

March 5, 1929.

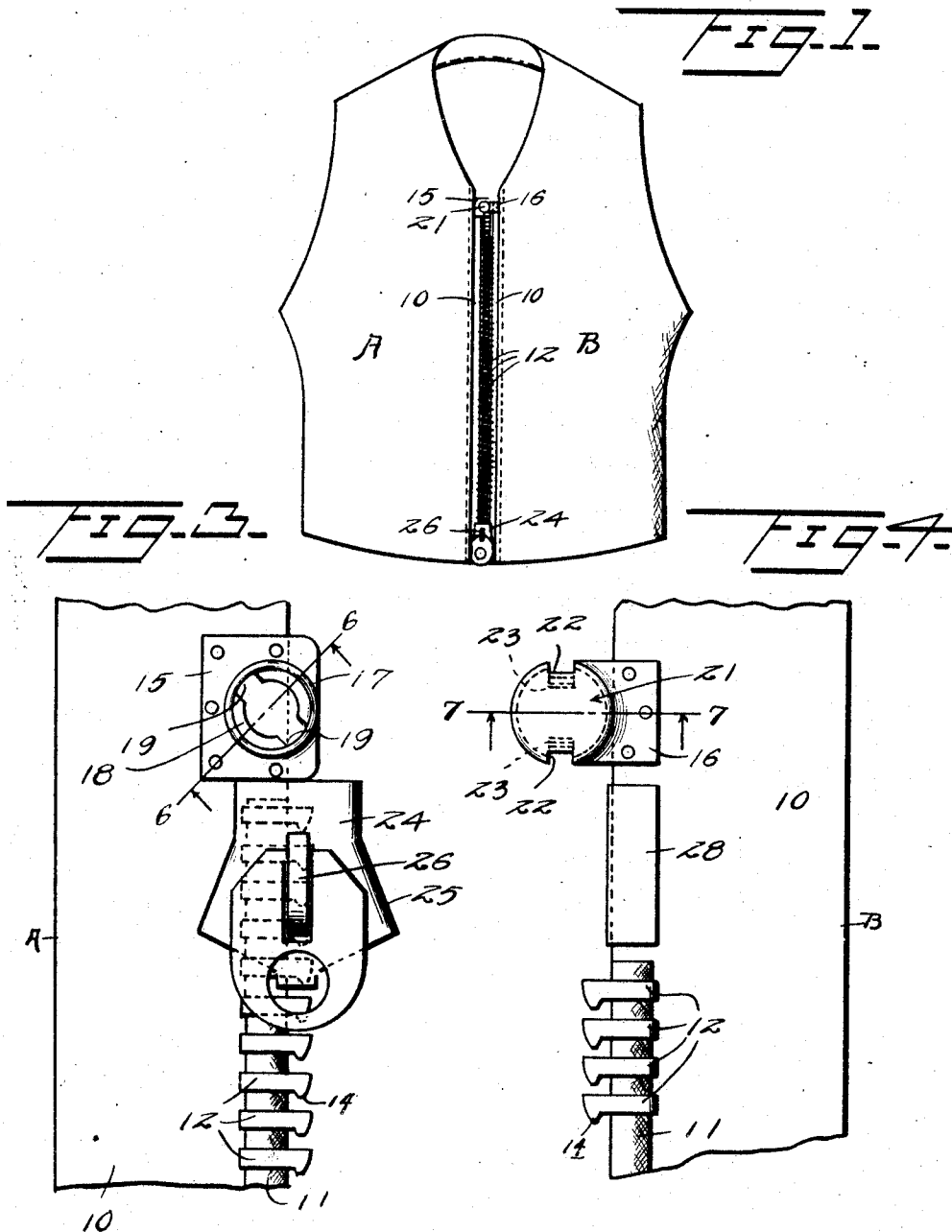
C. L. SANFORD

1,704,579

FASTENER FOR GARMENTS AND OTHER ARTICLES

Filed June 7, 1927

2 Sheets-Sheet 1



INVENTOR.
C. L. Sanford
BY

Watson E. Coleman ATTORNEY.

