United States Patent

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[54] INFANT RESTRAINING BOARD

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[52] **U.S. Cl.** **269/328,** 128/134

[51] **Int. Cl.** **A61f 5/56**

[58] **Field of Search** 269/322, 328; 128/134; 250/50, 250/54

[56] **References Cited**

UNITED STATES PATENTS

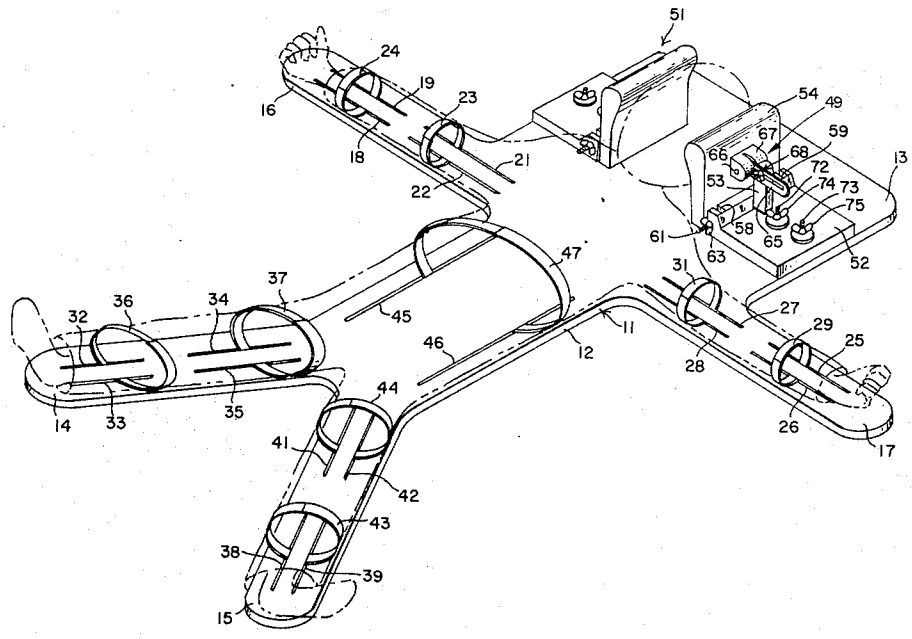
3,526,222	9/1970	Dreibelbis	128/134
3,215,834	11/1965	Tayman	269/328 X
2,535,559	12/1950	Wolf	269/328
2,751,268	6/1956	Creelman	269/328
2,973,889	3/1961	Phillips	269/328 X
2,995,407	8/1961	Izzi	269/328
3,358,141	12/1967	Hoffmann et al.	269/328 X
3,434,165	3/1969	Keane	269/328 X

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[57] **ABSTRACT**

A restraining assembly for children comprises a rigid support board having a head portion at one end adapted to underlie the head of the patient, diverging leg portions at the other end to underlie the legs of the patient, a body portion intermediate the head and foot portions and arm portions projecting from opposite sides adjacent the juncture of the head and body portions. Releasable patient holding bands pass slidably through a plurality of slots in each of the arm, leg and body portions, and laterally adjustable head holding pads are provided on the head portion.

