

Aug. 4, 1931.

N. J. POUX

1,817,837

FASTENING DEVICE

Filed July 11, 1929

2 Sheets-Sheet 1

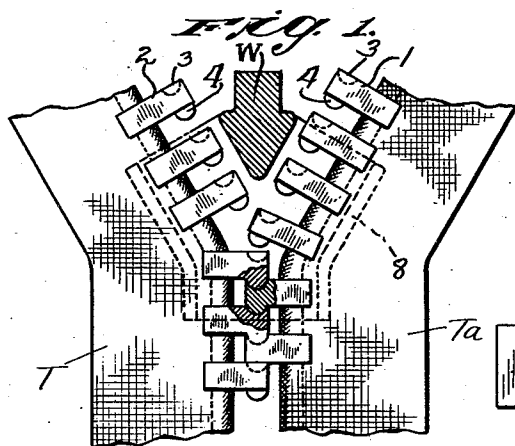


Fig. 4.

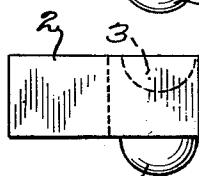
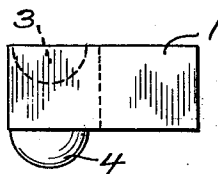


Fig. 5.

Fig. 2.

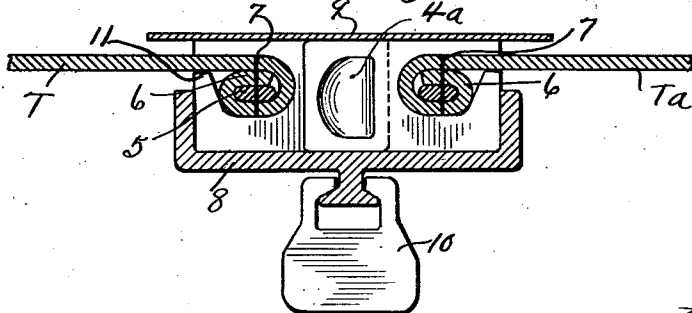


Fig. 3.

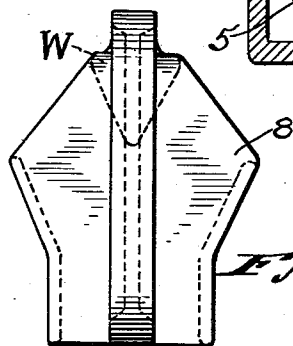
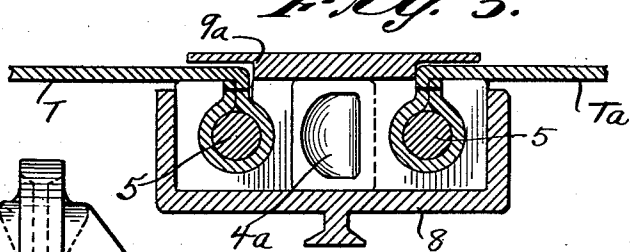
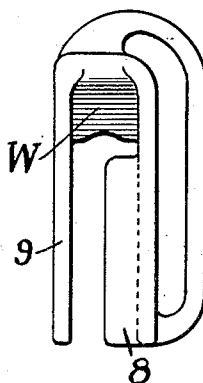


Fig. 19.

Fig. 20.



