This invention relates to fastening means and more particularly to wrist straps, watch straps, and the like and adjustable means for detachably fastening the strap ends to each other.

Frequently in the case of jewelry wrist bands and the like it is desirable to provide adjustable means for detachably fastening the two ends of a wrist strap or adjoining ends of two straps as the case may be. Moreover, it is often desirable that such fastening means be such that it cannot be unfastened with one hand. I have provided a simple, inexpensive and yet foolproof means for fastening strap ends which is simple to fasten and unfasten and yet cannot be unfastened with one hand.

In one embodiment, the improved fastening means of the invention comprises a series of spaced transverse holes extending through one strap end, and a hook means affixed to the other strap end, the hook including a transverse pin spaced from the end of the other strap and insertable in one of the transverse holes to fit snugly therein. By making the strap ends flexible it becomes impossible to remove the pin from the hole with one hand and yet it remains extremely simple to do so with two hands.

This feature of the invention which makes it impossible to unfasten with one hand is particularly advantageous for children's wrist bands and the like. It is impossible for a child, either by accident or design to unfasten such a wrist band.

In U. S. Patent No. 2,252,598, issued December 24, 1940 I described a thumb guard designed to break children of the thumb sucking habit. The fastening means of the invention is ideally suited for use with such a device since it cannot be taken off by the child and since, once adjusted to the proper size, any f ree end may be cut off. The present invention is described with relation to an improved thumb guard although it is equally applicable as a fastening means for other wrist bands, garment straps and the like.

The invention will be more clearly understood from the following detailed description taken in relation to the accompanying drawing in which:

Fig. 1 is a side view of two strap ends forming the fastening means of the invention;

Fig. 2 is a section taken on the line 2-2 of Fig. 1;

Fig. 3 shows an improved wrist band in accordance with the invention; and

Fig. 4 shows an improved thumb guard in accordance with the invention.

Referring to Figs. 1 and 2, the fastening means of the invention includes two flexible strap ends 10 and 11. The end 10 has affixed thereto, or formed integrally therewith, a series of transverse holes 12, 13, 14, 15. If the strap 10 is formed of molded rubber plastic or the like the holes 12, 13, 14, 15 may be formed integrally as shown. Otherwise, the holes may be formed by affixing tubular members transversely across the end of a strap. It is not essential that these holes extend clear across the strap nor that they be open at both ends. However, the illustrated embodiment is easier to produce in a molding operation.

A hook 16 is affixed to the end 11 and includes a pin 16A spaced from and substantially parallel to the end edge of the strap 11. The hook 16 is conveniently formed in the shape of an S with two legs 16B and 16C affixed to or embedded in the strap 11. In a molded article it is convenient to embed the two legs of the hook member in the end of the strap in the manner shown. By affixing two legs of the S-shaped hook member to the strap the hook is prevented from pivoting and is not as likely to tear loose from the strap.

In fastening the strap ends 10 and 11 together the leg 16A of the hook member is inserted in one of the transverse holes in the end 10 as for example the hole 15 as shown in Figs. 1 and 2. To insure a snug fit the pin 16A may be provided with a small projection 18 which engages the walls of the hole in which the pin is inserted.

An improved wrist band in accordance with the invention is shown in Fig. 3. Ends 20A and 20B of the band 20 are flexible and it is therefore impossible to unfasten the same with one hand although they may be readily fastened with one hand. This being the case, it is obvious with reference to Fig. 3 that the wearer could not take the strap off his own wrist. This is true since any attempt to remove the pin 16 by twisting the end 20B will serve to wedge the pin tightly in the hole. At the same time the fastening means is extremely simple to unfasten with two hands. By using two hands the ends 20A and 20B may be moved laterally with respect to each other to slip the pin 16 from the hole in which it is inserted.

In Fig. 4 there is shown an improved thumb guard of the type shown in Patent No. 2,252,598 and particularly adapted to break a child of the thumb sucking habit. The thumb guard includes a pliable, ribbed body member 30 adapted to overlie the user's thumb and extending backwardly to a point adjacent the wearer's wrist. The body is provided with a depending loop 32 which encircles the thumb. The body 30 is made...
of a soft resilient material to prevent injury to the child and is provided with a series of spaced holes (not shown) for ventilation and to prevent the formation of any vacuum if the child attempts to suck his thumb with the guard on it.

In the improved thumb guard shown in Fig. 4 a wrist band 33 is formed as an integral part of the guard in a single molding operation and the two sections 33A, 33B of the band 33 include the improved fastening means of the invention. Thus, the section 33A has a hook 34 similar to the member 16 (Fig. 2) embedded in the end thereof. The section 33B, which is preferably longer than section 33A, is provided with a series of transverse holes 35, 36, 37.

A feature of the invention as applied to the thumb guard is that once the proper adjustment is obtained any free end of the section 33B may be cut off adjacent the hole in which the pin is inserted, i.e. the hole 37 in the drawing. In this manner there are no free ends which can get caught while the child is playing or which the child can chew upon or otherwise play with.

The invention also contemplates, therefore, an improved thumb guard comprising a ribbed pliable body member adapted to overlie the thumb, a loop attached to the body member and adapted to fit around the thumb, and wrist straps affixed to the body member, one strap being provided with a series of spaced transverse holes adjacent its end, and a hook member affixed to the end of the other strap and including a pin adapted to fit snugly in one of said transverse holes.

Because of the feature that the strap cannot be undone with one hand and the fact that any extra length may be cut off to the exact point of adjustment, the fastening means of the invention is particularly suited to children’s use. However, it may also be applied, as above mentioned, in any article of apparel or otherwise where two ends of a strap or ends of two straps are to be joined to each other and where adjustability and simplicity are important.

I claim:

A thumb guard comprising a flexible, ribbed body member adapted to overlie the thumb, a loop depending from the body to fit around the thumb, two flexible wrist straps formed integrally with the body member, one strap being longer than the other and provided with a series of spaced transverse holes adjacent its end, and a hook member, the hook member being S shaped and having two legs embedded in the end of the other strap and a third straight leg spaced from and parallel to the end of said other strap, the third leg being adapted to fit snugly in one of said transverse holes.

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