4 Claims, 5 Drawing Figures



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2 Sheets-Sheet 1

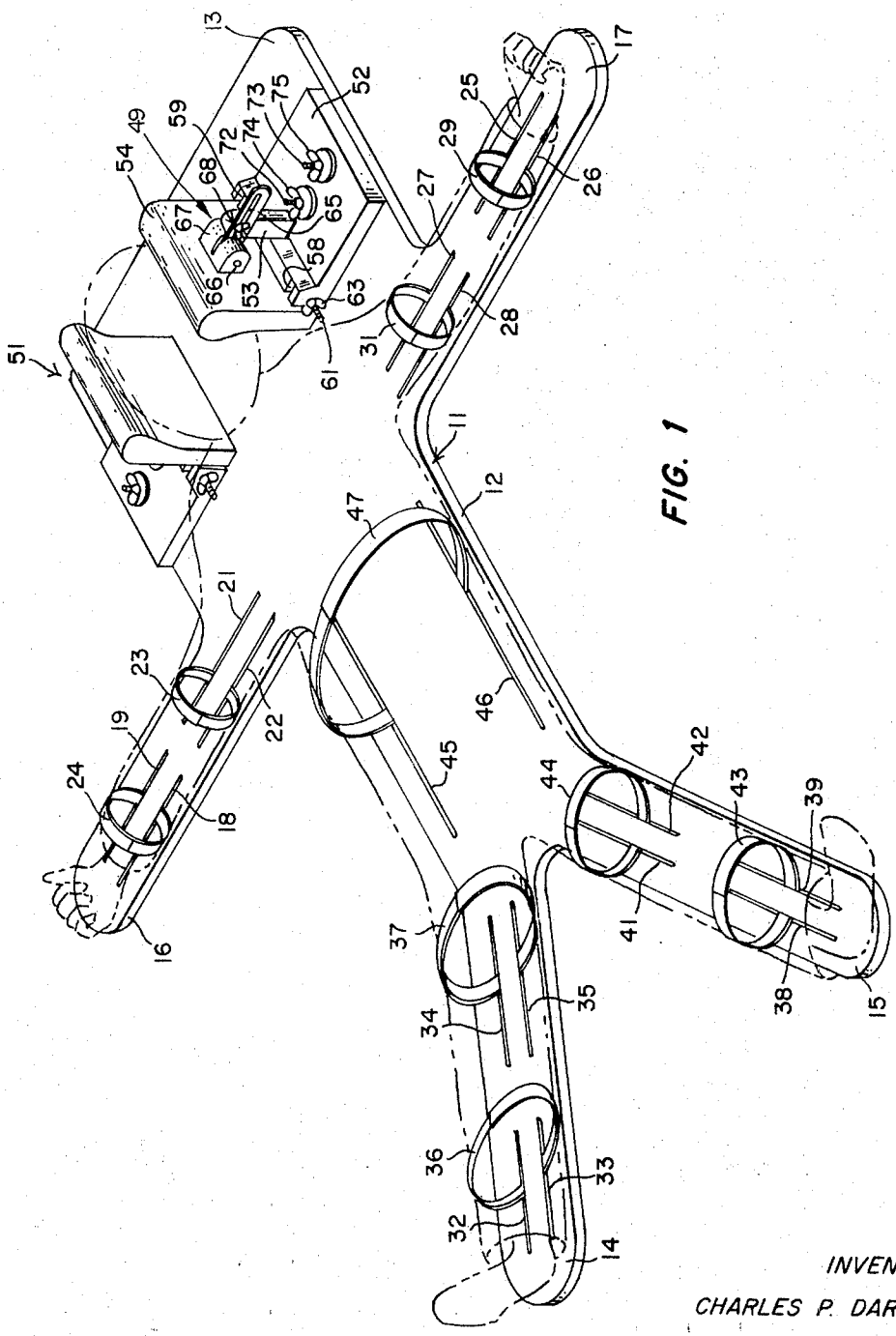


FIG. 1

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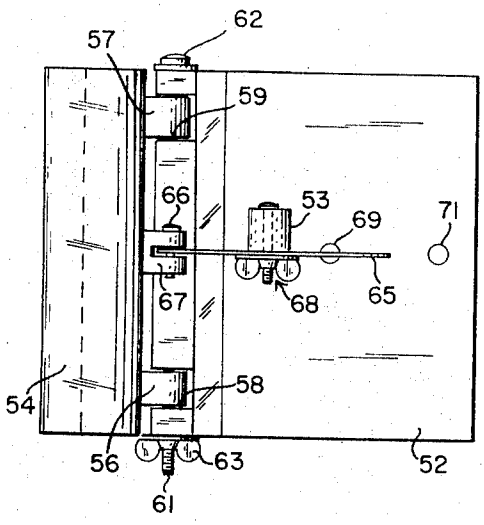


