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L. E. GOLDMAN
PEDIATRIC APPLIANCE
Filed May 9, 1938

2,211,203

FIG. 1.

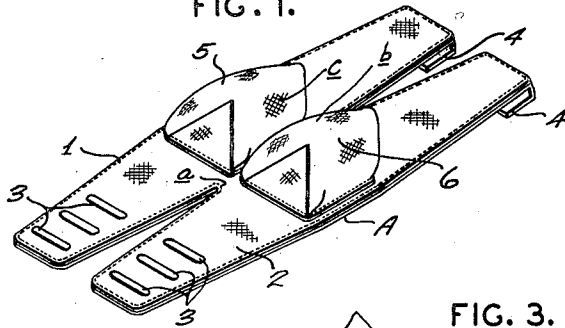


FIG. 2.

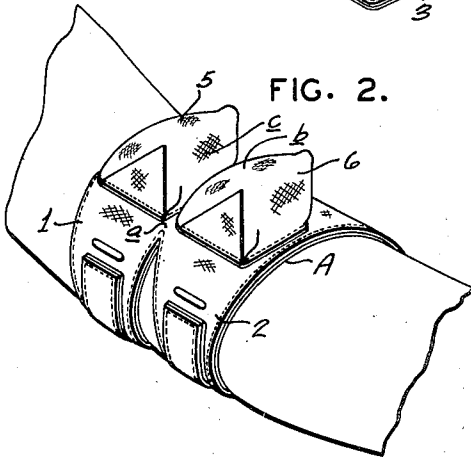


FIG. 3.

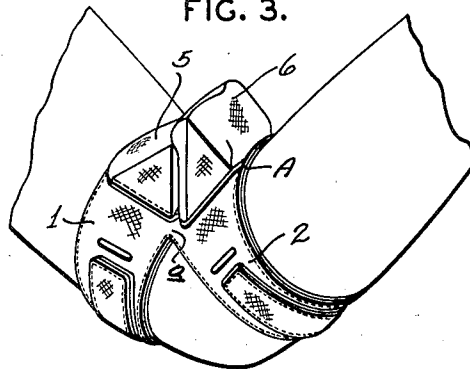


FIG. 4.

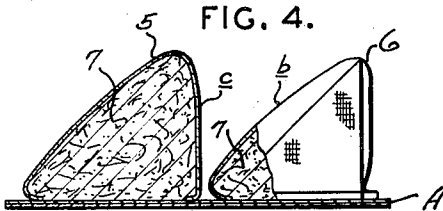


FIG. 5.

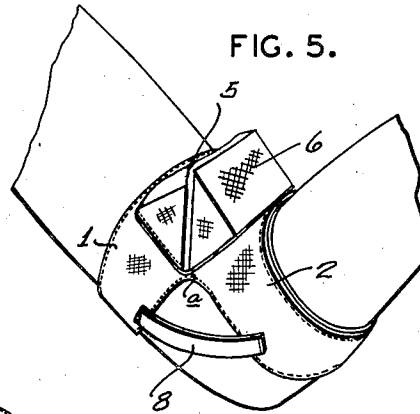
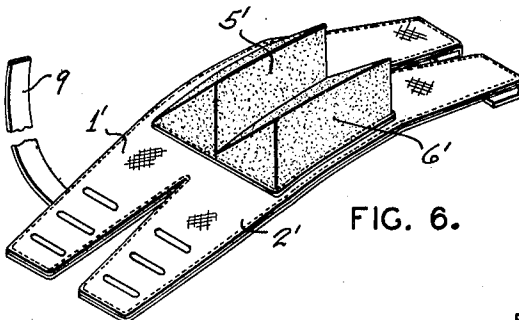


FIG. 6.



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2,211,203

PEDIATRIC APPLIANCE

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Application May 9, 1938, Serial No. 206,769

3 Claims. (Cl. 128—136)

This invention relates generally to medical appliances. More particularly, my invention relates to a certain new and useful improvement in pediatric appliances for preventing the formation of the habit of thumb-sucking.

My invention has for its primary objects the provision of a simple, inexpensive appliance of the type and for the purpose stated which may be easily and conveniently applied upon the child, which is comfortable, sanitary, and durable, and which is highly efficient in the performance of its intended functions.

And with the above and other objects in view, my invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawing,

Figure 1 is a perspective view of a pediatric appliance constructed in accordance with and embodying my present invention;

Figures 2 and 3 are perspective views of the appliance in applied operative position on a child's arm;

Figure 4 is an enlarged side elevational view, partly broken away and in section, of the appliance; and

Figures 5 and 6 are perspective views of slightly modified forms of the appliance.

Referring now in more detail and by reference characters to the drawing, which illustrates practical embodiments of my invention, the appliance comprises an arm-encircling band A which, in turn, includes a pair of similarly shaped straps 1, 2, each constructed of washable duck, canvas, or other suitable material and preferably integrally joined or connected together, as at a, for a short distance midway their length for relative hinge movement, for purposes presently appearing.

The arm-straps 1, 2, are each longitudinally provided at one end with a series of spaced slits 3 for co-operable engagement with a preferably suitably covered hook 4 provided on their other end for adjustably mounting the band A detachably at the proper location upon the child's arm, as shown.

Suitably fixed preferably in the mid-section of each of the straps 1, 2, in transverse alignment on either side of the hinge line a, is a companion or co-operable pair of similarly shaped upstanding pillow blocks 5, 6, each having substantially the form of a right section of a prism. Each of the pillow blocks 5, 6, includes an outer member or covering of washable duck, canvas, or any other

suitable material and a fairly tightly compacted cushion-filler 7 preferably kapok, although, in some instances, sawdust, balsa wood, sponge rubber, or the like may be employed.

