

Oct. 16, 1956

P. TOPA  
BODY RESTRAINERS

2,766,751

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2 Sheets-Sheet 1

Fig. 1.

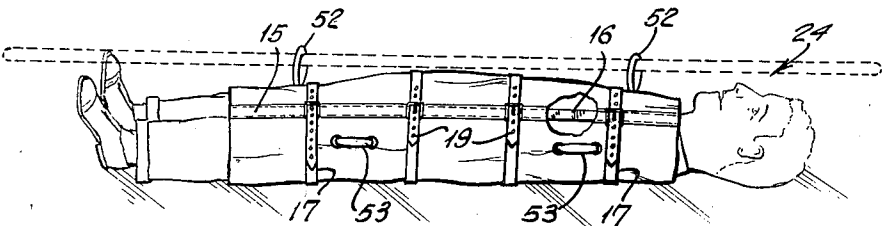
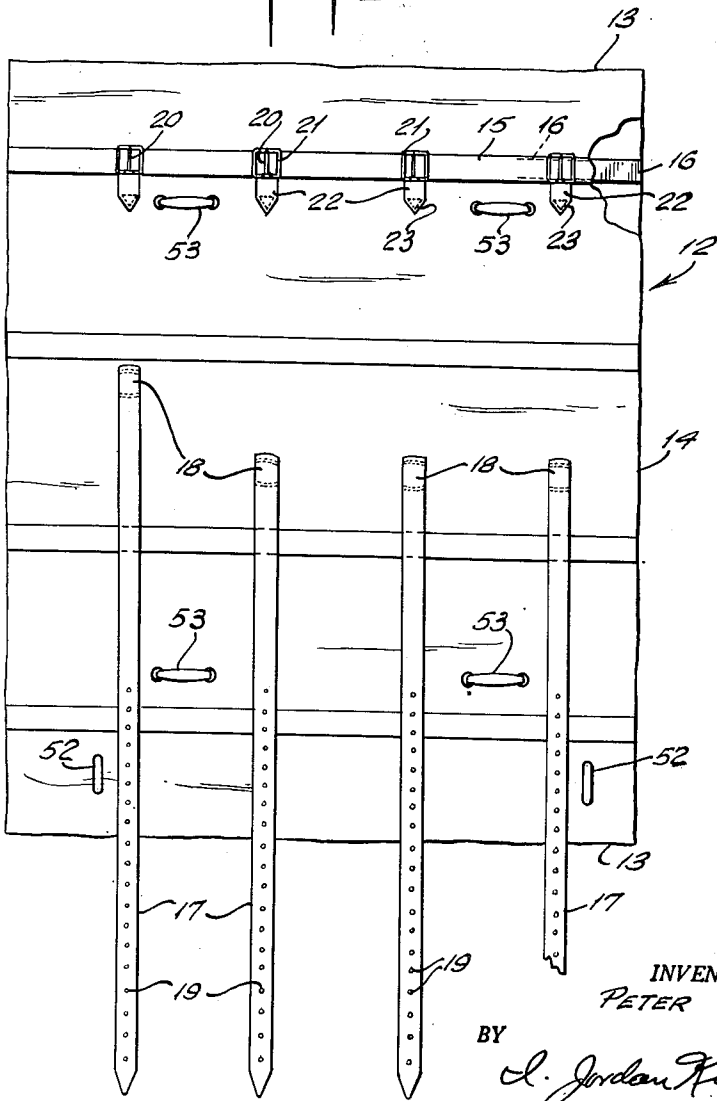


Fig. 2.



