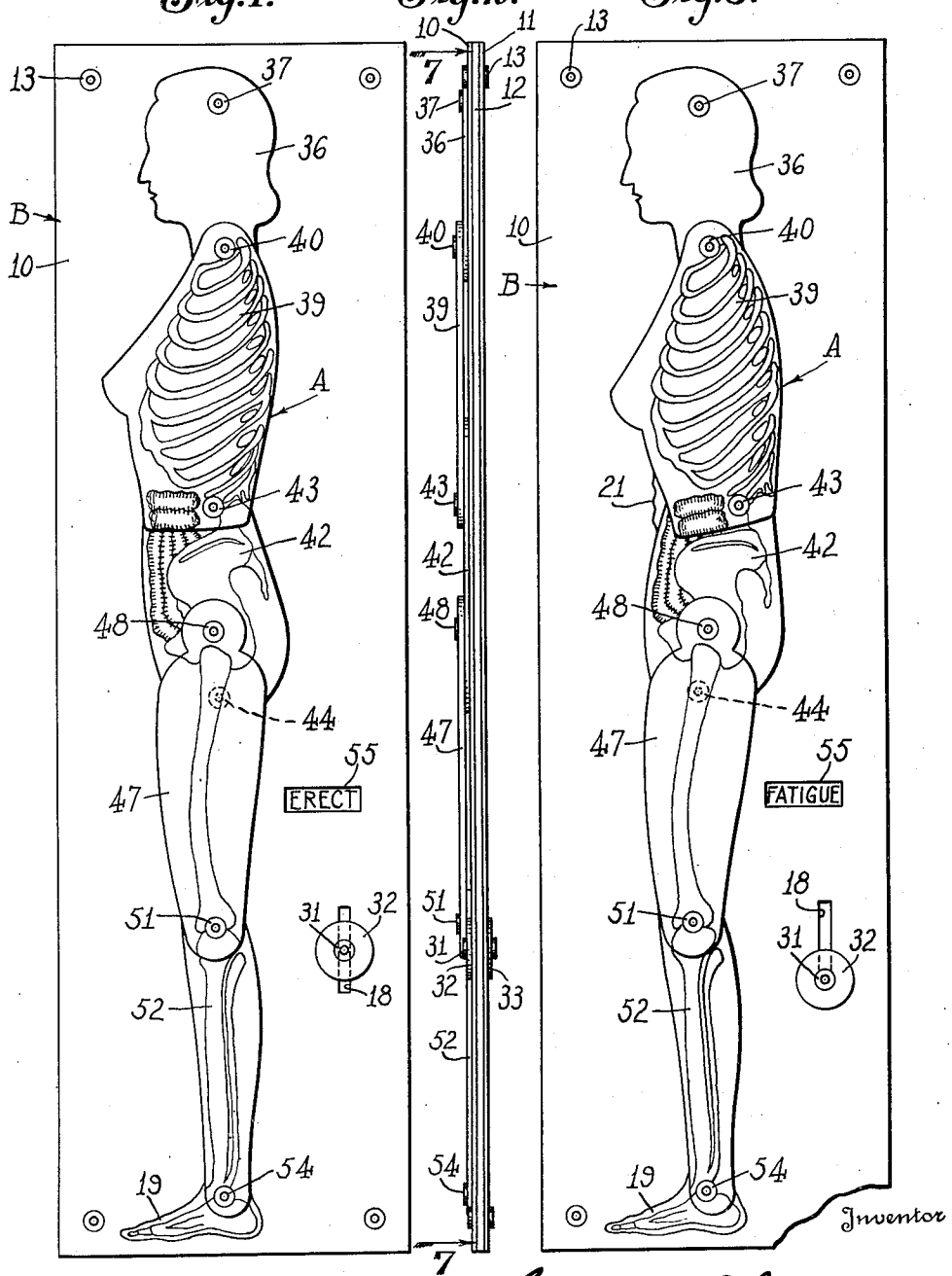
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DEVICE FOR POSTURE STUDY

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Fig. 1. Fig. 2. Fig. 3.