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2 Sheets-Sheet 2

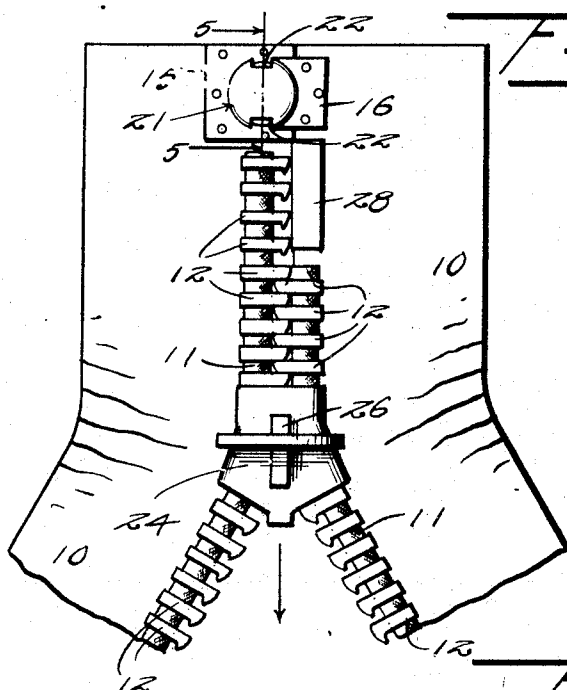


FIG. 2.

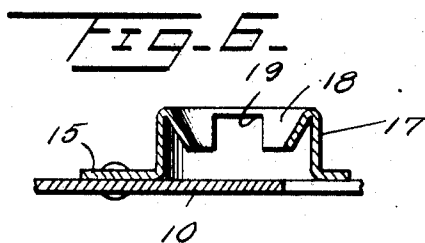


FIG. 6.

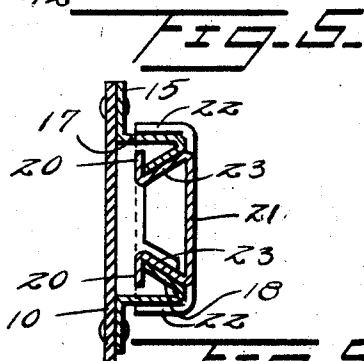


FIG. 5.

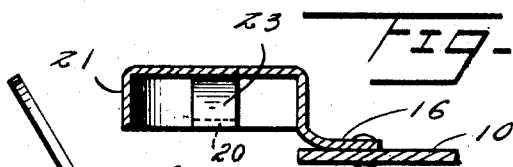


FIG. 7.

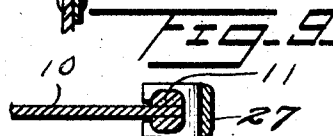


FIG. 9.

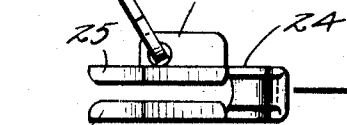


FIG. 10.

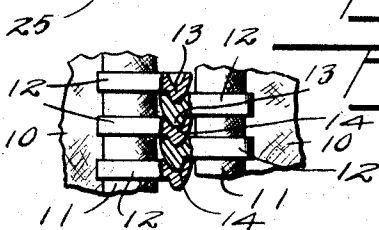


FIG. 11.

FIG. 8.

INVENTOR.
C. L. Sanford.
BY
Watson & Coleman
ATTORNEY.

UNITED STATES PATENT OFFICE.

CHARLES L. SANFORD, OF MEADVILLE, PENNSYLVANIA.

FASTENER FOR GARMENTS AND OTHER ARTICLES.

Application filed June 7, 1927. Serial No. 197,081.

This invention relates to the use of so-called "slider fasteners" wherein two interlocking series of "hook" members are permanently attached to two adjacent parts and operated by a slide either to interlock or separate the two sets of members to thus fasten the two parts together, and particularly relates to the application of such a slider fastener to garments.

These slider fasteners have been used for the purpose of detachably engaging the uppers of galoshes, the meeting margins of tobacco pouches, etc., but never in my knowledge have they been used for holding together waistcoats, coats, jackets, sweaters or articles of this kind wherein the article is open throughout its entire extent as distinguished from being open to a certain degree and having the margins of the article joined at one point.

One of the principal objects of the present invention, therefore, is to provide means whereby the fastener may be used in connection with articles of clothing which are required to open all the way down.