FIG. 2

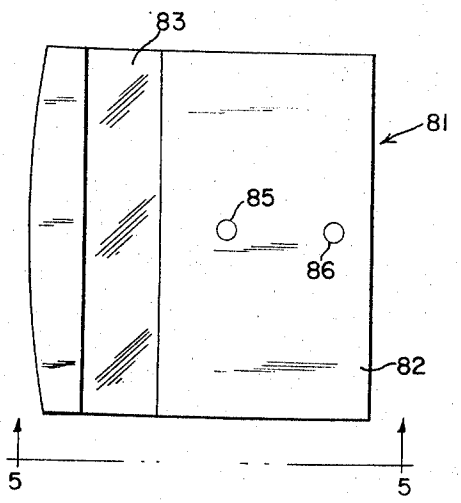


FIG. 4

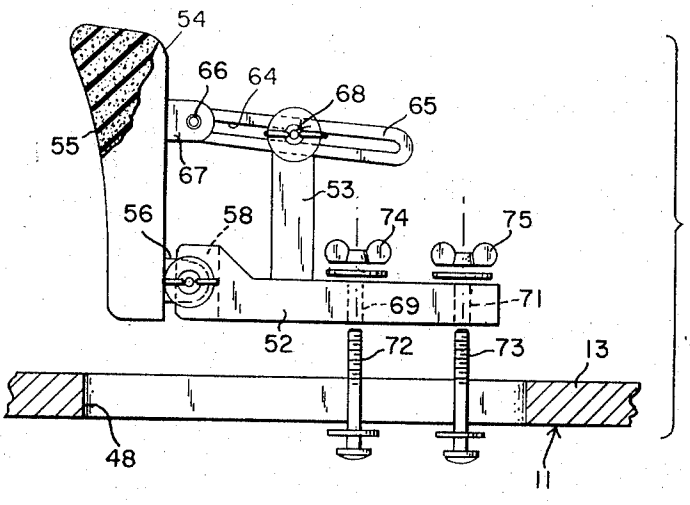


FIG. 3

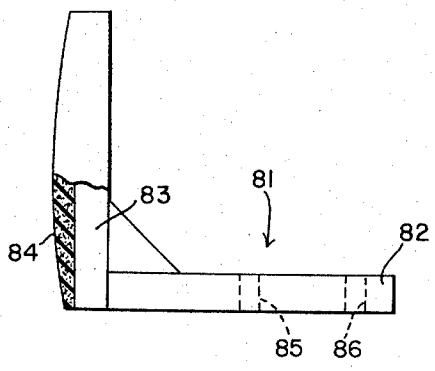


FIG. 5

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INFANT RESTRAINING BOARD

BACKGROUND AND HISTORY OF INVENTION

This invention relates to an assembly for supporting children and restraining them as for physical examination.

Children, particularly younger children, often become excited or emotional when undergoing even superficial examination and treatment. This interferes with the quality of examination and treatment and could result in injury due to unexpected rapid movements at a critical time. The invention contemplates efficient rapidly applied restraint of the prospective patient, with a minimum of equipment or devices calculated to alarm the patient.

Restraint devices of this general nature have been proposed, as illustrated by the patent to Creelman U.S. Pat. No. 3,315,671.

The present invention provides a relatively inexpensive but highly functional and efficient restraining support upon which the child may be placed and held without injury and without his becoming alarmed at the appearance of complex wrappings, fixtures and the like; and this is the major object of the invention.

In its preferred embodiment the invention provides a relatively stiff flat support having extensions sized and directed to underlie the normally extended legs and arms of a young patient, with readily attachable and detachable patient securing means such as adjustable straps or bands passing through suitable slots in the support, and this is an important object of the invention. Further objects of the invention include adjustable head holding members on the support, usually contoured to present only soft or rounded surfaces to the patient.

Further objects will appear as the description proceeds in connection with the following specification and the annexed drawings.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a generally perspective view showing a preferred embodiment of the invention;

FIG. 2 is a plan view showing one of the head positioning devices;

FIG. 3 is a side elevation of the head position device, with part of the associated support structure shown in section; and

FIG. 4 and 5 are plan and side view showing a further embodiment of head positioning device.

PREFERRED EMBODIMENTS

Referring to FIG. 1, the invention comprises a relatively flat, stiff support **11** which may advantageously be a unitary member suitably cut out or sawed from a sheet or board of plywood thick enough to be rigid when subjected to the weight and attempted movements of a child (shown in chain lines) lying thereon.

Support **11** comprises a body portion **12** with a relatively wide head portion **13** at one end and diverging leg portions **14**, **15** at the other end. Aligned arm portions **16**, **17** extend laterally oppositely from the juncture of the head and body portions.

Arm portion **16** is provided with two longitudinally spaced sets of parallel slots **18**, **19** and **21**, **22** Fastening bands **23** and **24** extend slidably through the slot pairs with their intermediate sections extending across the arm portion undersurface and their free end extending around the arm of a child on the support. For example bands **23** and **24** respectively may embrace the child's extended right arm above and below the elbow. Preferably bands **23** and **24** are parallel and they are adjusted toward and away from each other in the slots longitudinally of arm portion **16**.

Bands **23** and **24** are provided with releasable attachment means at least at their overlapping free ends, adapted for quick but secure attachment and for ready detachment when the child is released. Preferably these attachment means comprise cooperating hook and loop fasteners of the type known as VELCRO fasteners and which are disclosed in U.S. Pat. No. 2,717,437.

Similar longitudinally spaced pairs of slots **25**, **26** and **27**, **28** are formed in arm **17**, and parallel longitudinally adjustable fastening bands **29** and **31** extend slidably through the respective slot pairs as in arm **16**, to secure the child's extended left arm.