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Fig. 4.

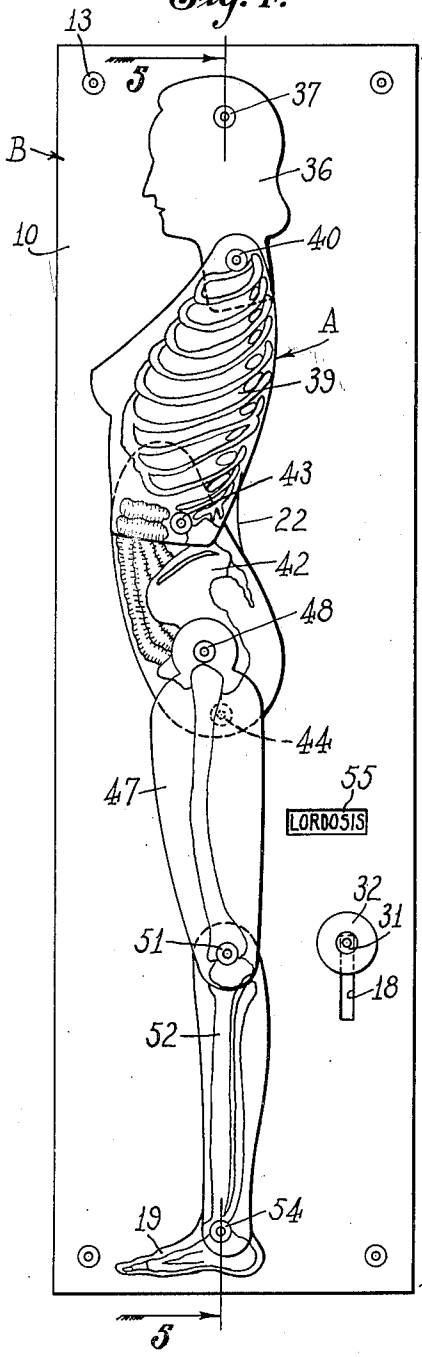


Fig. 5.

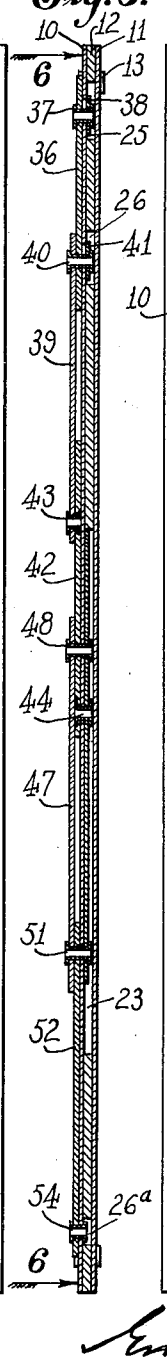
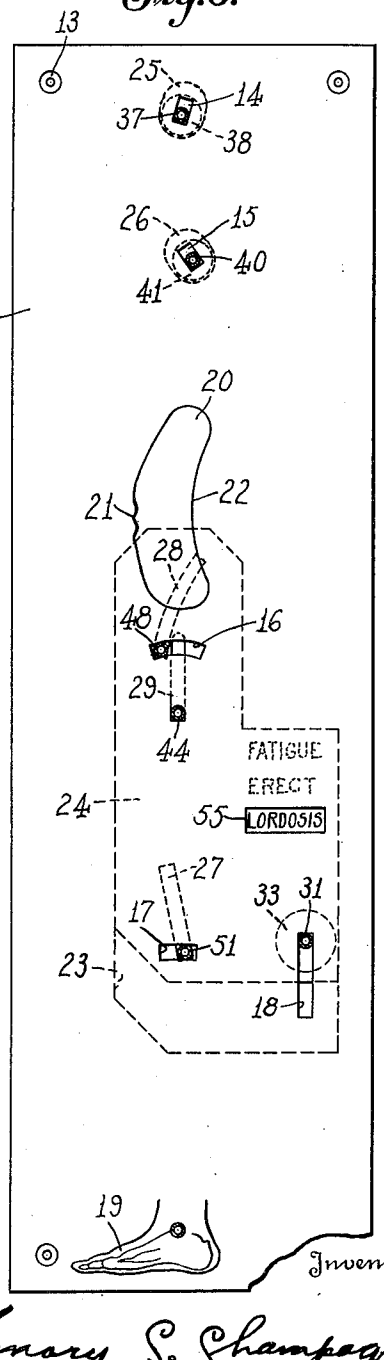


Fig. 6.



