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CHILD-RESTRAINING DEVICE FOR PHYSICIAN'S USE

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2 Sheets-Sheet 1

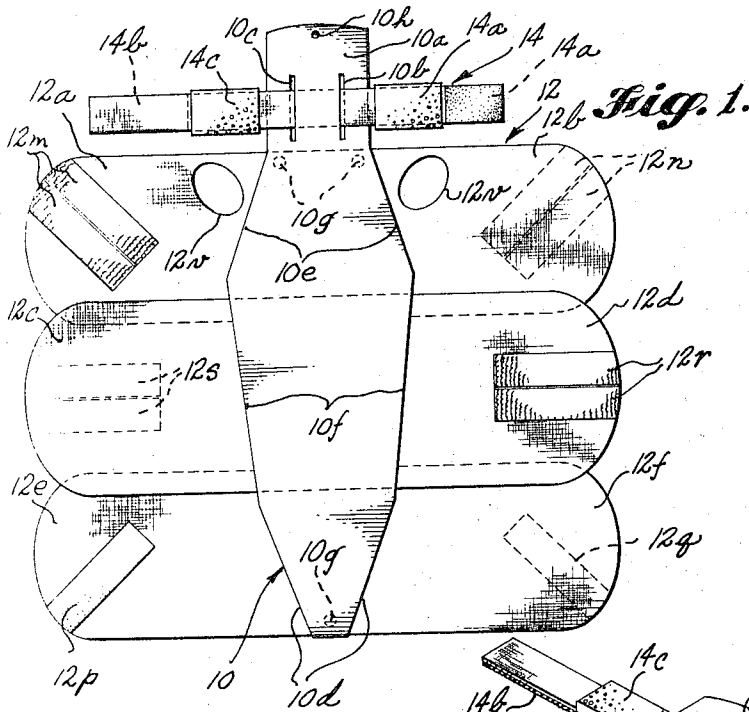


Fig. 1.

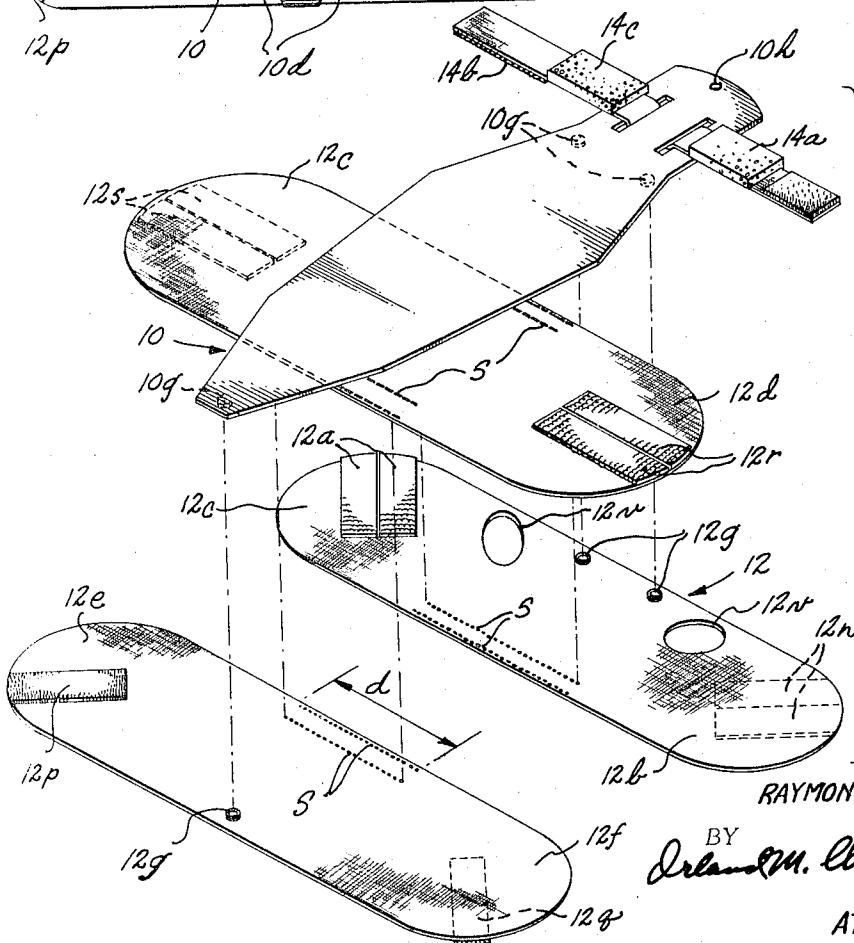


Fig. 2.

