

July 10, 1956

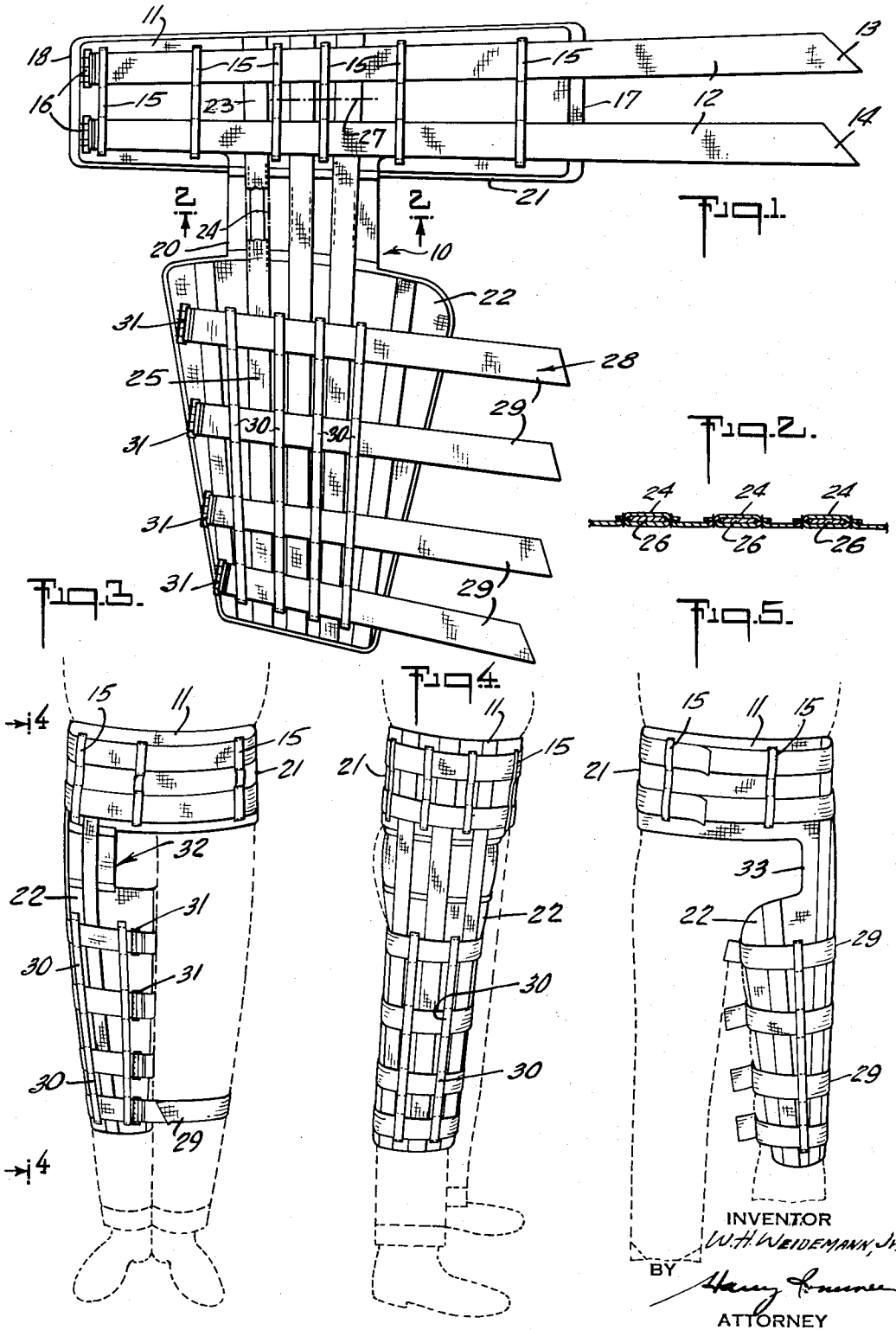
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2,753,864