A further object is to provide a combination stop for the slide and a separable locking device which is of such construction that it may be easily disunited or opened when desired but which, when joined, will securely hold the garment together at one point and act as a stop for the slide.

A still further object is to mount the separable elements of the fastener upon tapes, and provide a stop and separable locking device which will securely hold the ends of the tape together in their respective positions when the sliding locking device is to be used, and in this connection to provide a stop and locking device which cannot be opened when the locking slider has been moved along the locking elements away from the stop.

Another object is to provide a combination stop and locking device which does not depend on any spring or other delicate part which by weakening might soon deprive the fastener of its full efficiency.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a view showing my improvement applied to a waistcoat or garment of like character;

Figure 2 is a front view of the upper portion of the tapes which form the margin at the

opening of the waistcoat, showing the locking device applied thereto;

Figure 3 is a fragmentary front elevation of the left hand margin of the garment showing the slide in the position it occupies when the locking devices are released;

Figure 4 is a fragmentary elevation of the right hand margin of the garment with the locking device released;

Figure 5 is a section on the line 5—5 of Figure 2;

Figure 6 is a section on the line 6—6 of Figure 3;

Figure 7 is a section on the line 7—7 of Figure 4;

Figure 8 is a fragmentary elevation of a portion of the garment showing the interlocking members 12 in section;

Figure 9 is a cross sectional view through a portion of the tape and the interlocking members;

Figure 10 is a face view of the structure shown in Figure 9;

Figure 11 is a side elevation of the slide.

Referring to the drawings, A and B designate two lateral margins of a garment, for instance, designed to be connected to each other. It may be assumed that these parts A and B are the lateral margins of a vest or waistcoat and that the fasteners are designed to be used for the purpose of fastening this garment. Attached to the garment in any suitable manner are tapes 10, the tapes being attached to the respective margins of the garment, and each tape is formed at its inner edge with a cord or bead 11. Clamped over these cords, as shown in Figure 2, are a plurality of fastener members 12 such as commonly found in these fasteners. Each of these fastener members at its extremity which extends beyond the cord is formed with a head, the upper surface of the head being depressed, as at 13, the under face of the head being formed with a slight protuberance 14. The fastener members 12 on one cord are disposed in staggered or alternate relation to the fastening members on the other side so that the fastening members interdigitate and the bill 14 of one fastener member will enter the corresponding recess of the other fastener member when the two sets of fastener members are brought into interdigitating relation.

The lower end of the garment has the two margins unattached to each other, but it is necessary that the two margins A and B of

the garment shall be detachably engaged with each other at the other end of the article in order to permit the proper operation of the slide which engages the fastener members with each other and holds them in their engagement or, when moved in the other direction, disengages these fastener members. To this end, I provide two interlocking members 15 and 16. The member 15 consists of a plate of thin metal which is riveted or otherwise attached to the margin of the garment adjacent the upper end thereof and projects slightly beyond the margin of the garment. This interlocking member is pressed into shape and is formed to provide an annular outstanding wall 17 which is turned over at its outer end so as to form two inwardly sloping flanges 18 disposed within the wall 17, these flanges being separated in two places to form passageways 19 for the reception of complementary locking members 20 shown in Figures 5 and 7. The interlocking member 16 which is complementary to the member 17 and coacts therewith is also formed of a flat plate pressed up to provide a circular cap-like member 21. The side walls of this cap-like member extend inward and are slotted at diametrically opposite points, as at 22. These slots extend inward onto the outside face of the cap and extend down to the end of the wall of the cap 21 and the tongues left by slotting the cap as described are bent inward, as at 23, and then outwardly bent to form the opposed locking lugs 20, shown best in Figure 5. These locking tongues 20 are of such width that when the cap 21 is inserted over the wall 17 of the complementary locking member 15, the locking members 21 will pass down through the passageways 19 until the top of the cap 21 of member 16 strikes the top of the wall 17. Then by a turn to the left of the member 16, the lugs 20 will pass under the lower edges of the inwardly sloping flanges 18 and thus the member 16 will be locked to the member 15.