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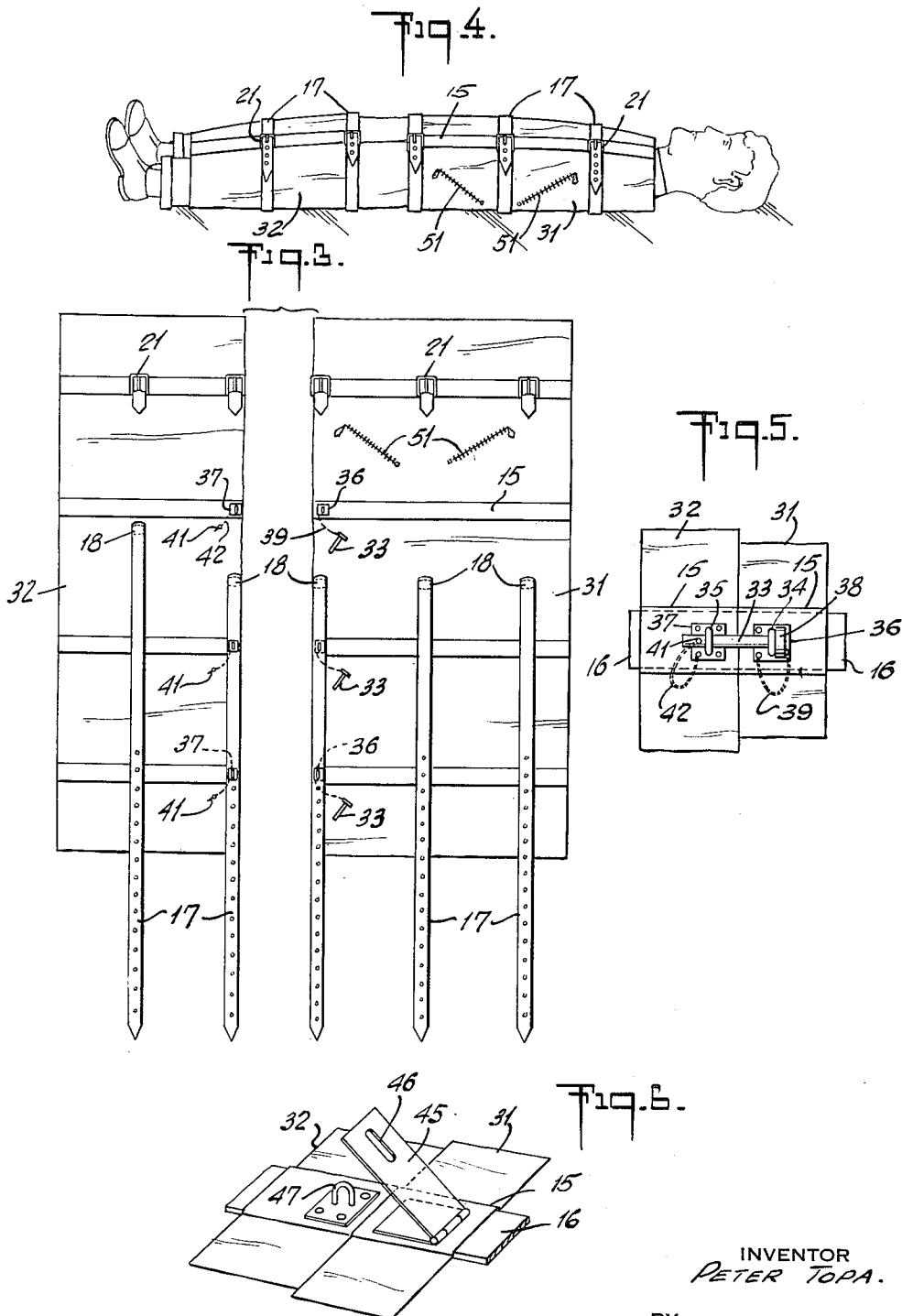
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## BODY RESTRAINERS

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11 Claims. (Cl. 128—134)

This invention relates to body restrainers for the treatment of unmanageable, neurotic and violent patients in hospitals, mental institutions and the like, and in the transportation of such patients in ambulances and the like.

Body restrainers that are customarily used in keeping unmanageable patients in a safe condition usually consist of various types of strait jackets, straps and shackles, which have been found to be deficient in many respects. The usual strait jacket has the initial disadvantage of requiring attendants to insert the arms of a violent or delirious person into sleeves of the garment, which in itself is a rather difficult task, but also this type of restrainer only serves to restrain a person's arms, leaving his legs free to cause injury to himself as well as to the nurse or ambulance attendant. If a body restrainer with legs is utilized, there is also the difficulty of inserting the legs of the intransigent patient into the legs of the restraining garment, and it is obvious that this also is a difficult thing to achieve.

When straps and shackles are utilized around the wrists and ankles, it has been found that the patient still has considerable freedom of movement with his body. The patient generally exerts tremendous amounts of energy in order to free himself, thereby causing the shackles to become very tight and cut off circulation at the points of restraint.

The requirement for a superior body restrainer is of urgent necessity. A requisite of such a restraint is that the patient be prevented from injuring himself as well as injuring others who are dealing with him. Such an ideal restraint should restrict the movement of both the arms and legs and should be adaptable to different girths and lengths of patients. The restrainer should maintain the patient therein comfortably and safely over a prolonged period of time and should have provision for the application of medication or treatment to various parts of the body. It is also desirable that the restrainer may be divided in such a manner that regular hospital care involving bed pan, urinal, and the like may be administered.

