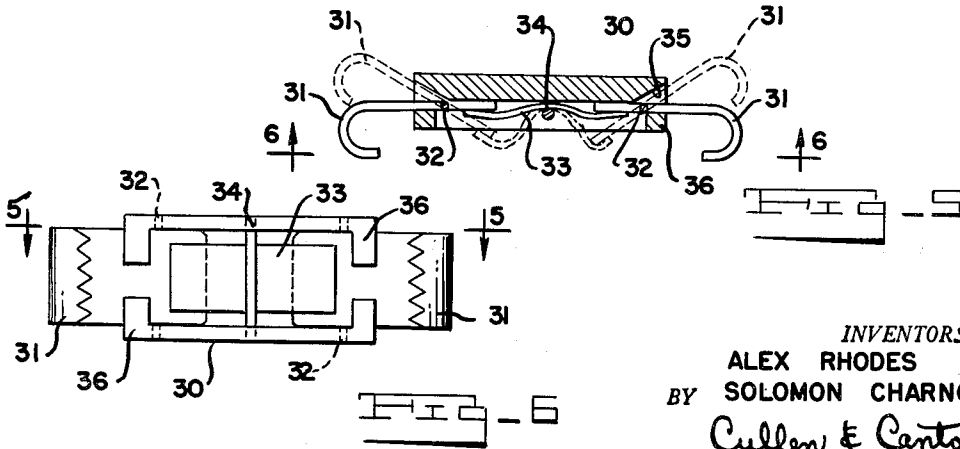
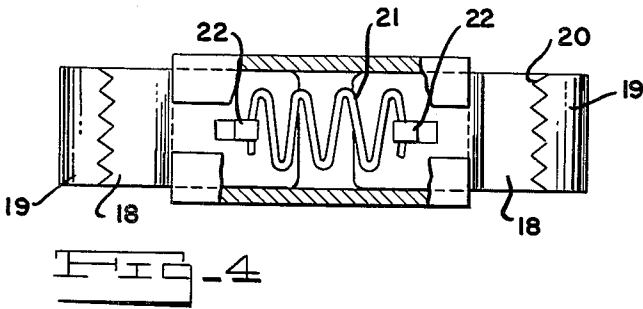
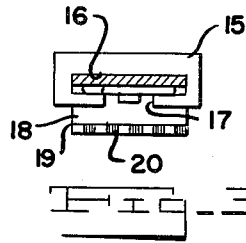
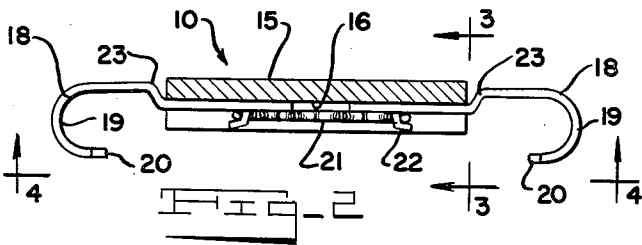
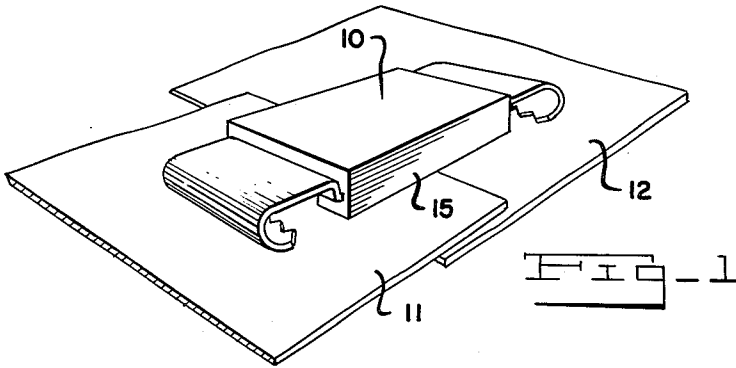
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3,049,774

