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E. D. LAW

2,623,678

INFANT'S RESTRAINING HARNESS

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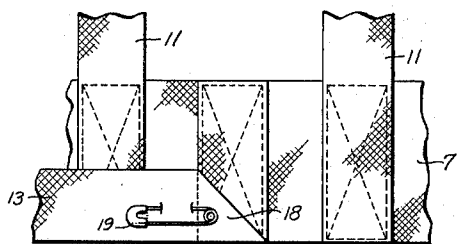


FIG. 4

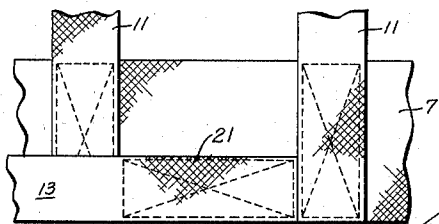


FIG. 6

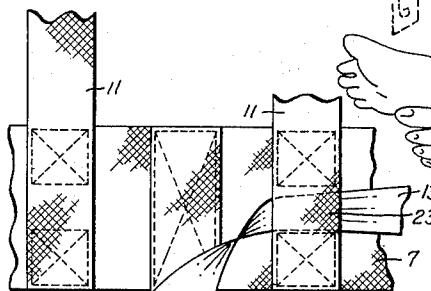


FIG. 5

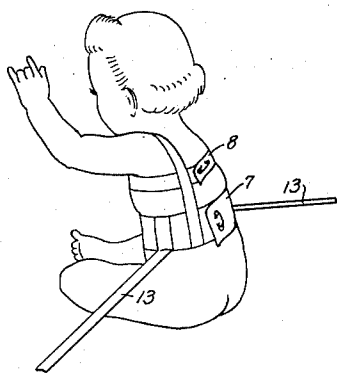


FIG. 2

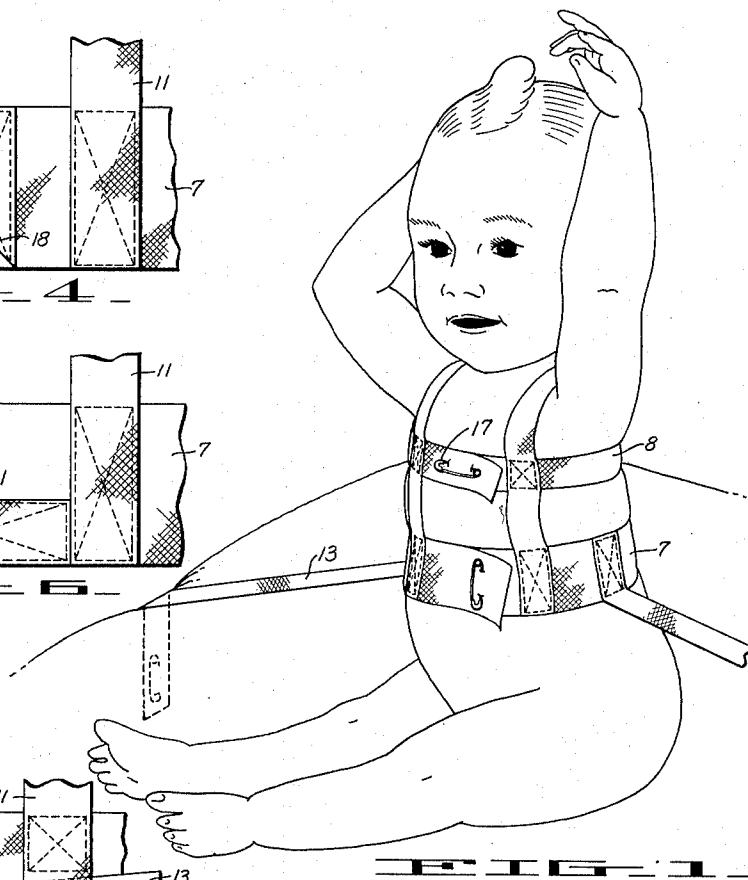


FIG. 1

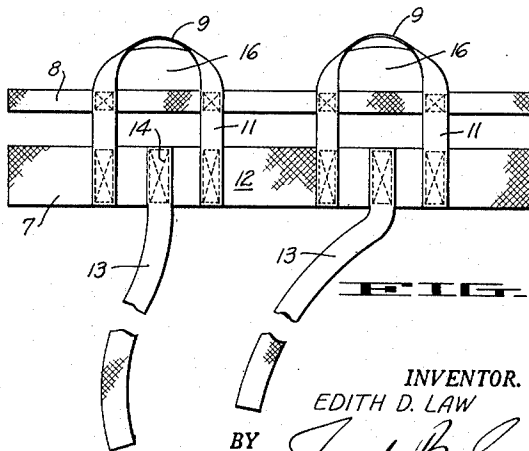


FIG. 3

INVENTOR.
EDITH D. LAW

BY

Joseph B. Gaudin
att'y.

UNITED STATES PATENT OFFICE

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INFANT'S RESTRAINING HARNESS

Edith D. Law, Piedmont, Calif.