IMMOBILIZING SPLINT

Filed Nov. 2, 1954

2 Sheets-Sheet 1



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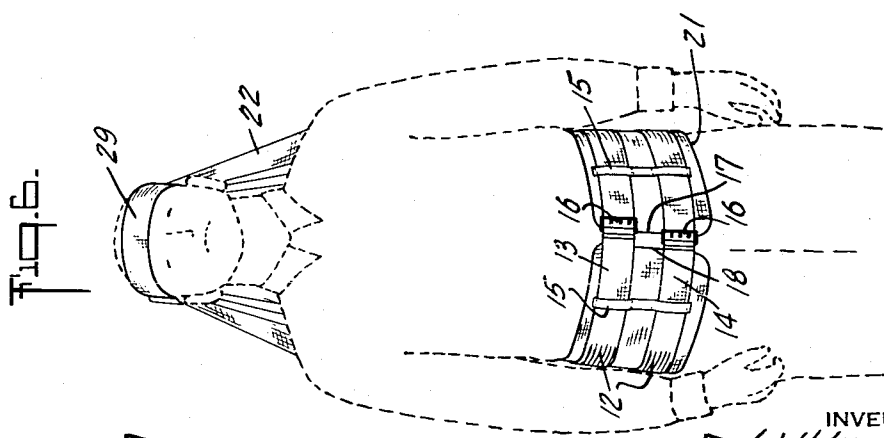
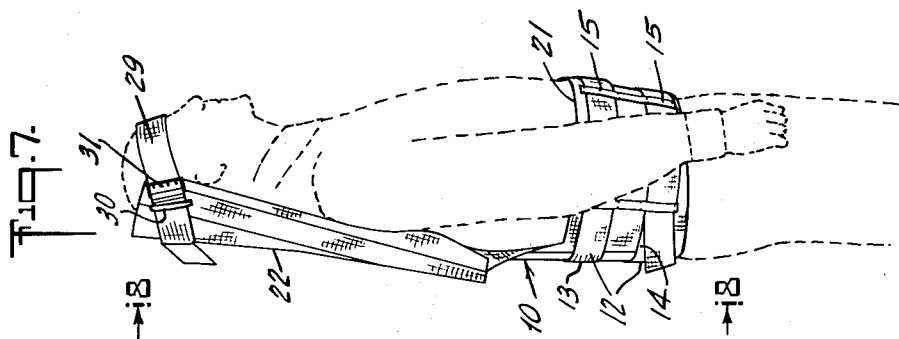
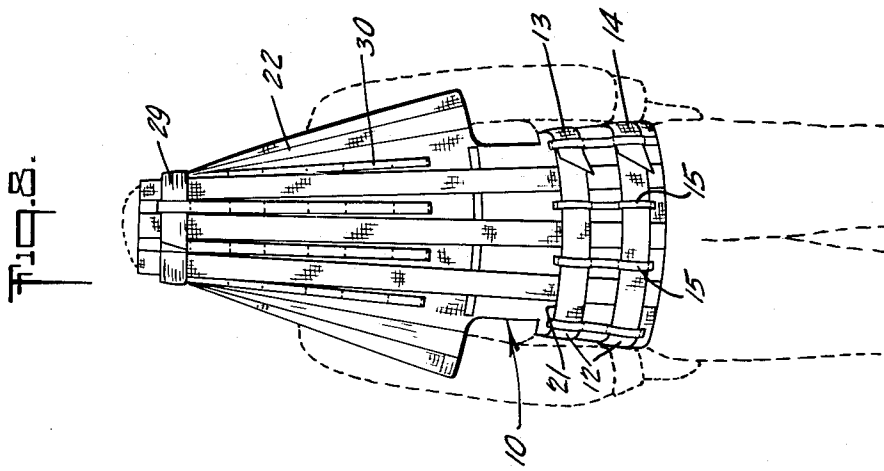
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IMMOBILIZING SPLINT

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1 Claim. (Cl. 128—87)

This invention relates to a device to immobilize injured areas of the body such as fracture of limbs and other areas and has particular application to such immobilization during transportation of the injured person from the scene of the injury to the hospital or doctors' office, where surgical facilities are available. The device is adapted for use by first aid and ambulance personnel, who may readily apply it to the person injured and thus provide a reliable safeguard against complications which often arise on movement of the patients, such as grinding of fractured segments, dislocation of fractured parts, etc. The device, while effectively immobilizing injured areas of the body, permits the patient to be turned to more convenient positions without the risk heretofore involved in turning the patient procedures, as for example, where sandbags were used.

While the device as above noted is primarily intended to assure the safe transportation of injured persons, it is also applicable to post-operative care and treatment of patients, particularly for those suffering very severe injuries, wherein it is frequently desirable to immobilize the injured area of the body during convalescence and in the period following surgery.

The device is equally applicable to additional special cases, as, for example, where, by virtue of advanced age or for other reasons, surgery should be avoided. In such cases, the device may be used to maintain the injured area of the body immobilized and thus enable bones to heal over prolonged periods of time, in a normal fashion. As will become apparent from the description below, the device provides effective means for immobilizing the injured area of the body and at the same time enabling access to be had of the immediately adjacent areas, as for example, for the purpose of changing dressings.

These and other advantageous objects, which will appear from the drawings and from the description hereinafter, are accomplished by the structure of my invention, of which an embodiment is illustrated in the drawings. It will be apparent, from a consideration of said drawings and the following description, that the invention may be embodied in other forms suggested thereby, and such other forms as come within the scope of the appended claims are to be considered within the scope and purview of the instant invention.