CLIPS

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3 Sheets-Sheet 1



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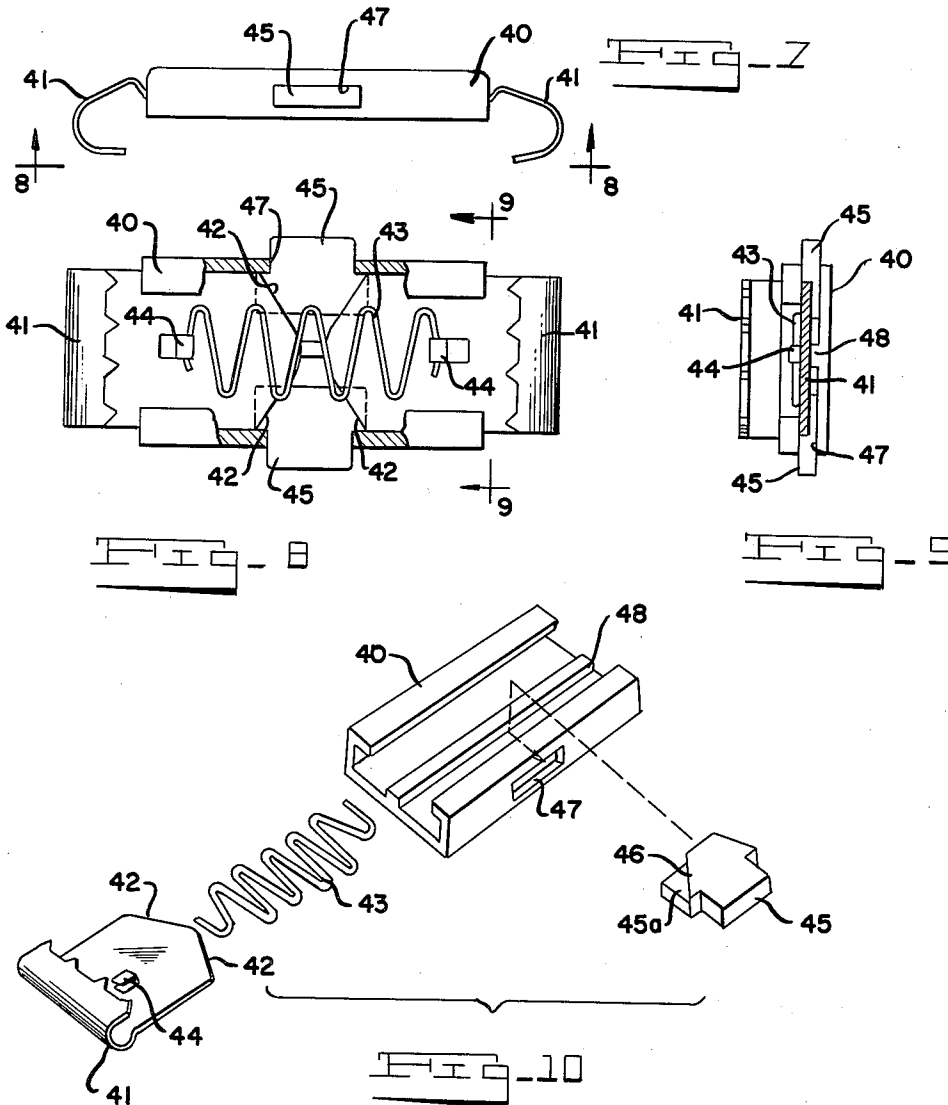
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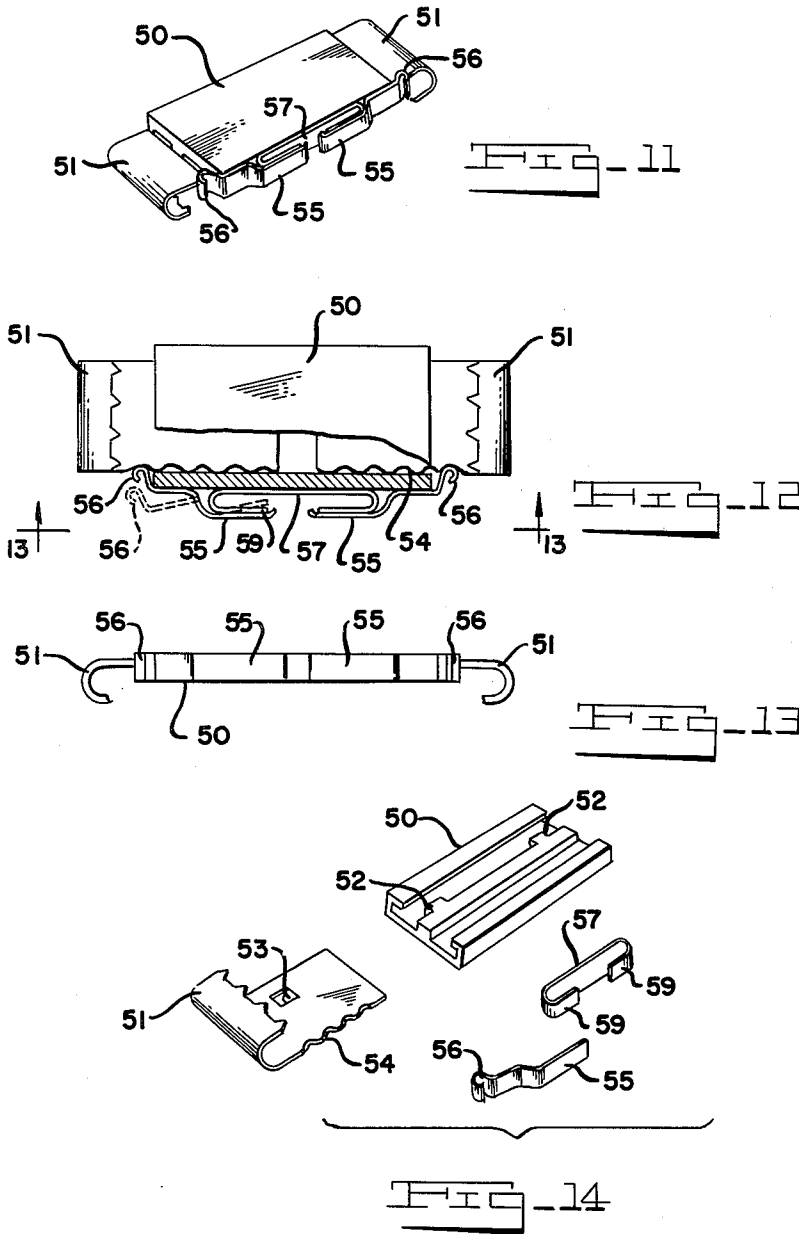
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CLIPS