As will be seen by reference to Figures 1 and 2, the inclined or oblique face b of the block 6 is in opposed juxta-position to the more or less upright face c of the companion block 5, and, of course it will be understood that the filler 7 of the pillow-blocks 5, 6, may be compacted to a greater or lesser degree of hardness and rigidity to meet the particular requirements of the application.

In use, the appliance is mounted upon the child's arm in such a manner that the one strap 1 encircles the arm slightly above the elbow and the companion strap 2 slightly below the elbow, the hinge line a being hence disposed approximately across the crook or inside of the elbow and the blocks 5, 6, consequently disposed likewise substantially in the crook of the arm on either side of the elbow-joint.

In normal activities, the child will have free use of its arm and may bend its arm with more or less unobstructed freedom for play or other activities. Should, however, the child endeavor to bend its elbow sufficiently to bring its hand to its mouth and into thumb-sucking position, the inclined face b of the block 6 will impinge with the more or less rigid upright face c of the block 5, thereby effecting a more or less rigid locking action and limiting further elbow movement accordingly.

It will, of course, be evident in this connection that the angles of inclination of the respective faces of the blocks 5, 6, will regulate and determine the amount of freedom of movement permitted to the child. Thus, for instance, if it is desired to allow the child very limited upward movement of the arm, the inclined face b may be disposed at such an angle to the more or less upright face c, so that the two co-operable faces will come into engagement or impingement upon relatively short swinging movement of the arm. Conversely, by increasing the angularity between the faces b and c, greater freedom of movement may be permitted the child.

In some cases, where the infant has particularly well developed arm muscles, it is possible in bending the arm to exert extreme pressure against the pillow blocks 5, 6, and force either one or both of the arm-encircling straps to slide slightly along the arm. This can be very readily overcome when necessary by stitching or otherwise securing a straight length of cloth tape 8

at its respective ends to the straps 1, 2, at opposed points along their adjacent margins, the tape 8 being of considerably greater length than the normal distance between such arm-band points when the arm is in unflexed position and, at the same time, being short enough to restrain the swinging movement of the arm-bands away from each other during bending movement of the child's arm, as best seen in Figure 5.

In the case of somewhat more mature infants, it has been found advantageous to employ pillow blocks molded of soft finely grained lightweight rubber, in which case the arm-straps 1', 2', may be constructed and fabricated substantially as described and equipped with pillow blocks 5', 6', molded or otherwise formed from rubber, preferably of the type mentioned, and having a greater arm-encircling length, as best seen in Figure 6. It has been found that this modified form of the appliance is particularly useful in the care of children who have already formed a thumb-sucking habit and are sufficiently mature intellectually to discover ways and means of avoiding the restraint placed upon them by the present appliance. For instance, some children, after repeated trials, learn to manipulate the arm-straps about their arm and thereby shift the blocks from the arm crook when the elbow is bent. By utilizing a more or less flexible pair of pillow blocks 5', 6', of substantially greater arm-encircling length, this removal of the blocks is readily overcome.

I may add that, in the care of older, more active infants, to prevent the appliance being shifted or slipped, in its entirety, downwardly along the arm toward the wrist, a piece of suitable movement-limiting tape 9 may be sewed or otherwise attached to one margin of the upper arm-strap for suitable securement to the infant's underwear or clothing at the shoulder.

It will be evident that, by my invention, I have provided an appliance, the efficacy of which for its intended purposes has been firmly established by clinical experiment and observation. In addition, I have provided an appliance which positively prevents thumb-sucking without imposing any unnecessary or harmful limitation and restraint upon the arm movements of the child, and which, therefore, does not interfere materially with its play or development. The appliance is, further, inexpensive and simple in structure and conveniently applied, and is sanitary, healthful, and durable, the appliance being very readily washed and sterilized and being constructed of soft, harmless materials in no way

injurious to the child in case of falling or other accident.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the appliance may be made and substituted for those herein shown and described without departing from the nature and principle of my invention.

Having thus described my invention, what I claim and desire to secure by Letters Patent is,

1. A pediatric appliance comprising a pair of arm straps sidewise disposed and flexibly joined for a portion of their length along abutting margins in the formation of a longitudinally extending hinge-line, means on the opposed ends of the respective straps for detachably securing the same upon the upper and lower arm portions with said hinge-line extending over and in juxtaposition to the crook of the elbow, and co-operable members mounted on the straps upon opposite sides of said hinge-line for impinging engagement for limiting elbow movement of the arm.

2. A pediatric appliance comprising a pair of arm straps sidewise disposed and flexibly joined for a portion of their length along abutting margins in the formation of a longitudinally extending hinge-line, means on the opposed ends of the respective straps for detachably securing the same upon the upper and lower arm portions with said hinge-line extending over and in juxtaposition to the crook of the elbow, and pillow blocks of prismatic conformation upstanding from said straps upon opposite sides of said hinge-line for impinging engagement for limiting elbow movement of the arm.

3. A pediatric appliance comprising a pair of arm straps sidewise disposed and flexibly joined for a portion of their length along abutting margins in the formation of a longitudinally extending hinge-line, means upon the opposed ends of the respective straps for detachably securing the same upon the upper and lower arm portions with said hinge-line extending over and in juxtaposition to the crook of the elbow, and prismatic block members mounted on and projecting upwardly from the straps upon opposite sides of said hinge-line, one of said blocks having a side face substantially parallel to the hinge-line and disposed in a plane substantially at right angles to the straps and the other of said blocks having an obliquely disposed face for impinging engagement with the side face of the other block upon relative movement of the straps through a predetermined angle about said hinge-line for limiting elbow movement of the arm.

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