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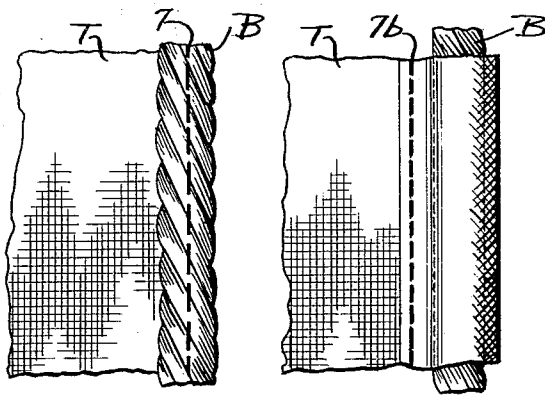
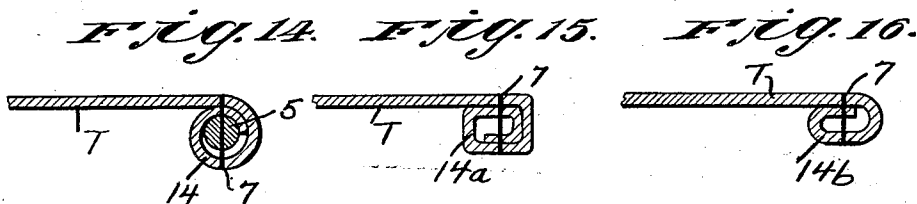
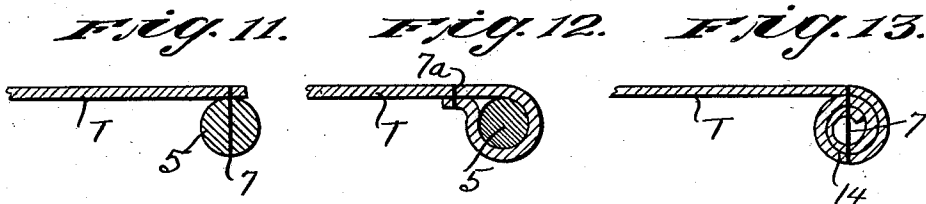
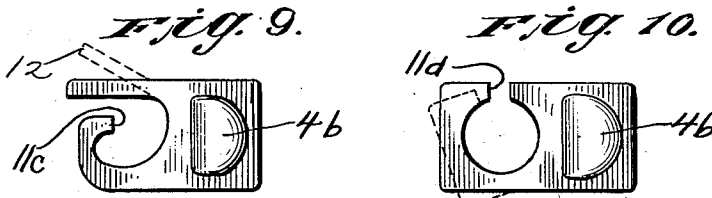
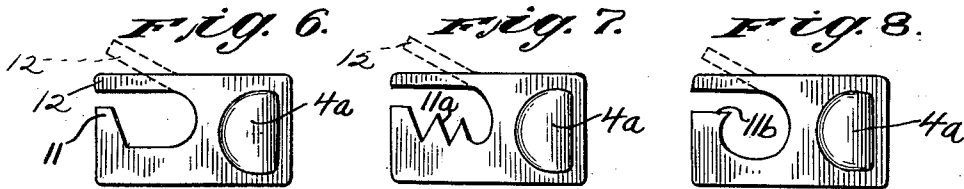
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FASTENING DEVICE

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2 Sheets-Sheet 2



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FASTENING DEVICE

Application filed July 11, 1929. Serial No. 377,357.

My invention relates to a new and improved fastening device.

One of the objects of my invention is to provide improvements in a slide operated type fastener.

Another object of my invention is to provide a new and improved device of this type, which shall make it possible to manufacture the device more cheaply.

Another object of my invention is to provide an article of this type which shall be substantially free upon one face thereof, from objectionable projecting parts so that fastening devices of this type shall be more comfortable to the user.

Other objects of my invention will be set forth in the following description and drawings which illustrate a preferred embodiment thereof, it being understood that the above general statement of the objects of my invention is intended merely to generally explain the same and not to limit it in any manner.

Fig. 1 is a plan view partially in section, showing one embodiment of my device.

Fig. 2 is a lateral sectional view of that part of the device shown in Fig. 1, in which the fastening means are in interlocked or operative position.

Fig. 3 is a view similar to Fig. 2 but showing another embodiment of my invention.

Figs. 4 and 5 are side elevations showing a pair of cooperating fastening members or scoops.

Figs. 6-10 are top elevations showing modified forms of scoops.

Figs. 11-16 are sectional views showing modified reinforcing means for the edges of the stringer which are used in connection with the scoops.

Fig. 17 shows a modification of the reinforcement for the edge of said stringer.

Fig. 18 shows another modification of the reinforcement for the edge of said stringer.

Fig. 19 is a top view of the slide.

Fig. 20 is a side elevation of the slide shown in Fig. 19.

Fastening devices of the slide operated type are well known in which a pair of op-

posing stringers are provided with interlocking fastening members attached to the edges thereof which interlock when they are aligned in cooperating series and which are separated when they are tilted away from this aligned position in the proper manner by a suitable means.

Heretofore, it has been customary to provide each of said scoops or interlocking members with a clamping jaw portion by means of which it is connected to the edge of a tape or stringer and to provide a reinforcement for the edge of said stringer. This jaw portion comprises two legs or fingers, each having inwardly disposed projections of equal size, therefore, this construction necessarily occupied an equal amount of space on both sides of the fastener which together with the extra space taken up by the slide made an unnecessarily objectionable projection, and furthermore, both legs of the jaw portion were outwardly disposed for inserting the edge of the stringer. Thus it was necessary to bend both legs of the jaw portion together which resulted in one leg being bent more than another owing to the fact that it is impossible to construct the two legs so that they bend evenly. As a consequence of this condition the scoops were invariably lop-sided and imperfect when finished.