It is among the objects of the present invention to provide a body restrainer which satisfies medical requirements of safety and comfort for the patient while providing a safety factor for those attendants, orderlies and nurses who are required to handle him.

The invention comprises generally a rectangular sheet of strong canvas or the like, into which the patient is rolled and fastened, said sheet extending generally from the shoulders of the patient down to at least the knees or below the knees. The patient is rolled in the sheet with his arms by his sides and is thereby rendered immobile without cutting off circulation in any part of the body while at the same time he is prevented from injuring himself and those who are attending him.

The restrainer of the present invention also may be divided into two sections which, when tied together, form a unitary restraint for the overall length of the body of the patient, said two sections being partly or completely sepa-

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table when it is desired to provide bed pan, urinal, and other care. Also, provision is made for strategically placed openings in the restrainer which permits the patient to be treated by injections and the like on various parts of the body.

Still other objects and advantages of my invention will be apparent from the specification.

The features of novelty which I believe to be characteristic of my invention are set forth with particularity in the appended claims. My invention itself, however, both as to its fundamental principles and as to its particular embodiments, will best be understood by reference to the specification and accompanying drawings, in which:

Figure 1 shows the body restrainer wrapped around a patient;

Fig. 2 is an enlarged plan view of the outer side of the body restrainer;

Fig. 3 shows a plan view of another embodiment of the body restrainer which is divided into two sections which have devices for tying the two sections together into a unitary sheet;

Fig. 4 shows the embodiment of the body restrainer of Fig. 3 wrapped around a patient with the lower portion separated from the upper portion;

Fig. 5 is an enlarged section view of a portion of the restrainer shown in Fig. 3, showing means for connecting the two sections of the restrainer; and

Fig. 6 is another embodiment of the means for connecting together the two sections of the restrainer.

Referring now to the drawings in detail, the body restrainer comprises a large rectangular sheet of strong woven canvas or the like, generally designated 12. In some embodiments the fabric may be of rubberized cloth, or rubber sheeting, or any other suitable flexible but strong material. The width dimension 13 is intended to extend over the major body and leg length of the patient, or generally from the shoulders to the lower portions of the legs, while the length dimension 14 is sufficiently long to be wrapped around the body of the patient with sufficient overlap to completely surround the body of the patient.

In order to add strength to the restraining device, there is inserted into suitable pockets 15 extending across the width dimension of sheet 12 a series of spaced apart slats 16 which may be made of a thin, flexible and resilient material such as wood, steel, plastic or the like, and which serve to maintain the body of the patient in a substantially straight position and to prevent him from making any excessive movements within the restraining sheet. Slats 16, which extend longitudinally along the body of the patient, are enclosed completely in the material of sheet 12, so that they are out of contact with the patient's body and produce no harmful bruises thereon. Slats 16 may be removable since with some patients there may be no necessity for requiring the additional rigidity afforded thereby. Also in some cases, the patient may be wrapped in the restrainer without slats 16 and the slats may be inserted into pockets 15 after the patient has been bound in the restrainer. In other embodiments, slats 16 may be permanently incorporated into sheet 12 by sewing or otherwise closing both ends of pockets 15.

A series of spaced apart elongated straps 17 are attached by sewing, stapling or the like, to the outer side of sheet 12 at points 18, said points being substantially midway between the ends of sheet 12. Said straps, which extend substantially perpendicular to slats 16, have a large number of perforations 19 which cooperate with the respective tongues 20 of buckles 21 which are attached to short straps 22, sewn, stapled or otherwise attached to the outer side of sheet 12 at points 23. Since straps 17 are connected to sheet 12 substantially midway between the ends of the sheet, and since each of the

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straps has holes 19 punched over the greater portion of its length, it is possible for the body restrainer to accommodate patients of substantially all body circumferences.

In some embodiments holes 19 of straps 17 may be omitted, and buckles 21 may consist of a clasp which cinches strap 17 by a simple looping and tightening means.

Fig. 1 shows a patient 24 wrapped in the body restrainer of the present invention. It has been found that the device herein is fairly easy for attendants and orderlies to apply by stretching out sheet 12 with the buckles and straps on the outside away from the patient and placing the patient on the inner side of the sheet. The patient, with his arms at his sides, is covered first with the end of the sheet adjacent straps 17 and then the buckle end of the sheet is overlapped thereby bringing buckles 22 to the outside of the patient, where they may be engaged by straps 17. Straps 17 are tightened sufficiently in buckles 22 to render the patient immobilized, and his arms and legs restrained in a position where he can harm neither himself nor the attendants.