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3,049,774  
CLIPS

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This invention relates to clips and more particularly to a clip for securing together adjacent pieces of cloth or the opposite ends of a single piece of cloth.

It is usual to temporarily fasten together adjacent ends of cloth or the opposite ends of a piece of cloth by means of safety pins or similar mechanical fastening means. This invention relates to a clip for mechanically fastening together cloth by means of grasping a relatively large area of the adjacent cloth ends and bunching the cloth together and holding the cloth under a spring tension. This particularly relates to holding together adjacent ends of a diaper of the type used for infants and thus to replace diaper pins.

An object of this invention is to form a clip having movable jaws which grasp or bite into cloth and hold a relatively large area of the cloth under a spring tension wherein the clip may be easily applied and easily removed from the cloth without having to use more than one hand to operate the clip.

These and other objects and advantages of this invention will become apparent upon reading the following description of which the attached drawings form a part.

In these drawings:

FIG. 1 is a perspective view of one form of clip.

FIG. 2 is an elevational view of the clip of FIG. 1 with the sleeve shown in cross-section.

FIG. 3 is a view taken in the direction of arrows 3—3 of FIG. 2.

FIG. 4 is a view taken in the direction of arrows 4—4 of FIG. 2, with the sleeve partially in cross-section.

FIG. 5 is a view of a modification taken in the direction of arrows 5—5 of FIG. 6.