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Fig. 7.

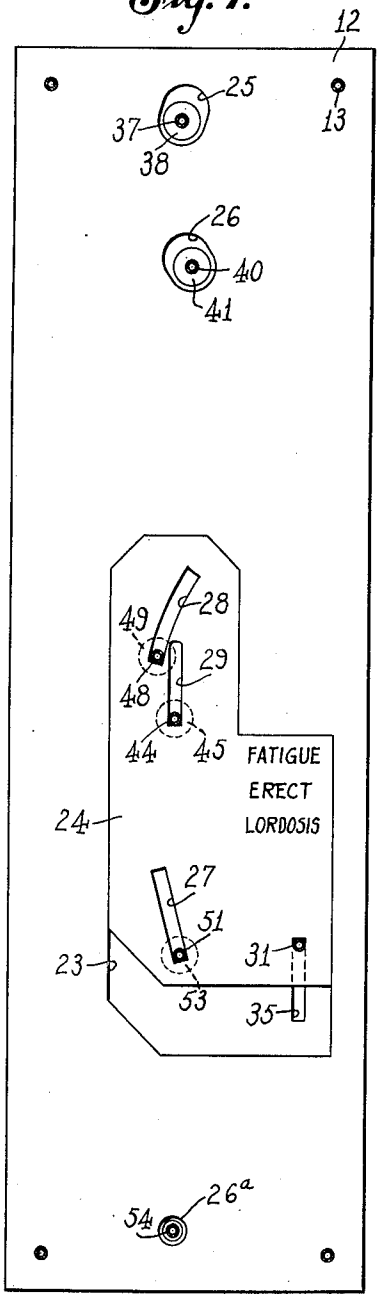
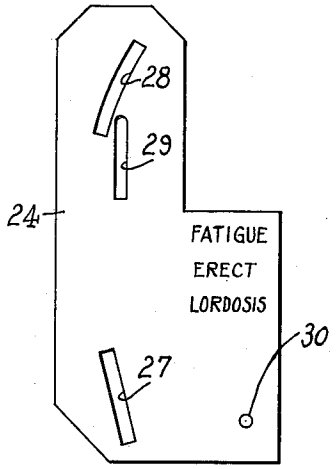


Fig. 8.



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DEVICE FOR POSTURE STUDY

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Application July 22, 1946, Serial No. 685,544

4 Claims. (Cl. 35—29)

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This invention relates to a device designed to be employed in the study of various postures of the human body, and in general relates to a device of the type illustrated in the Versoy Patent No. 2,180,181, wherein is shown a two-dimensional jointed figure having parts of the form and shape of the human body in profile, the parts being pivotally or flexibly joined together at points approximating the joints of the human body, and which parts are secured to a panel or card so that they may be moved to various positions.

The present invention relates to certain improvements in a device of this kind, which provide for ready movement of the parts of the figure or manikin to various positions of posture, so that the figure in these positions will be as near lifelike as possible. Moreover, certain features of construction in the device of the present application tend to lessen resistance to the movement of the parts of the figure so that adjustments may be easily made without binding or friction between the various elements of which the figure is constructed.

One object of the present invention is to provide a posture-study device comprising a jointed figure simulating the form of the human body in profile, the parts of which are flexibly joined or pivoted together at points approximating the joints of the human body, so that they may be moved into various positions.

A further object of the invention is to provide a posture-study device of the character described, which may be made of relatively few parts so that it will be economical to construct and easy to operate.