Leg portion **14** is formed with two longitudinally spaced pairs of slots **32**, **33** and **34**, **35** through which slidably pass fastening bands **36** and **37**. Bands **36** and **37** are parallel and relatively adjustable in the slots toward and from each other. Similarly leg portion **15** is formed with two longitudinally spaced pairs of slots **38**, **39** and **41**, **42** through which slidably pass fastening bands **43** and **44**. Bands **43** and **44** are parallel and relatively adjustable in the slots toward and from each other.

Bands **37** and **44** extend around the child's legs above the knee, and bands **36** and **43** extend around the child's legs below the knee.

Body portion **12** is formed near its opposite side edges with parallel slots **45** and **46**. A fastening band **47** passes over the underside of the support through both slots **45** and **46**, and it is long enough that its opposite ends may extend around and overlap or otherwise secure to each other at the child's body.

All of the foregoing fastener bands are preferably provided at their overlapping ends with VELCRO fasteners.

The head portion **13** is formed with laterally spaced aligned slots **48**, one of which is shown in FIG. **3**, and above these slots head positioning devices **49** and **51** are adjustably mounted to move toward and from each other on the upper surface of the support.

In one embodiment, device **49** comprises a base **52** and an upright post **53** rigid with the base. The underside of base **52** is flat to slide on the support.

A foam rubber or like soft resilient pad **54**, shaped on its inner side surface **55** to comfortably engage a side of the child's head, has two lower rigid hinge projections **56** and **57** on its outer side that extend into cooperating aligned hinge slots **58** and **59** on the base. A hinge bolt **61** having at one end a head **62** extend through the base and hinge projections, and a wing nut **63** is mounted on the threaded end of the bolt. Pad **54** may thus rock about the hinge axis to an adjusted position. The adjusted position of pad **54** is locked by an arm **65** extending from a pivot **66** on an outer side upper projection **67** on pad **54**. Arm **65** has a slot **64** through which passes the bolt of a wing nut and bolt assembly **68** projecting through an opening in the upper part of post **53**.

Base **52** is formed with spaced holes **69** and **71** through which pass clamp bolts **72** and **73** carrying wing nuts **74** and **75**, for clamping the device to head portion **13**. When bolts **72** and **74** are loose, the pads **54** may be shifted apart to admit the patient's head and then moved inwardly to gently contact opposite sides of the head. A further head fit adjustment is provided by wing nut and bolt assembly **68**. When the pads **54** have been finally adjusted and secured in place, the patient's head is held firmly against undersired movement.

FIG. **4** and **5** show another form of head holding device **81** which comprises a flat bottomed base **82** and an inner end post **83** upstanding from the base. Post **83** is flat sided and faced with a pad **84** of resilient material having a generally convex contour. Base **81** has spaced holes **85** and **86** for passing bolts **72** and **73** to extend through head slots **48** and this provides an adjustable mounting of each pad **84** as in the earlier embodiment.

The invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiments are therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims rather than by the foregoing description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What is claimed and desired to be secured by Letters Patent is: I claim:

1. A patient restraining assembly as for children comprising a relatively stiff support member having a head portion at one end adapted to underlie the head of the patient and a foot portion at the other end to underlie the legs of the patient, a body portion intermediate the head and foot portions and arm portions projecting from opposite sides adjacent the juncture of the head and body portions, said foot portion comprising two leg portions diverging from said body portion to spread the legs of the patient, and releasable patient holding means comprising a pair of longitudinally extending substantially parallel slots in said body portion and at least one fastener band extending slidably through both of said body slots with its free ends above the support member, said body band being shiftable along the associated slots for optimum association with the body of the patient on said support member, and a plurality of elongated parallel slots in each of said arm and leg portions and fastener bands having their intermediate sections slidably disposed in said arm and leg slots with their free ends adapted to pass around a limb of a patient on the support, there being readily attachable and detachable securing means on at least said free ends of the bands and each of said arm and leg bands being slidably displaceable along its associated slot for optimum positioning along the associated arm or leg of said patient, and spaced head engaging cushion members on said head portion laterally adjustably mounted on said head portion and disposed for confining the head of the patient between them.

2. The patient restraining assembly defined in claim 1, wherein each of said head engaging members comprises a base slidably adjustable on the support member head portion, and a resilient head engaging pad adjustably mounted on said base.

3. The patient restraining assembly defined in claim 1, wherein each arm portion has two longitudinally spaced pairs of parallel slots and at least one fastener band extending slidably through each pair of slots with the free ends disposed above the support member to pass around the arms of the patient for fastening the arms of the patient above and below the elbow.

4. The restraining assembly defined in claim 1, wherein each of said diverging leg portions is provided with two longitudinally spaced pairs of parallel slots and at least one fastener band is slidably mounted in each pair of slots for fastening the legs of the patient above and below the knee.

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