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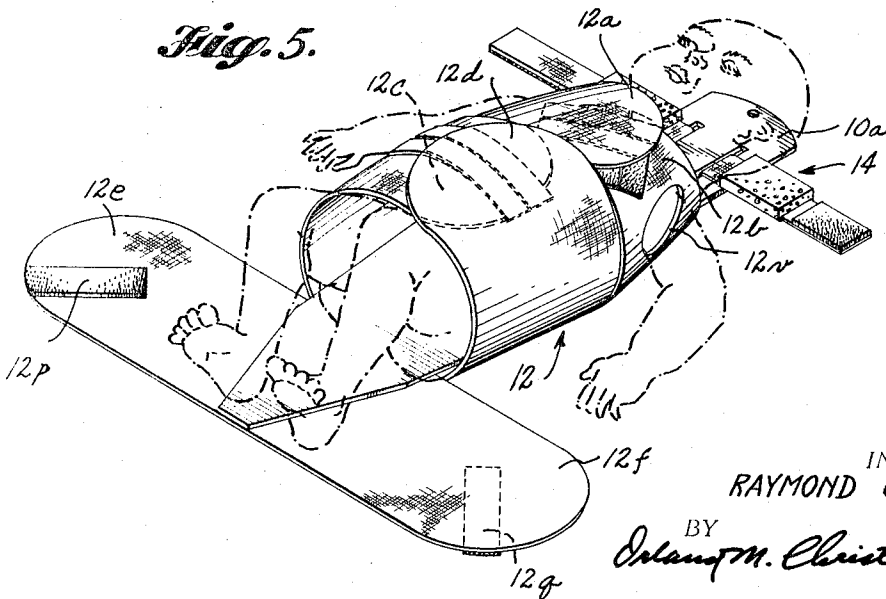
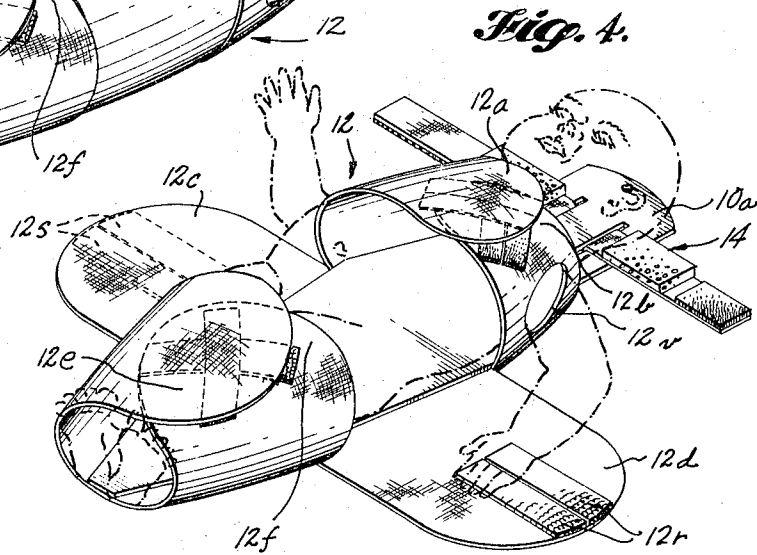
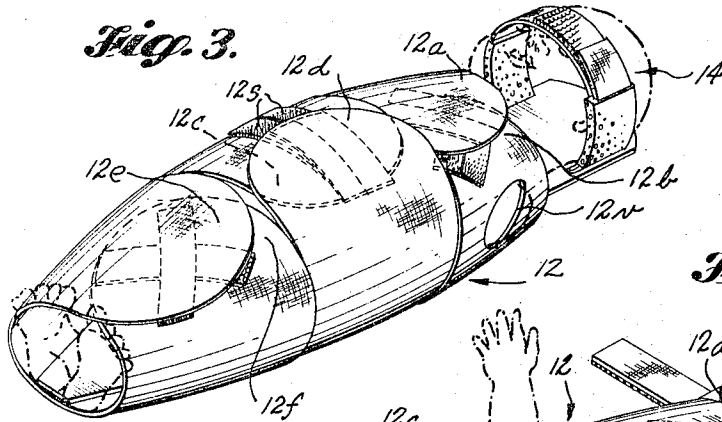
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CHILD-RESTRAINING DEVICE FOR PHYSICIAN'S USE

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This invention relates to a new and improved means for immobilizing or restraining a child for use in a physician's office, hospital examination room, or similar establishment in which medical examinations and minor operations are to be performed. The invention is herein illustratively described by reference to the presently preferred embodiment thereof; however, it will be recognized that certain modifications and changes therein with respect to details may be made without departing from the essential features involved.