Still another object of the invention is to provide a jointed figure for posture study, and means for operating or moving the parts of this figure into various recognized postures, both correct and incorrect, with a minimum of frictional resistance and with a consequent ease of operation.

To these and other ends the invention consists in the novel features and combinations of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a front elevational view of a posture-study device embodying my improvements;

Fig. 2 is a side elevational view thereof;

Fig. 3 is a view similar to Fig. 1, showing the parts in another position;

Fig. 4 is a view similar to Fig. 1, showing still another position of the parts;

Fig. 5 is a sectional view on line 5—5 of Fig. 4;

Fig. 6 is a sectional view on line 6—6 of Fig. 5, showing the front supporting plate;

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Fig. 7 is a sectional view on line 7—7 of Fig. 2, showing the spacing plate; and

Fig. 8 is a front elevational view of the operating slide.

To illustrate a preferred embodiment of my invention, I have shown in the drawings a jointed figure, designated generally by the letter A, which is mounted upon a support, designated generally by the letter B.

The support B consists of three parts, a front part or panel 10, a back card or panel 11, and a spacing element 12 mounted between the front and back panels. These elements may be formed of any suitable material, such as a sheet of cardboard or plastic, for example, and are secured together at each of their four corners by suitable fastening devices such as rivets or eyelets 13.

The front card or supporting member 10 is shown more especially in Fig. 6 of the drawings, and is provided with a plurality of slots employed principally to accommodate the pivot pins of the parts of the figure, which will be hereinafter described. Adjacent the upper end thereof is a slot 14 slightly inclined in a vertical direction, while spaced downwardly therefrom is a slot 15 also slightly inclined but in a direction opposite to that of the slot 14. About the center of the card or support 10 is an arcuate slot 16, and at a still lower position is a further slot 17, which is also slightly curved or arcuate in shape. All of the above slots, as will be hereinafter described, are designed to serve as guide slots for pivot points of the pointed figure.

In addition, the support 10 is provided with a vertical slot 18 serving as a guide for the operating slide, as will be hereinafter explained, and upon the lower part of the card may be painted or printed a representation of the human foot 19. As the foot is always resting upon the floor in the various postures to be assumed by the figure, it is unnecessary that it be made a part of the figure, and it is, therefore, expedient to merely print or paint it upon the supporting card. Likewise, adjacent an intermediate portion of the card a figure 20 is printed, which in certain of the assumed postures will show beyond the outlines of the jointed figure to give a representation of the wrinkling of the abdominal flesh at 21, and in other assumed postures to show the outline of the curved portion of the back, as at 22.

The spacing element 12 is shown in Fig. 7, and consists of a card of substantially the same dimensions as the front support 10 but of somewhat greater thickness. This element is provided with a relatively large opening 23 of irregular shape

to slidably receive the operating slide 24, which will be described more particularly hereinafter. It is also provided with openings 25 and 26 registering generally with the openings 14 and 15, respectively, of the support 10, and a lower opening 26a which is designed to register with the ankle joint of the figure. These openings, generally speaking, are adapted to receive the ends of the eyelets or rivets which pivot the figure to the front card or support 10 so as to provide for freedom of movement of these pivots without any tendency to bind against adjacent parts.

The operating slide 24 is shown in Fig. 8, and is of a shape generally similar to that of the opening 23, but of such a size that it is permitted vertical movements in this opening but restrained against lateral movements. That is, the side edges of the slide 24 make a snug fit against the side edges of the opening 23, although the length of the opening 23 is such that longitudinal movement of the operating slide is permitted therein. The slide is provided with operating slots 27 and 28, the former being inclined slightly from the vertical and the latter being of arcuate form. These slots cooperate with certain of the movable joints of the figure, as will be hereinafter described, and a further slot 29 is provided, which slot extends vertically and receives one of the fixed joints of the figure so as to permit movement of the slide relatively to this joint. That is to say, the slot 29 merely serves as a guide slot for the slide 24, and does not serve as an operating cam slot to move any of the parts of the figure.