In the drawings:

Fig. 1 is an elevational view of an immobilizing device embodying the invention,

Fig. 2 is a transverse sectional view taken on line 2—2 of Fig. 1 (enlarged),

Fig. 3 is a front elevational view, showing the application of the device to the case of a person who has suffered, for example, a leg fracture, the legs being shown secured together by the device against immobilization,

Fig. 4 is a side elevational view thereof taken on line 4—4 of Fig. 3,

Fig. 5 is a rear elevational view showing another application of the device to a leg injury case,

Fig. 6 is a front elevational view showing the applica-

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tion of the device to a patient who has suffered, for example, a spinal injury or fracture,

Fig. 7 is a side elevational view, thereof taken on line 7—7 of Fig. 6, and

Fig. 8 is a rear elevational view thereof, taken on line 8—8 of Fig. 7.

As shown in the drawings, the device of this invention comprises a member 10, which may be of canvas or other material cut to define a transverse flexible body portion 11 (preferably rectangular) provided with means 13, 14 extending from one longitudinal end 17 thereof, for closing said longitudinal end against the opposite longitudinal end 18 thereof, as, for example, shown in Fig. 6. Said means 12 may comprise flexible straps 13, 14 passed through loops 15 on the body portion 11 and provided with buckles 16 or the like whereby said straps may be taken up to adjust the body portion 11 to the waist of the person. It will be appreciated that in the case of a very thin person, one longitudinal end (17 or 18) may be overlapped over the other and the straps tightened; in the case of a very heavy person, said longitudinal ends 17, 18 may be spaced apart and the straps 13, 14 tightened to secure the flexible body portion 11 around the waist. The flexible body portion is thus adapted to be positioned in a given plane wherein the longitudinal axis 27 (Fig. 1) of the body portion 11 is disposed in the plane of the waist portion of the body of the person to whom the device is applied. A flexible connector portion 20 depends from the lower longitudinal edge 21 of the body portion 11, said connector section being of less width than the body portion, and a flexible limb portion 22 of greater width depends from the connector portion 20 which thereby connects the body portion 11 and limb portion 22 in spaced relation. The flexible limb portion 22 is preferably downwardly tapered or of "keystone" outline so that when the device is applied to the limb of the person (as for example, to a person's leg, Fig. 5 or to the back and head, Fig. 8), the said connector portion will conform to the contour of said body portions. The body portion 11, the connector portion 20 and flexible limb portion 22 are provided with aligned pockets 23, 24, 25 to receive a plurality of slats 26 which are preferably made of any suitable flexible material, such as wood, for example, pervious to X-rays so that the device need not be removed in order to X-ray the injured area. These pockets and slats converge downwardly so as to fit the general tapering contour of the leg of a person. This facilitates the close fit of the slats constituting splints to correctly hold the injured member completely immobilized throughout the length thereof as required. The limb portion 22 is provided with means 28 such as a plurality of straps 29 secured to said limb portion 22 and is provided with loops 30 thereon; and with means such as buckles 31 to facilitate tightening the limb portion 22 upon the limb to be immobilized. Thus, for example, in a case of fracture of the leg (shown in Fig. 5) where it is desired to immobilize the leg, said limb portion 22 may be tightened about said leg member, and if it is desired to also immobilize both legs, that may be done by passing the lowermost strap around the second leg and tightening the same as shown in Fig. 3.

In use of the device for spinal or head injuries, the device is inverted from the Figs. 2 and 5 position to that shown in Figs. 6, 7 and 8. The transverse flexible body portion 11 is again secured around the waist of the person; one of the end straps 29 of the limb portion 22 may be fastened around the head of the injured person, thus effectively immobilizing the back and head. This application of the device is particularly useful in the case of spinal, back and head injuries.

The configuration of the device provides openings 32, 33, to facilitate the use of bed pans without disturbing

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the device proper. The device is completely sanitary, and the slats 26 (Fig. 2) may be removably secured to the pockets 23, 24, 25 by use of any suitable separable fastener means closing the ends of pockets 23, for example.

In order to wash or ship the device, the slats may be removed from said pockets and the complete device, being flexible, may then be rolled up for facility in transportation and for deposition into sterilizing apparatus. By selective loosening and tightening of certain of the straps 29, access may be had to the body immediately adjacent the wound for replacing dressings, etc., without disturbing the immobilization of the wound.

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

An immobilizing splint device for application to a person to immobilize an injured area of the body, comprising an elongated, substantially rectangular, flexible main body portion having substantially continuous upper and lower edges, said main body portion being adapted to be positioned around the waist of a person, means on said main body portion of said device to secure said main

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body portion about the waist of the person, a flexible connector section depending from the lower longitudinal edge of the main body portion of the device medially thereof, a flexible limb portion extending from the connector section, the limb portion and the connector portion each being of substantially less transverse dimensions than the length of the main body portion of the device, the edges of said limb portion being downwardly and inwardly tapered, parallel pockets medially disposed on said main body and limb portions to receive slats, a plurality of relative rigid slats in said pockets extending substantially continuously from the upper edge of said main body portion to the lower edge of the limb portion, and means on said limb portion for securing the same about the limb to be immobilized.

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