Children in the age category of one to five years are frequently unwilling to submit quietly to medical examination and/or minor surgery, or if they are willing to do so, often have an attention span so short that they do not remain in one position long enough for the described purposes. Being impressionable, however, they are easily terrified by prospect of being strapped down on an examination or operating table, assuming one were provided with the necessary adaptations, including suitable restraining devices, which is usually not the case. An object of this invention, therefore, is to devise a child-restraining device which will be acceptable to a child because of its relatively innocuous appearance and the fact that it is essentially "worn" like clothing with which the child is familiar, yet will in use effectively immobilize the child, or those portions of the child's body which must be still during the examination or operation. In the disclosed embodiment the restraining device of this invention may be applied to the child while he stands erect, if desired, as if he were donning a coat for example, yet when the child is placed on his dorsal side wearing the device, his own weight will anchor the base of the device with sufficient stability that the restraining elements encircling different parts of the child will effectively immobilize those parts. The stage of shifting the child from an erect position to a reclining position with the device attached, if that procedure is used, is not necessarily repugnant to a child since, with proper handling, the child can be given to understand that he is simply being asked to lie down with the help of the doctor. In many cases either the arms or the legs can be left free, so that the feeling of entrapment and a consequent traumatic reaction to the experience which could be emotionally injurious in later life can be avoided.

A further object of this invention is to devise a relatively inexpensive and durable child-restraining device which is of compact and conveniently storable form, so that when not in use it occupies negligible space and if desired can be hung on a wall or placed on a shelf. A related object is to devise a means of the described nature which employs a separable sheet material girdle unit which can be removed from the base or panel member for laundering and sterilization as required.

Still another object hereof is to devise a child-restraining device which is so constituted that only that portion or portions of the child requiring restraint need be immobilized, so as to permit exposing the remaining parts for examination or for freedom of movement if practical.

These and related objects of the invention are attained in accordance with this invention by the provision of a rigid base or panel member having length and width dimensions approximating those of a child's body, so as to provide a support for the dorsal side of the child, and

a flexible sheet material unit attached to the base, preferably removably, comprising a plurality of sets of flaps respectively adapted to encircle and thereby to restrain different portions of the child's body when the flaps of each set are suitably interconnected. In the preferred embodiment there are three such sets of flaps, and the sheet material strips forming them are successively interconnected at their edges into a unitary sheet structure separably attached to the bottom or reverse side of the base panel. The individual flaps of each set projecting freely laterally beyond opposite side edges of the panel member and, being independently movable into positions for interconnection encircling different portions of the child's body, one such set of flaps may encircle the upper torso of the child, a second set the lower torso, and a third set the legs.

In the preferred and most advantageous form of this invention the rigid panel member also includes a head portion which projects endwise from the body portion thereof so as to underlie the child's head. This head portion carries a headband adapted to removably encircle the child's head and thus hold it in a given positional relationship to the child's body. Also, the respective opposite end portions of the panel member converge endwise so that the associated securing flaps when drawn over the respective edge portions of the panel and around the child form a generally conical enclosure best suited for effective restraint with comfort to the child. The upper torso-encircling flaps have armholes which may or may not be used, depending upon the need to restrain the arms.

These and other features, objects and advantages of the invention will become more fully evident from the following description thereof by reference to the accompanying drawings.

FIGURE 1 is a plan view of the device shown with its flaps laid out horizontally and with its headband similarly disposed.

FIGURE 2 is an exploded isometric view of the device with the three parts of the girdle sheet unit separated from each other for convenience in illustration.

FIGURE 3 is an isometric view of the device in use with all sets of flaps and the headband enclosed around a child to completely restrain him.

FIGURE 4 is a view similar to FIGURE 3 with the headband and the lower torso-encircling set of flaps released.