The patient wrapped in the present body restrainer is easily handled by hospital or ambulance attendants for transportation as well as for treatment. The patient remains quite comfortable, and suffers no injuries by way of circulation blockage and other possible self-damage otherwise caused by violent movement of arms and legs.

It will be noted that the strap 17 at the left side of Fig. 2 is secured to the restrainer at a point closer to its corresponding buckle 20 than the other straps 17. This arrangement is provided for the reason that the portion of the body at or near the knees is smaller in circumference than the other portions of the body, and hence the anchoring point of the strap should preferably be closer to its corresponding buckle so that the legs may be more securely tied.

In some cases where it is desired to maintain a patient in a relatively immobile condition in bed over an extended period of time, it is desirable to be able to treat the patient by injection or otherwise, and also to provide normal bed care, as for example, by bed pan, urinal, or otherwise. To this end, I provide that the restraint may be divided as shown in Fig. 3 in two sections, an upper portion 31 and a lower portion 32, which are fastened together by means of bolts 33 (see Fig. 5) inserted through rings 34 and 35 in portions 31 and 32, respectively. Rings 34 and 35, attached to plates 36 and 37, respectively, are anchored in the area of pockets 15, into which slats 16 are inserted. This provides for a strong foundation for the anchoring of bolt 33. The head 38 of bolt 33 may be connected by chain 39 to plate 36 to prevent the loss of the bolt, while pin 41 is connected by chain 42 to plate 37, said pin being inserted into a suitable hole, in the leg portion of bolt 33, thereby locking together the upper portion 31 and the lower portion 32 of the restrainer.

Fig. 6 shows another variation of the locking arrangement for the two portions of the restrainer, and comprises a hinge 45 attached to the pocket portion 15 of the restraint, said hinge having a slot 46 which engages loop 47 attached to the pocket portion 15 of the other portion of the restrainer. A suitable pin or lock inserted through loop 47 after it has been engaged by hinge 45 will secure the two portions of the restrainer.

It will be understood that when the connecting means embodied by the bolts, hinges, or other means, are disengaged in order to separate the upper and lower portions of the body restrainer so as to provide treatment for the patient, at least one or more of the connecting means may remain closed if desired, so that only a restricted area of the two portions may be separated, thereby ensuring that the upper and lower portions will not be completely separated by any action of the patient.

When it is desired to administer bed pan or urinal care to the patient or to apply other medical treatment to the lower trunk and thigh portions of the body, the

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bolting or locking means may be disengaged and part or all of the lower portion 32 of the restraint may be slipped down a suitable distance for such treatment as shown in Fig. 4. Even though the lower portion is disengaged from the upper portion and slipped somewhat out of position, the lower portion still is capable of restraining the legs of the patient while at the same time the upper portion maintains the upper body in an immobile condition. After the patient is treated, the lower portion may be slipped upwards and the latching or locking arrangement between the two portions may be engaged and secured to provide a unitary structure surrounding the whole length of the patient's body.

It will be noted that in the embodiment shown in Figs. 3 and 4, slats 16 are in sections, each section corresponding to the length of a particular pocket portion 15 of each portion 31 and 32 of the restrainer.

Additionally, it may be desired to administer injections and the like to the arms and some body portions of the patient. For this purpose, I have provided at least one opening 51, or a plurality of openings 51, in the various portions of the restrainer. These openings 51 may have a so-called sliding fastener arrangement which can open and close the restrainer at a particular area of the body of the patient. These openings 51 may be arranged in a diagonal position between adjacent straps 17, and as shown in Fig. 4, the upper one may be located at the upper arm of the patient, while the lower one is located at the lower arm of the patient. It is obvious, of course, that such slide fastener openings may be positioned in other sections of the restrainer for providing easy access to the body of the patient without the necessity of loosening the straps and thereby keeping the patient under control at all times while medication or treatment is being administered.

It is understood that said slide fastener openings may alternatively be made in the form of slits in the fabric which may be closed by hooks, buttons or other suitable means. Also, it is contemplated that such openings may be included in the embodiment shown in Fig. 1.

In order to facilitate the transportation of a patient wrapped in the body restrainer described herein, I also provide a plurality of loops 52 (Figs. 1 and 2) attached at suitable places to the restrainer sheet 12. A pole, shown in dotted outline, may be inserted through loops 52, each end of said pole being grasped by an attendant to carry the patient safely and conveniently. I also provide, if desired, a plurality of handles 53 attached at other suitable places on restrainer sheet 12 (Figs. 1 and 2), said handles being grasped by attendants for convenience in transporting the patient.