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1 Claim. (Cl. 227—49)

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This invention relates to restraining harnesses, constructed of fabric tape or the like flexible materials, for use by infants to insure safe confinement of the latter in cribs or chairs.

An object of the invention is to provide an improved harness of the class described, designed to embrace an unusually large area of the infant's torso so that pressure of the harness, in straining movements of the infant, will be widely distributed and minimized rather than being concentrated in any particular body area which is characteristically a fault of many presently available devices of this nature.

Another object of the invention is to provide an improved harness of the type referred to which utilizes no crotch straps or the like elements capable of rubbing against and possibly chafing tender body areas of the infant.

A further object of the invention is to provide a restraining harness for infants utilizing relatively separate girdle bands so disposed as to cause very little cramping in the regions of the wearer's heart, respiratory organs or stomach, thereby reducing materially the possible infliction of discomfort on the infant.

Still another object of the invention is to provide an improved restraining harness of the character described which may be conveniently constructed in its entirety from standard readily available fabric tape and is devoid of specially shaped or constructed parts which would tend to increase production costs.

Yet another object of the invention is to provide a device of the nature referred to which is of generally open construction so as to provide for adequate ventilation of the torso portion of the infant embraced by the restraining harness.

The invention possesses other objects and features of advantage, some of which, with the foregoing, will be set forth in the following description of the preferred form of the invention which is illustrated in the drawing accompanying and forming part of the specification. It is to be understood, however, that variations in the showing made by the said drawing and description may be adopted within the scope of the invention as set forth in the claim.

Referring to the drawing:

Figure 1 is a perspective view, in frontal aspect, of an infant wearing the improved restraining harness of my invention.

Figure 2 is a smaller perspective view in posterior aspect of the subject of Figure 1.

Figure 3 is a front elevational view of the detached restraining harness.

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Figure 4 is an enlarged side elevational view of a portion of the restraining harness showing the connection of one of the tether straps with the main girdle band to provide for temporary tangential inter-relationship between the strap and band.

Figure 5 is a fragmentary side elevational view showing modified means for affording temporary relative tangential interconnection between the tether straps and the girdle band.

Figure 6 is a view similar to Figure 5 showing a modified arrangement for connection of the tether straps to the girdle band.

In its preferred form, the restraining harness of my invention, composed in its entirety of fabric or other equivalent soft, pliable material of adequate tensile strength, comprises a pair of relatively spaced and preferably parallel girdle straps 7 and 8 interconnected in intermediate portions thereof by suspender straps of U-shaped form whose bight sections comprise shoulder loops 9 and whose opposite end sections comprise relatively spaced connectors 11 traversing the girdle straps 7 and 8 and attached thereto in any suitable manner, preferably by means of stitching 12. At least two tether straps 13 are provided, an end of each being fastened, preferably by stitching 14, to the strap 7 at points on the latter aligned with the shoulder loops 9. The girdle straps 7 and 8, which are preferably coextensive, are of sufficient length to completely encircle the child's body with some overlap of the end portions of the straps.

The manner of application of the restraining harness to the child is best illustrated in Figures 1 and 2 wherein it will be seen that the child's arms are inserted through the openings 16, defined by the shoulder loops 9 and the portions of the girdle strap bridging the connectors 11, the girdle straps being then adjusted to encircle the body with the free ends of the straps in relatively overlapped positions, safety pins 17 being then attached to secure the overlapped ends together. It is immaterial whether the harness be applied with the girdle straps overlapping in front of the wearer as shown in Figure 1 or in the rear as shown in Figure 2, the device being symmetrical in form and being capable of attachment in either manner. In most instances, attachment of the device is effected as shown in Figure 2 since the pins 17 will thus be concealed from the child and the temptation to tamper with and possibly open the pins is obviated.

The proportions and arrangement of the various components of the harness are such that

adaption of the latter to fit children in an age range of from about six months to about two years may be easily effected, the harness at all times having such a form as to cause the least amount of discomfort to the wearer. The overall length of the straps, which include the shoulder loops 9 and their integral connector portions 11, is such that in the larger children to be fitted the terminal ends of the straps will reach points slightly below the horizontal mid-plane of the abdomen thus positioning the main girdle band 7 in about the aforesaid plane. The other girdle band 8 is positioned so as to extend over the armpits of the wearer and across the upper portion of the latter's chest materially above the stomach and heart regions and in an area in which comparatively little chest expansion and contraction takes place during respiration. Where it is necessary to fit the harness to a younger or smaller child, shortening tucks may be taken in the straps of the shoulder loops 9 which not only constricts the openings 16 but also vertically raises the terminal points of the connector straps 11 so as to correspondingly raise the main girdle band 7 to accommodate the smaller body. Adjustment of the girdle bands 7 and 8 is secured, of course, by varying the degree of relative overlap of the end portions thereof.