FIG. 6 is a view taken in the direction of arrows 6—6 of FIG. 5.

FIG. 7 is an elevational view showing another modification.

FIG. 8 is a view taken in the direction of arrows 8—8 of FIG. 7, and is partially in cross-section, and

FIG. 9 is a view taken in the direction of arrows 9—9 of FIG. 8.

FIG. 10 is a perspective view of parts of the modification of FIGS. 7—9.

FIG. 11 is a perspective view of another modification.

FIG. 12 is a top view of the modification of FIG. 11, with the sleeve partially in cross-section.

FIG. 13 is a front elevation taken in the direction of arrows 13—13 of FIG. 12, and

FIG. 14 is a perspective view of parts of the modification of FIGS. 11—13.

With reference to FIGS. 1—4, the clip herein, generally designated as 10, is used for connecting together ends of cloth or adjacent pieces of cloth such as cloth sheet 11 and cloth sheet 12.

The clip is formed of a sleeve 15 having a central flat opening 16 extending from end to end and slit open at its bottom at 17 as shown in FIG. 3.

A pair of jaws 18 are inserted in the opposite open ends of the sleeve to fit into the sleeve opening 16. The jaws are identical in construction and are made of thin, rigid sheet metal in the form of a narrow elongated, flat strip. An end of each jaw is bent into a hook-like shape 19 which terminates in sharp saw-like teeth 20.

Each of the jaws is provided with a struck-out tongue 22 to which the opposite ends of a serpentine, flat, bent wire spring 21 are connected so as to spring urge the two

jaw members towards each other. Each of the jaw members is provided with a bent up shoulder 23 near its bent ends 19, which acts as a stop by engaging the end of the sleeve to prevent the jaw member from sliding too deeply into the sleeve.

In operation, the user holds the sleeve 15 in one hand and engages the teeth 20 of one of the jaw members into the cloth 11 and then by pulling on the sleeve 15 stretches the spring and then engages the teeth 20 of the opposite jaw member into the cloth 12. Upon releasing the grasp on the sleeve 15, the spring 21 biases the two jaw members towards each other so as to bunch the cloth together and hold the cloth tightly under tension.

In FIGS. 5—6 a modification is shown wherein the sleeve 30 is provided with two jaw members 31 which are pivotally connected to the sleeve by means of pins 32 so that the jaw members may pivot about the axes of the pins as shown in dotted lines in FIG. 5. The spring means 33 is in the form of a flat springy plate and its center passes over and is held over the top of a pin 34 which is fastened to and extends across the sleeve. The open ends of the sleeves are relieved at 35 to permit the jaws to pivot into the dotted line positions.

Here, the jaw members are held against pivoting by the action of the spring 33 and by resting upon the bottom stop or cross part 36 of the sleeve. Thus, one of the jaws may be engaged with the cloth and then by pressing on the sleeve 30, that jaw may be caused to pivot (see dotted line position) and then the other jaw may be engaged with the cloth and upon release of the sleeve, the jaws return to their position (solid lines in FIG. 5) to bunch the cloth together and bite into the cloth.

FIGS. 7—10 show another modification wherein the clip is constructed similarly to that shown in FIGS. 1—4. Here the sleeve 40 is provided with two jaw members 41 as before, but the inner or facing ends of the jaw members are bevelled at 42. The two jaw members are biased together by a spring 43 which is a flat serpentine bent spring having its ends connected to struck-outs 44 formed on the jaws.

In order to separate the jaw members, that is, to extend them outwardly of the sleeve, button means 45 are provided. These means are in the form of a small flat button having an inner floor end portion 45a and a bevel cut shoulder 46. The bevelled ends 42 of the jaw members fit over the floor portions 45a and engage the shoulders 46. The buttons fit through openings 47 formed in the sides of the sleeve so that a button extends out of each side of the sleeve.

It can be seen, that when the two buttons are pushed toward each other as by grasping them between the thumb and forefinger and squeezing them together, their bevelled shoulders 46, engaging the bevelled portions 42 of the jaw members, cause the jaw members to slide apart and remain apart until the buttons are released, when the spring 43 returns the buttons and the jaw members to their original positions.