It will be seen from Figure 4 that the member 16 must be turned out of its normal position so as to align the locking lugs 20 with the openings 19, and that when the cap 21 of the member 16 is released, the tension exerted upon the fabric will tend to turn the locking member 16 in a direction to cause these lugs 20 to pass beyond the openings 19 and thus lock the two margins of the garment to each other.

Coacting with the interdigitatable locking members 12 is the slide 24 which is of the form ordinarily found in these fasteners. This slide has the inwardly turned flanges 25 on each side which extend over the butt ends of the two sets of fastening members 12. The lower end of the slide is expanded or has these flanges disposed in divergent relation and the outer face of the slide is provided with a loop 26 whereby the slide

may be manipulated. When this slide is pulled downward or in the direction of the arrow in Figure 2, it will cause the locking members 12 to engage with each other in the manner well known in the art and the slide is pulled down to the extreme lower end of these locking members and then is stopped by the stop members 27 (see Figures 9 and 10) which are clamped over the cords 10 and 11 in the usual manner. When the stop is pulled up, assuming that the two members 15 and 16 of the locking device are engaged with each other, these two members will constitute a stop and the slide 24 can only be shifted upward to this stop.

Inasmuch as the slide 24 is provided with the two inwardly extending flanges 25 which engage over the outer ends of the locking members 12, it is necessary to provide some means whereby one margin of the article can be detached from the slide but the slide left in engagement with the other margin of the article. To this end, I omit the last four locking members 12 and the cord 11 on one margin of the article as, for instance, immediately beneath the member 16 but retain these locking members and cord on the opposite margin A of the article beneath the member 15 and I reinforce this margin B by a thin metallic plate 28 which is insertible between the inner edges of the flanges 25.

Thus it will be seen that after the slide 24 is pulled upward to the upper end of the article so that it overlies the plate 28, the margin B can be shifted out from between the jaws or flanges 25 of the slide and the margin B be flexed so as to turn the cap 24 with reference to the wall 17 and bring the locking lugs 20 in correspondence with the slots 19 to permit the detachment of the member 16 from the member 15. This will open the garment from top to bottom but the slide 24 will be engaged with the four uppermost members 12 and with the cord in the same manner as before so that the slide cannot become detached. When it is desired to re-fasten the garment, the margins A and B of the garment are flexed so that the locking lugs may enter in the slots 19 and then the margins are returned to their parallel position, causing the locking members to have locking engagement with each other. At this time the metal strip 28 slips in between the jaws or flanges 25 and when this has happened the slide 24 may be pulled all the way down to the stops 27 and the two margins of the garment will be joined or interlocked with each other. When the slide 24 is moved away from the interlocked members 15 and 16, the locking members 12 are locked together, thus preventing the member 16 from being turned back to the right or relative to the member 15 and this makes it impossible for the members 15 and 16 to become disengaged. This feature is of utmost importance, as the lock-

ing members 12 might be pulled apart if the members 15 and 16 could become detached from each other. In such an event, the stops 27 would have to be removed and the slide 24 passed off of that end and started on again at the opposite end where the locking members 14 have been pulled apart. The slide 24 will close the locking members 12 together in locking relation as it moves in one direction but will not do so when moved in the opposite direction due to the shape of the slide. The slide 24 opens the locking members 12 as it passes in one way and closes them as it passes in the opposite direction.

It is easy to see that by placing the locking member 16 over the locking member 15 and turning the locking member 16 to the left, the strip 28 on the tape 10 of margin B will come within the jaws or flanges on that side of the slide 24 and there is nothing more to do than to move the slide 24 along the fastening device 12 in order to fasten up a garment or other article to which the fastener has been attached for use.

It will be seen that with this invention it is possible to use a slider fastener of the kind commonly found on galoshes, tobacco pouches and other articles, upon a waistcoat, coat or other article of apparel, or upon any article where two margins are to be engaged with each other but entirely released from such engagement and separated when desired. While I have heretofore referred to this mechanism as being applied to a garment, I do not wish to be limited to this as the mechanism might be applied to many different articles and for many different purposes. It will be seen that I have provided a combination slide stop and locking device which comprises a female member and a male member which are adapted to interlock with each other, and that in a garment it is necessary, in order to interlock these members, that the two margins of the garment should be relatively flexed and that after the two members have been engaged with each other the two margins of the garment will of themselves take a parallel position which will cause the automatic locking of the two locking members.