When the restraining harness is properly fitted to the child, as illustrated in Figures 1 and 2, it will be seen that a circumferential zone of the body equal to about twenty percent of the total width of the harness between the relatively outer longitudinal edges of the girdle bands 7 and 8 will be free of any encirclement by a band member. This bared zone, which includes the stomach and heart regions, and a considerable portion of the chest, prevents any undue pressure being imposed by the harness on the vital organs and consequently breathing, digestion and heart action will not be hindered and the utmost comfort will be afforded the child regardless of whether the latter may be in erect or supine postures. In addition, provision of the relatively spaced girdle straps affords a maximum degree of surface engagement of the torso by the harness while providing a medial open zone in the device which effects desirable ventilation of the total embraced area thereby reducing perspiration to a minimum and thereby not only rendering the device more comfortable to the child, but also lessening the danger of chafing which might occur due to retarded evaporation of the exuded moisture.

In all cases, regardless of the age of the child to which the harness is to be fitted, it is desirable that the maximum spacing be maintained between parallel girdle bands 7 and 8 so as to expose the greatest possible medial area of the total surface embraced by the harness in order to minimize torso confinement and to desirably leave the vital organ regions uncovered as previously specified. In regard to smaller children, it will be seen that by simply taking large enough tucks in the shoulder loops 9 so as to constrict the openings 16 to accommodate the smaller arms, the girdle bands 7 and 8 will be raised relative to the upper side of the loops 9 and will occupy substantially the same positions on the smaller body as the extended device occupies relative to a larger body. In such reduced condition, to accommodate a smaller child, the intervening space between the girdle bands is proportionately wider in relation to the small-

er body than the same space width would be in relation to a larger body, a condition desirable in that it affords greater open space over the vital organ regions of the smaller children who are more easily made uncomfortable by squeezing pressure than are considerably older children.

The tether straps 13 function in the usual way and may be attached in end portions to a crib mattress by pins or the like, as shown in Figure 1, or may be tied to the side members of chairs or the like objects to which the harnessed child is to be secured. Furthermore, since the straps are long, they may be passed entirely around the mattress and the free ends pinned to an inner portion, thus avoiding the need to pin to the mattress. By securing the ends of the straps 13 to the main girdle band 7, as shown, any straining of the child against the straps will be absorbed by the abdominal region of the body which is more capable of withstanding the strain without causing undue discomfort than are other zonal areas of the harness. In most instances, the tether straps will extend radially from the girdle straps but in those devices which are intended solely for confining children in high chairs or the like, the straps 13 should extend tangentially from the girdle band and be secured at the point of tangency so as to reduce as much as possible ripping stresses on the stitching 14. In Figure 4 adaptation of the standard arrangement illustrated in Figure 1 and to provide for such tangential arrangement of the straps 13 is shown. Here it will be seen that the strap at its junction with the girdle band is given a biased fold 18 which lays the strap flatly against the band whereupon the engaged flat members are engaged by a safety pin 19 or other securing means such as a wire staple. Figure 5 illustrates a further modified means for conditioning the harness to selectively provide for a tangential or radial arrangement of the straps 13 relative to the girdle band. As here shown, two separate groups 22 of stitching are provided effecting attachment of the connector straps 11 to the main girdle band 7. This forms an open loop 23 intermediate the ends of the secured portion of each connector strap through which the normally radially extending strap 13 may be threaded, as illustrated, so that the latter strap thereafter issues tangentially from the girdle band. Depending upon which loop of related pairs thereof may be used, the strap 13 may be directed, either forwardly or rearwardly of the child, to its distal point of anchorage. Figure 6 illustrates permanent attachment of the tether strap and girdle band in longitudinally parallel relation the interconnection of the elements being effected by stitching 21 arranged in a rectangular pattern whose long side is substantially co-parallel with the strap and band.

From the foregoing description of my invention it will be seen that I have provided a restraining harness designed to embrace an unusually large area of a child's torso so as to provide for security of positioning without the use of crotch straps or other hold-down devices which might possibly cause chafing of tender body areas, which is of open construction so as to afford adequate ventilation of the embraced area, which is designed to cause a minimum of discomfort to the wearer and which is capable of ready adjustment for accommodation to children of various sizes. It will also be seen

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that all of the parts comprising the harness may be constructed of straight lengths of standard fabric or other flexible tape capable of rapid fabrication, by the simple stitching operations described, into finished devices.

I claim:

A restraining harness for attachment to the human body comprising separate girdle bands for circumferentially embracing, respectively, upper chest and abdominal portions of said body and substantially beyond the heart and stomach regions thereof, said chest portion band being substantially narrower than said abdominal portion band, said girdle bands having end portions adjustably connectable in overlapped relation to various body sizes, U-shaped shoulder straps fixedly connected in spaced relation to medial portions of said chest portion band to provide arm-receiving loops, integral extensions of said shoulder straps transversely disposed between and fixedly connected with the girdle bands to fix the relative spacing between the latter,

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portions of said extensions being relatively detached from said abdominal region band to form anchor loops, and tether straps secured in end portions thereof to and extending transversely from said latter band, and said tether straps being engageable in said anchor loops whereby said straps are extended from and in substantially tangential relation to said latter band.

EDITH D. LAW.

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