According to my invention, the stringers or tapes T and T₂ may be of the ordinary type. In the embodiment shown in Figs. 1, 2, 4 and 5, said stringers are provided with scoops 1 and 2 forming complementary pairs and having the usual ball-shaped recesses 3 and the ball-shaped projections 4.

The novel construction of the interlocking members in my invention completely eliminates the bulk along one side of the fastener as can be readily seen in Figs. 2 and 3 and Figs. 6-10 inclusive.

Each scoop comprises a jaw portion for gripping the edge of the stringer. In the embodiment shown in Fig. 6, said jaw portion consists of a leg or finger 11, and a cooperating leg or finger 12. This leg or finger 12 is originally formed in the dotted line position indicated in Fig. 6, so that said

clamping fingers 11 and 12 grip the edge of the stringer when the leg or finger 12 is moved to the full line position shown in Fig. 6, so that it is then approximately parallel to the adjacent edge of the stringer. This novel construction causes the greater part of the body of the fastener to be located only on one side of the stringer, so that the structure on the other side of the stringer is flat and is as free as possible from any projecting ribs or bulky parts. Likewise, since one of the legs or fingers is originally formed in its final position so that only one of the cooperating gripping fingers is bent into final position, it prevents the scoop from being deformed when it is bent to engage the stringer. The leg or finger 12 is made somewhat weaker than the leg or finger 11 so that when the clamping pressure is exerted, only the leg or finger 12 is substantially bent.

The embodiment shown in Fig. 7 is substantially the same, save that the leg or finger 11 is formed with teeth 11a.

In the device shown in Fig. 8, the unbent leg or finger 11b is provided with a re-entrant point.

In the embodiment shown in Fig. 9, the unbent leg or finger 11c is provided with an edge portion which is perpendicular to the stringer when the scoop is clamped into position.

In the embodiment shown in Fig. 10, the leg 11d is originally formed in the dotted line position illustrated, and it is bent to the full line position in order to clamp a laterally projecting edge of the stringer.

A feature of novelty in this construction lies in the jaw portion comprising two legs or fingers 11 and 12, the leg 11 having an intumed projecting portion and the other leg 12 being flat and thin as possible and being formed in an outwardly disposed position for inserting the stringer, after which said leg 12 is bent inwardly toward leg 11 until it is in an approximately parallel position and clamping the reinforced edges of the stringers T and Ta firmly in said jaw portion. This novel construction disposes the greater part of the bulk of the fastener only on one side thereof, thus leaving the other side comparatively flat and free from any projecting rib or bulkiness. The fact that one leg remains straight while the other only is bent to engage the stringer prevents the scoop being deformed through this operation. To insure the bending of only the one leg the said leg is constructed slightly weaker than the other.

It has heretofore also been customary to provide the reinforcement along the edge of the stringer on both faces thereof, and to interlock or separate the scoops by means of a slide which engaged the lateral faces of the scoops on both sides of each stringer.

This resulted in a bulky and unnecessarily expensive construction and the thickness of the device resulting from this construction often made it decidedly objectionable. For example, when fastening devices of this type were applied to overshoes the inwardly projecting portion of the device was uncomfortable because of its bulk and, in addition, the slider occupied a considerable amount of space causing discomfort to the user.

According to my invention the stringers T and Ta are not of the ordinary type and in the embodiment shown in the drawings accompanying this specification they are provided with a reinforced edge only along one face thereof. Thus it is readily seen that the slide may engage the lateral faces of the scoops only on the face of the stringer having the reinforced edge. For convenience, it is assumed that the devices are held in the horizontal position, although, of course, their action is not dependent on any particular position of the stringers and their fastening devices.

As shown in Fig. 2, each of the tapes T and Ta is provided with a cord reinforcement 5 upon only one side of said tape which for convenience may be designated as the outer side. Thus the tape as a whole comprises the web which extends from edge to edge of the tape and the re-enforced portion which is superimposed upon one edge of the web.

For example, if the fastening device shown in Fig. 2 were applied to an overshoe, then the bottom portion of the device would be on the outer side of the overshoe. The tapes T and Ta are provided with inwardly turned edges 6 which embrace the cords 5, and the cords 5 and said inwardly turned edges 6 are held in position by lines of stitches 7. The cords 5 may be of substantially cylindrical shape, as they are flattened when the holding portions of the scoops are forced together so as to be firmly held at the edges of the tapes.