FIGURE 5 is a view similar to FIGURE 3 with the headband and the lower torso-encircling set of flaps released.

In FIGURES 4 and 5 the child's arms are permitted to pass through the armholes in the upper torso-encircling flaps, whereas in FIGURE 3 the child's arms are also restrained.

Referring to the drawings, the illustrative restraining device embodying this invention comprises the rigid support panel or base member 10 having length and width dimensions approximating those of a child to be supported thereby, and a flexible sheet material girdle unit 12 separably fastened to the support member 10. In addition, a headband 14 is provided which is preferably separate from the girdle unit 12.

The rigid support member 10 preferably is in the form of a generally flat and elongated panel such as may be cut from quarter inch plywood or hardboard, for example, although it may be molded of plastic or other material if desired. Instead of being perfectly flat, it may have a concave face to conform in somewhat greater degree to the dorsal side of a child's body, although for reasons of cost and simplicity in manufacture a flat panel is preferred and functionally is adequate. The panel includes a projecting head portion 10a adapted to underlie the

child's head and this head portion includes two transversely spaced slots 10b and 10c through which the intermediate portion of the headband 14 may be passed in order to locate the headband in the desired position. These slots extend lengthwise of the elongated panel unit and are longer than the headband is wide, so as to permit adjusting the position of the band longitudinally of the restraining device and thereby to position the strap to encircle the desired portion of the child's head, usually his forehead.

The body portion of the base panel 10 preferably is of doubly tapered form, including at its foot opposite edge portions 10d which converge toward the foot extremity of the panel and opposite edge portions 10e at its head and which converge endwise toward the head portion 10a. In the intermediate region the panel side edges 10f converge slightly toward the foot. Button-type snap fittings 10g are installed on the reverse or bottom side of the panel unit, two near the head and one near the foot thereof. These are engageable by the complemental snap fittings 12, respectively, carried by the sheet material girdle unit 12.

Girdle unit 12 in the illustrated case comprises three sets of flaps, namely the flaps 12a and 12b adapted to encircle the upper torso of a child, the set of flaps 12c and 12d adapted to encircle the lower torso of the child and the set 12e and 12f adapted to encircle the child's legs. These sets of flaps are formed by elongated sheet material strips which are of approximately the same length and width and which extend transversely of the length of the base panel unit 10, so that the respective flaps provided thereby project laterally freely beyond the opposite side edges of the panel unit. Consequently, the flaps 12a and 12b are in longitudinal registry with and project laterally beyond the edge portions 10e, whereas the flaps 12c and 12d register with the project laterally beyond the edge portions 10d. Intermediate flaps 12c and 12d register with the midregion of the panel body and project laterally beyond the opposite edge portions 10f. When the flaps are drawn over and around the child, the angularity of the respective edge portions of the base with which they are in registry will direct the flaps in a particular manner, and as will be seen from FIGURE 3 et seq. the endmost sets of flaps will thereby be directed to form generally conical enclosure spaces best suited to comfortably and effectively restrain the encircled portions of the child's body and/or legs. The three sheet material strips just described which form the flaps are joined together in successive overlapping relationship by suitably stitching the sheet material together at a location intermediate their ends, as shown at S in FIGURE 2. This stitching extends only a fraction of the length of the strips, as shown by the dimension *d*, so that the respective sets of flaps may be folded over the child independently of each other. Yet the strips are joined together so that the three strips which comprise the three sets of flaps make up a single unit which can be readily removed from the panel member 10 by releasing the snap fittings in order to launder or clean the fabric or other material comprising the girdle unit 12.

In order to secure the flaps 12a and 12b together encircling the child's upper torso and to hold the child snugly against the base panel 10, regardless of the child's girth, the preferred means for securing the flaps on to another comprises the patches 12m of loop material and cooperating patches 12n of hook material. A myriad of small plastic hooks projecting from the exposed face of the patches 12n engage detachably with the myriad of loops formed on the patches 12m according to the well known commercially available elements. Preferably, the patches 12m are of elongated form extending on a bias on flap 12a, whereas the patches 12n are of similar configuration and disposition on the flap 12b, such that the patches 12m and 12n come into superimposed intersecting relationship and thereby insure interengagement of loops and hooks regardless of variations in the amount

of mutual overlap of the flaps 12a and 12b. Hook patch 12p and loop patch 12q are secured to the flaps 12e and 12f, respectively, in the same positional relationship as the patches 12m and 12n on their respective flaps, and for a similar purpose. Loop patches 12r and hook patches 12s mounted respectively on flaps 12d and 12c extend in a transverse direction, i.e. lengthwise of the later flaps, for interengagement when these flaps are overlapped encircling the child. It will be apparent, however, that other securing means may be employed for accomplishing the desired result.

