

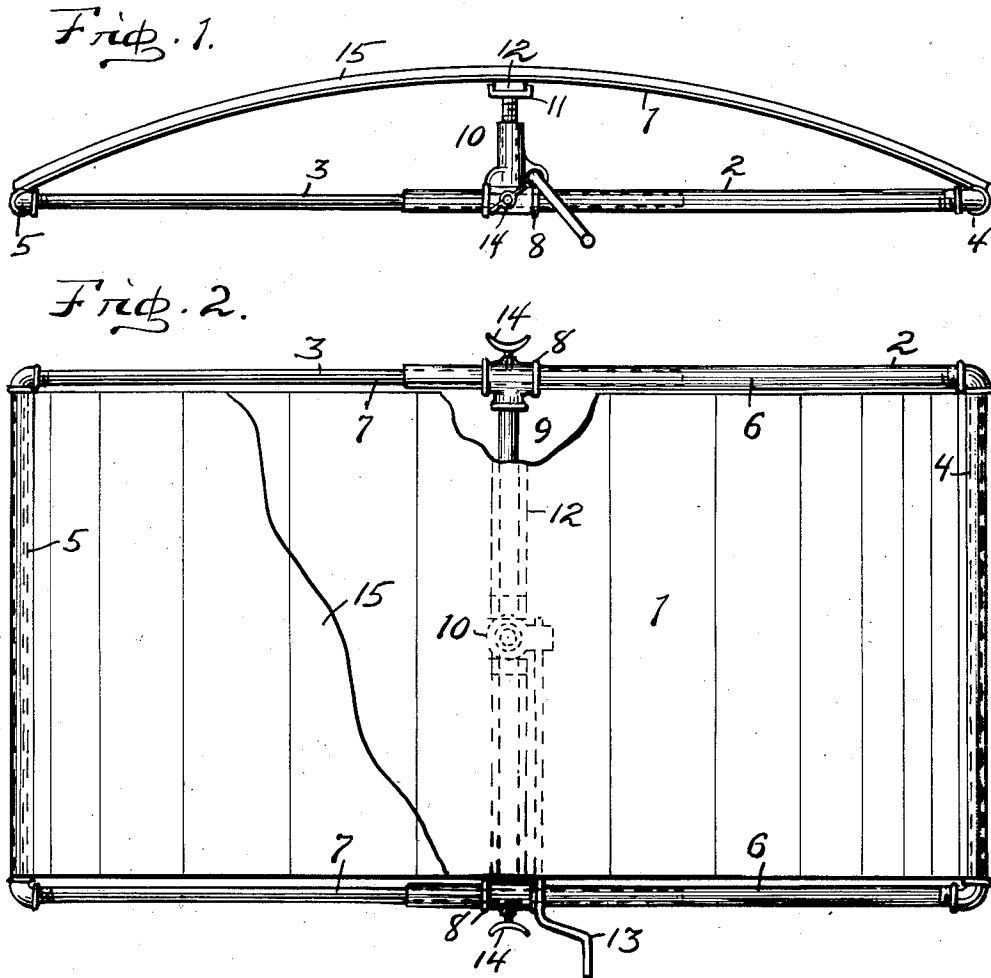
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HYPEREXTENSION FRAME

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HYPEREXTENSION FRAME

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3 Claims. (Cl. 5—327)

This invention relates to improvements in hyper-extension frames for surgical treatment of spinal injuries. The object of the invention is to provide an arcuate support for a mattress having means in connection therewith for adjustment whereby the curvature of the mattress-supporting plate is increased or decreased according to the degree of hyper-extension desired to be imparted to the body of a patient positioned upon the mattress. Another object is to provide an appliance of its kind that is self-contained, compact, and conveniently portable.

An illustrative embodiment of the invention is shown in the accompanying drawing, in which:—
Fig. 1 is a side elevation of a structure in which the invention is incorporated; and
Fig. 2 is a plan view projected from Fig. 1, a portion being broken away.

The illustrative embodiment of the invention consists of a flexible mattress-supporting plate; a frame structure having adjustable parts to which the ends of the plate are attached; and an elevator such as a screw-jack supported by the frame structure operably associated with said flexible plate.

The mattress-supporting plate 1 preferably is formed of spring metal or of such quality as to be capable of being sprung between its ends into arcuate form and is secured to a frame having relatively movable parts 2 and 3. The ends of said plate are suitably secured respectively to corresponding end members 4 and 5 of said frame structure. The frame preferably is formed of tubing, the side members 6 and 7 of which have telescopic relation with each other so that the frame parts are longitudinally adjustable with respect to each other.

The side members 6 have thereon T-connections 8 with which is secured a cross-piece 9 located approximately midway between the ends of the frame structure, and centrally upon said cross-piece is mounted a screw-jack 10, the head 11 of which bears upwardly against a cross-piece 12 secured to the bottom face of the plate 1 so that when the head 11 of the jack is moved vertically the curvature of the plate is altered and the telescoping parts of the frame have relative adjustment accordingly. The jack is provided with an operating crank 13, and the connections 8 are provided with set-screws 14 that

extend through the side members 6 and when tightened bind against the side members 7, whereby the parts 2 and 3 of the frame are clamped in adjusted positions.

Preferably the plate 1 has secured upon its upper surface a covering 15 of felt or other suitable cushioning material.

In use, the frame is conveniently placed upon a bed (not shown) of the type ordinarily used in hospitals, and a mattress (not shown) is superimposed above the plate so that the mattress will be arched more or less beneath the patient accordingly as the crank 13 is manipulated and thereby hyper-extension is applied to the patient while lying on the mattress to the extent desired.

I claim:—

1. In an appliance of the class described, a frame structure having relatively movable parts for lengthwise adjustment of said frame, one of said parts having a cross-piece located approximately midway between the ends of said frame structure, a mattress-supporting spring plate the ends of which are secured to the corresponding outer ends of said movable parts, a jack disposed between said frame and spring plate and provided with operating means whereby said plate is adjustably arched, and means for securing the frame parts in adjusted positions.

2. In an appliance of the class described, a frame structure having relatively movable parts for lengthwise adjustment of said frame, one of said parts having a cross-piece located approximately midway between the ends of said frame structure, a mattress-supporting spring plate the ends of which are secured to the corresponding outer ends of said movable parts, and a jack disposed between said frame and spring plate and provided with operating means whereby said plate is adjustably arched.

3. In an appliance of the class described, a frame structure having side members arranged for adjustment with respect to each other to lengthen or shorten said structure, a flexible mattress-supporting plate secured at its ends to the corresponding ends of said structure, and a jack disposed between said structure and plate by which the plate is adjustably curved and the length of the structure is correspondingly altered.

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