In the specification, I have explained the principles of my invention, and the best mode in which I have contemplated applying those principles, so as to distinguish my invention from other inventions; and I have particularly pointed out and distinctly claimed the part, mode or combination which I claim as my invention or discovery.

While I have shown and described certain preferred embodiments of my invention, it will be understood that modifications and changes may be made without departing from the spirit and scope thereof, as will be clear to those skilled in the art.

I claim:

1. A body restrainer comprising a substantially rectangular fabric sheet, a plurality of buckles attached in a line along the width of said sheet and near one end thereof, a plurality of elongated straps corresponding to said buckles attached substantially parallel to said buckles on the same side of said sheet, said points of attachment of said straps being substantially midway between the ends of said sheet.

2. A body restrainer comprising a unitary fabric sheet for wrapping the body of a patient with the arms adjacent the body, a plurality of elongated straps attached to

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one side of said sheet, a buckle for each of said straps attached to the same side of said sheet, said buckles being engaged by respective straps when portions of said sheet are wrapped around a body, and a plurality of spaced apart flexible slats in said sheet extending longitudinally from substantially the shoulder area to the leg area when said sheet is wrapped around a body, said slats being distributed substantially across the whole width of said sheet whereby they extend longitudinally around all portions of the body.

3. A body restrainer comprising a fabric sheet, the ends of said sheet being adapted to be wrapped around a body from substantially the shoulders to the lower leg area thereof and enclosing the arms adjacent the body, a series of spaced apart buckles and cooperating straps distributed between the shoulder and leg portions of said sheet and adapted to tighten said sheet around said body, and a plurality of spaced apart flexible slats in said sheet extending from the shoulder area to the lower leg area of said sheet, said slats being distributed substantially across the whole width of said sheet whereby they extend longitudinally around all portions of the body.

4. A restrainer according to claim 3 wherein one of said strips is anchored closer to its corresponding buckle than the other straps are anchored to their corresponding buckles.

5. A body restrainer comprising a fabric sheet, the ends of said sheet being adapted to wrap around a body from substantially the shoulders to the lower legs thereof, a series of spaced apart buckles and cooperating straps distributed between the shoulder and leg portions of said sheet and adapted to tighten said sheet around said body, and at least one slot arranged in said sheet adapted to be opened and closed when desired in order to provide medical treatment for the body while it is retained within said sheet.

6. A body restrainer comprising a fabric sheet, the ends of said sheet being adapted to wrap around a body from substantially the shoulders to the lower legs thereof, a plurality of spaced apart slats in said sheet extending longitudinally from the shoulder area to the leg area, a series of spaced apart buckles and cooperating straps distributed between the shoulders and leg portions of said sheet and adapted to tighten said sheet around said body, and at least one slot arranged in said sheet adapted to be opened and closed when desired in order to provide medical treatment for the body while it is restrained within said sheet.

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7. A body restrainer comprising two sheet portions, a series of spaced apart buckles and cooperating straps distributed along each of said portions and adapted to tighten said portions around respective areas of a body, said portions having engaging means thereon adapted to connect said portions together to form a unitary body restraining sheet.

8. A body restrainer according to claim 7, and further comprising a plurality of spaced apart flexible slats in each of said portions and positioned to extend longitudinally in respect of the body to be restrained.

9. A body restrainer according to claim 7, and further comprising at least one slot arranged in said unitary sheet adapted to be opened and closed when desired in order to provide medical treatment for the body while it is retained within said sheet.

10. A body restrainer comprising two sheet portions, said portions having engaging means thereon adapted to connect said portions together to form a unitary body restraining sheet extending generally from the shoulder area of the body to the leg area thereof, a series of spaced apart buckles and cooperating straps distributed along each of said portions and adapted to tighten said portions around respective areas of a body, a plurality of spaced apart flexible slats in each of said portions and positioned to extend longitudinally in respect to the body to be restrained, and at least one slot arranged in said unitary sheet adapted to be opened and closed when desired in order to provide medical treatment for the body while it is restrained within said sheet.

11. A body restrainer comprising two sheet portions, one of said portions being adapted to be wrapped around the upper portion of the body, the other portions being adapted to be wrapped around the lower portion of said body, a plurality of straps on each of said portions adapted to be tightened around said respective portions, connecting means arranged on each of said sheets cooperating with each other to secure said portions into a unitary body restraining sheet, at least some of said connecting means being disengageable when it is desired to provide treatment for the body of the patient.

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