The improved slide 8 comprises a pair of spaced overlying wings connected at one end by a wedge-shaped portion W, one of said wings having intumed edges forming closing flanges for engaging the interlocking members along one side of the stringers. Hence, the greater part of the bulk of the slide member is located only along that side of the fastener which carries the reinforced edge of the stringer, thereby leaving the opposite side of the fastener comparatively thin and free from any undesirable ridge or objectionable projection.

As described above and shown in Fig. 2, the slide 8 is provided with engaging flanges only on one of said overlying wings, thus engaging one side of the scoops and preferably the outer side thereof. The slide 8 is held in position upon the scoops by means

of a thin inner plate 9 which is made as thin and as smooth as possible.

I have found that the action of the slide is in no way impaired by reason of the fact that the inturned edges of the outlying wings are omitted upon the inner faces of the tapes T and T_a and, in addition, this makes the device much more compact. Likewise, the portions of the scoops on the inner faces of the tapes T and T_a are made as small as possible. In the embodiment shown in Fig. 3, the scoops are laterally clamped against the laterally projecting reinforced edges of the tapes T and T_a which are provided with cords 5, as previously described. Likewise, the inner face or wall 9a of the slide 8 is provided with angular recesses along the longitudinal walls thereof, thus producing a very compact structure because the parts projecting on the inner side of the tapes T and T_a are of minimum dimensions.

As shown in Fig. 11, the reinforcing cord 5 may be connected to the tape by a line of stitches 7 without inwardly turning the edge of the tape. As shown in Fig. 12, the reinforcing cord 5 can be connected to the edge of the tape by inwardly turning the edge of the tape, and connecting the inwardly turned portion to the body of the tape by means of a row of stitches 7a.

As shown in Fig. 13, the edge of the tape may be wound into a spiral 14 to reinforce said edge and the spiral turns can be held in position by a row of longitudinal stitches 7.

As shown in Fig. 14, the edge of the tape may be reinforced by a combined cord 5 and a spirally wound edge 14 of the tape, a longitudinal row of stitches 7 also being utilized.

As shown in Fig. 15, the spirally wound edge 14a of the tape may consist of a series of angular turns held in position by a line of stitches 7.

In the embodiment shown in Fig. 16 only a single turn 14b is provided at the edge of the tape. As shown in Fig. 17, a braid B may be utilized for reinforcing the edge of the tape, said braid B consisting of spiral turns of the ordinary type.

As shown in Fig. 18, the braid B may be enclosed in an inturned edge of the tape, which is connected to the body of the tape by a longitudinal row of stitches 7b.

While the preferred embodiment of my invention consists of the combination of parts shown herein, it is obvious that many of these parts could be changed and omitted without departing from the spirit of my invention.

For example, while I have shown the interlocking members applied to tapes, there is no reason why said interlocking members could not be directly applied to the edge or edges of an article such as a pouch, gar-

ment or the like. In general, I wish to cover the improved device as applied to edge members of any type which must be fastened.

For example, and as shown in Fig. 2, it is an important element of my invention to have the interlocking fastening members 7 non-symmetrical with respect to the opposite faces of the edge members T and T_a, whereas in former devices, said fastening members were of substantially equal dimensions on both sides of said faces.

This feature of my invention could be utilized independently of the other improvements disclosed herein.

Likewise, if the longitudinal walls of the slide are on only one pair of the faces of the edge members T and T_a (namely, the corresponding faces thereof), an improved construction is provided, irrespective of the utilization of the other features disclosed herein.

Likewise, it is a novel feature of my invention to inwardly turn the edges of the tapes to reinforce them, and this feature could be utilized either with or without additional reinforcement, such as a cord or braid.

As shown in Fig. 3, the laterally projecting edge portions of the edge members T and T_a extend in the same direction.

I claim:

1. A separable fastener comprising stringers, each stringer comprising a web, and a rib along the edge of said web and only on one side of the web, said rib comprising a cord and a pocket having a wall extending from the web and surrounding the cord and a line of stitches through the wall of the pocket and the web parallel to the edge and interlocking members secured on said stringers along said rib.

2. A stringer for separable fasteners comprising a web, and a rib along the edge of said web and only on one side of the web, said rib comprising a cord and a pocket having a wall extending from the web and surrounding the cord and a line of stitches through the wall of the pocket, cord and web parallel to the edge.

3. A separable fastener comprising stringers, each stringer comprising a textile web having only one rib on only one side and along only one edge, said rib being off-set toward the side of the stringer on which it is placed; and interlocking members secured on said stringers along said ribs, said interlocking members swinging into and out of engagement in the plane of the stringers.

In testimony whereof I affix my signature.

NOEL J. POUX.