Preferably, the headband 14 likewise includes a hook patch 14a and a loop patch 14b as the means of securing the ends of the bands together around the brow of the child. Foam rubber or similar cushioning pads 14c and 14d may be provided on the head strap for the child's comfort.

A hanger hole 10h is provided in head portion 10a, so that the device may be suspended from a wall hook if desired.

Armholes 12v in flaps 12a and 12b are available in case the child's arms are to remain unrestrained (FIGURES 4 and 5).

Because the sets of flaps may be secured independently of each other the physician's purposes may be served with minimum necessary restraint upon the child, and any body area may be exposed for examination or operation as required.

These and other aspects of the invention will be evident to those skilled in the art having reference to the foregoing and within disclosure of the preferred embodiment thereof.

I claim as my invention:

1. A child-restraining device for physicians' use comprising a generally flat and elongated panel adapted to supportingly contact the dorsal side of a child, said panel including a head portion and a body portion joined thereto and having opposite side edges which at the end adjacent the head portion converge mutually toward the head portion and at the opposite end converge mutually in the opposite direction, a headband connected with the head portion and adapted for holding the child's head against said head portion, and a flexible girdle sheet assembly separably fastened to the back side of said body portion with three sets of flaps freely projecting laterally beyond the opposite side edges of the body portion, the flaps of said three sets being independently adapted to be drawn into overlapping relationship and to be interconnected cooperatively encircling respectively the child's upper torso, lower torso and legs, with said upper torso encircling flaps having armholes therein adjacent said panel.

2. The device defined in claim 1, wherein the flaps are successively interconnected at edge locations thereon underlying the panel, and wherein the converging side edges at the opposite ends of the body portion extend substantially across the widths of the respective flaps which encircle the upper torso and legs, thereby to form generally frusto-conical confinement enclosures.

3. The device defined in claim 2, wherein the cooperating flaps of each set have interengageable pads of the type comprising a large number of hook and pile elements and wherein the cooperating pads on the flaps of at least certain sets extend at opposite angles substantially across a major portion of the width of such flaps.

4. A child-restraining device for physicians' use comprising a generally flat and elongated panel adapted to supportingly contact the dorsal side of a child having opposite side edges which converge endwise at the respective ends thereof and a flexible girdle sheet assembly separably fastened to the back side of said panel with a plurality of sets of flaps freely projecting laterally beyond the opposite side edges of the panel, the flaps of said sets being independently adapted to be drawn into overlapping relationship and to be interconnected cooperatively encircling respectively different parts of the child, one set of

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flaps being located to encircle the upper torso and having armholes therein adjacent said panel.

5 5. The device defined in claim 4, wherein the flaps are successively interconnected at edge locations thereon underlying the panel, and wherein the converging side edges at the opposite ends of the body portion extend substantially across the widths of the respective flaps which encircle the upper torso and legs, thereby to form generally frusto-conical confinement enclosures.

10 6. A child-restraining device comprising a rigid elongated panel-like member having length and width dimensions approximating those of a child superimposed thereon, said member having an intermediate portion and respective end portions tapering in width endwise from said intermediate portion and disposed generally to lie respectively beneath the child's upper and lower torso, a set of flexible flaps projecting freely laterally beyond the opposite side edges of each of said tapering portions so as to be directed by said side edges respectively into mutually angled intersecting relationship when said flaps are drawn

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into cooperative child-encircling positions, and means to fasten the flaps in such positions, thereby to form opposed generally conical enclosures which restrain the child against shifting endwise and transversely of the member.

7. The device defined in claim 6, wherein the flaps which encircle the child's upper torso having armholes therein adjacent the member.

8. The device defined in claim 7 further including a third set of flaps freely projecting laterally beyond the opposite side edges of the member in relative positions to permit encirclement of the child's legs thereby.

9. The device defined in claim 6, wherein the sets of flaps are edge-joined together where they underlie the member and are detachably fastened to such member.

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20 ADELE M. EAGER, *Primary Examiner.*