The sleeve is provided with a central ridge 48 which separates and acts as a stop means for the two buttons 45 as well as acting as a support and guide means for both of the jaw members 41.

FIGS. 11—14 illustrate another modification having a sleeve 50, jaw members 51 fitted into the opposite ends of the sleeve and with the interior of the sleeve being formed with stop shoulders 52 which are engaged by struck lugs 53 formed on the jaw members. The jaw members are pushed together into the sleeve so that their lugs 53 bend and fit over the stop shoulders 52 and then engage the stop shoulder to prevent complete withdrawal of the jaw members from the sleeve.

At least one side of each of the jaw members is ser-

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rated at 54, that is, provided with a wavy line cut or saw tooth cut on its edge.

Means for locking the jaw members in adjusted position are provided in the form of a pair of flat spring members 55 having their outer ends bent into loops 56. These spring members are secured as by welding or soldering to a flattened springy band 57 which may also be formed of a thin, springy, sheet metal and which in turn is fastened directly to the side of the sleeve. The springy band 57 is split as shown in FIG. 12 to form two legs 59, so that one leg 59 is secured to one of the spring members 55 and the other leg is secured to the other spring member.

As shown in FIG. 12, the springs are arranged so that their loops fit into and tightly engage one of the serrations or waves or saw teeth of each of the jaw members to thus releasably lock the jaw member in place. To release the jaw member, the spring members 55 are pushed inwardly toward the sleeve as shown in dotted lines in FIG. 12 to thus pivot its loop out of the engagement with the jaw members so that the jaw members may be moved. Upon release of the springs 55, the loops thereof again engage the jaw members to lock the jaw members in place.

This invention may be further developed within the scope of the following claims. Accordingly, it is desired that the foregoing description be read as being merely illustrative of an operative embodiment of this invention and not in a strictly limiting sense.

We now claim:

1. A clip comprising a sleeve, a pair of jaw members, and a spring means; the sleeve consisting of an elongated, rigid, flat body of uniform cross-section having a central opening extending from end to end thereof and a slot extending the length of the body and formed in one flat face thereof and opening into the central opening throughout its length; said jaw members consisting of a pair of flat, narrow, elongated, thin, rigid sheets, the two jaw members being substantially identical in size and shape and being arranged co-planar and end to end within the sleeve opening with their opposite, remote, ends extending out of the opposite ends of the sleeve, and said sleeve central opening being shaped in cross-section to correspond to the cross-sectional shape of the jaw members for closely but slidably receiving the jaw members for guiding the jaw members for sliding movement towards

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and away from each other in their common plane, said jaw members' opposite ends being bent back toward each other and being formed into sharp teeth for gripping into cloth; said spring means being in the form of a flat, sinusoidally bent, springy wire arranged in face to face contact with both of the jaw members and being completely within the sleeve central opening adjacent to said slot; and a struck-out lug formed in each of the jaw members and extending out of their common plane and fitted into said slot, the opposite ends of the spring each being connected to one of said lugs for interconnecting the two jaw members, with the spring arranged for spring urging the jaw members towards each other whereby the teeth of one jaw member may be engaged with a sheet of cloth and the other jaw member may be relatively pulled away from the first mentioned jaw member, against the spring force and engaged to the cloth for bunching the cloth together.

2. A construction as defined in claim 1, and the opposite end of each of the jaw members, at the point where it normally emerges from the central opening, being bent slightly out of the flat plane of the portion of the jaw member normally fitted within the central opening to form a shoulder for engaging its respective end of the sleeve and thus restraining the respective jaw member from sliding inwardly of the sleeve.

3. A construction as defined in claim 1 and including a jaw member separating means in the form of a button having a portion extending outwardly of a side of the sleeve, and a portion within the sleeve which is provided with bevelled shoulders, the inner ends of the two jaw members being bevelled and being engaged by the shoulders so that pushing the button into the sleeve will wedge the jaw members apart and cause them to move outwardly of each other.

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