While I have illustrated a construction wherein this automatic locking occurs by virtue of the bias of the two margins of the garment to return to their parallel position, I do not wish to be limited to this as under some circumstances the two members may be positively turned relative to each other to unlock or disengage the two members. While I have illustrated the retention of a number of the fastening members 12 on the margin A for the purpose of retaining the slide in engagement with said margin when the slide has been shifted to a position against the combined stop and interlocking member, I do not wish to be limited to the use of the locking

members 12 for this purpose as it is obvious that other means might be provided to retain the slide in this position.

I claim:—

1. An article having normally abutting marginal portions separable from each other along their entire length and fastening means therefor including interengaging locking members and a slide engaging therewith, the slide at one end of its path of travel being disengageable from the locking members on one margin to permit the margins to be separated, and means located adjacent this end of the path of travel of the slide for detachably engaging the margins of the article with each other and constituting a stop preventing the slide from traveling off of the locking members, said means comprising interengaging male and female members, the female member having a circular outstanding wall turned over at the outer end to provide an inwardly sloping flange cut away at diametrically opposite points to form passageways, the male member having two locking portions adapted to be inserted in said passageways and turned to carry the locking portions out of alignment with the passageways.

2. An article having normally abutting marginal portions separable from each other along their entire length, fastening means therefor including interengaging locking members and a slide engaging therewith, the slide at one end of its path of travel being disengageable from the locking members on one margin to permit the margins to be separated, and means located adjacent this end of the path of travel of the slide for detachably engaging the margins of the article with each other and constituting a stop preventing the slide from traveling off of the locking members, said means comprising interengaging male and female members, the female member having a circular outstanding wall turned over at the outer end to provide an inwardly sloping flange cut away at diametrically opposite points to form passageways, the male member having two locking portions adapted to be inserted in said passageways and turned to carry the locking portions out of alignment with the passageways, said male member having a circular cap which passes over and around the circular wall of the female member.

3. An article having normally abutting marginal portions separable from each other along their entire length, fastening means therefor including interengaging locking members and a slide engaging therewith, the slide at one end of its path of travel being disengageable from the locking members on one margin to permit the margins to be separated, and means located adjacent this end of the path of travel of the slide for detachably engaging the margins of the article with each other and constituting a stop preventing the

slide from traveling off of the locking members, said means comprising interengaging male and female members, the female member having a circular outstanding wall turned over at the outer end to provide an inwardly sloping flange cut away at diametrically opposite points to form passageways, the male member having a circular cap including a circular wall which passes over and around the circular wall of the female member, the circular cap and wall being cut out at diametrically opposite points to form inwardly sloping lugs whose inner ends are bent laterally outward parallel to the plane of the cap for engagement with the inwardly sloping flange of the female member.

4. A locking device of the character described comprising a female member and a male member, the female member having a base and an annular wall formed to provide an inwardly and centrally extending flange cut away at diametrically opposite points to form passageways, a coacting male member having a base and a circular cap-like portion formed with a circular wall connecting the cap-like portion with the base and adapted to pass over and around the wall of the female member, the male member being cut out at opposite points to form inwardly and centrally sloping lugs angularly bent at their extremities, the lugs being insertible through the openings in the flange of the female member and the angularly bent portions engaging with the lower edge of said flange when the

male member is rotated relative to the female member.

5. An article having normally edge-abutting marginal portions separated from each other along their entire length, fastening means therefor including interengaging locking members and a slide engageable therewith, the slide at one end of its path of travel being disengageable from the locking members on one margin of the article to permit the margins to be separated, and means located adjacent this end of the path of travel of the slide for detachably engaging the margins of the article to each other, said means comprising coacting members, one having an annular flange defining a central opening and having a radially extending gap in said flange, the other having a portion adapted to be inserted into said opening, said portion having a radial projection adapted in one position to pass through the gap in the flange and then by rotation engage beneath the flange, said members being so disposed upon the marginal portions and in such relation to each other that the projection is normally at an angle different from the angle of the gap whereby the members are engaged with each other when the margins of the article are in parallel relation but disengageable when the margins of the article are disposed at a predetermined angle to each other.

In testimony whereof I hereunto affix my signature.

CHARLES L. SANFORD.