The slide 24 is also provided with an opening 30 to receive a rivet 31 carrying buttons 32 and 33 upon its ends, one of the buttons being on the face of the front support 10, while the other is on the rear face of the rear support 11, so that the operator, by placing his thumb upon one button and the forefinger upon the other, may readily move the slide upwardly and downwardly to bring about adjustment of the parts of the figure to various postures.

The rear card or supporting plate 11 is substantially a solid sheet, but is provided with a vertical slot 35 (Fig. 7) to receive the rivet 31 and permit the sliding of this rivet, which is fixed in the slide 24, relatively to the support 11. One principal function of this rear card is to close the opening 23 in the spacing element 12, and, together with the front supporting member 10, retain the slide 24 within the opening 23 of the spacing member.

The figure A consists generally of a head section 36 supported upon a pivot such as the eyelet or rivet 37, which, as shown in Fig. 6, passes through the slot 14 of the member 10, and at its rear end is provided with a washer 38 disposed in the opening 25 (Fig. 7). The figure also comprises a chest portion 39 pivoted to the head portion by a rivet or eyelet 40, which extends through the slot 15 (Fig. 6), and upon its rear end is provided with a washer 41 disposed in the opening 26 of the spacing member 12. It will be seen, therefore, that the rear ends of these rivets are received in the openings 25 and 26, and are, therefore, held out of contact with the rear supporting member 11, as shown in Fig. 5, so that there will be no frictional resistance to their movements.

A lower abdominal section 42 is pivoted to the section 39 at 43. This pivot, however, extends only through the two sections, as shown in Fig. 5, and does not extend into the front support 10. The section 42 is, however, pivoted to the front support by the pivot pin 44, which, as shown in Fig. 6, extends through the front support and also through the slot 29 in the slide 24, and is provided upon its rear end with an enlarged portion 45 which lies in the opening 23 rearwardly of the slide 24. Thus, while the section 42 is pivoted to the support, this pivot 44 is not movable with respect to the support, as are certain of the other pivots. An upper leg section 47 is pivoted to the abdominal section 42 by the pivot pin 48, which pivot pin extends through the slot 16 in the card 10 (Fig. 6), and also through the slot 28 in the slide 24 (Fig. 7), and is provided with an enlarged portion 49 at its rear end which operates within the opening 23, so that the rear end of this pivot operates in the space between the slide 24 and the rear support 11.

Pivoted at 51 to the upper leg section 47 is a lower leg section 52, the pivot 51 passing through the slot 17 (Fig. 6), and also through the slot 27 of the slide 24, and likewise has an enlarged portion 53 at its rear end operating between the slide 24 and the rear support 11. The leg section 52 is likewise pivoted to the front support 10 by the rivet or eyelet 54, which, as shown in Fig. 7, operates in the opening 26a of the spacing member 12.

It will be seen, therefore, that all of the pivots, with the exception of the pivot 43, which only joins two sections of the figure and does not enter the supporting structure, operate in openings in the spacing member 12, that is, either in the openings 25, 26 and 26a or in parts of the enlarged opening 23, so that the movements of these pivots will be attended with as little friction as possible. At the same time their rear ends will be protected by the rear card or support 11, which also serves with the front support 10 to hold the operating slide 24 in place. As shown in Figs. 7 and 8, the slide 24 may be provided with certain indicia such as the words "Fatigue," "Erect" and "Lordosis," to indicate the different postures assumed by the figure corresponding to different positions of the slide, and the front support 10 is provided with a slot or window 55 through which these designations may be read by the user of the device.

It will also be seen that only two of the various joints of the figure are positively moved with respect to the support, these being the pivots 48 and 51, which are moved by the cam slots 27 and 28 of the slide 24, the movements being restrained or guided by the slots 16 and 17 of the front support 10, and that, while the pivots 37 and 40 are permitted movement in the slots 14 and 15 of the front supporting member 10, these movements are effected by movements of the abdominal section 42, and are not effected directly by movement of the slide.

As shown in Figs. 4 to 7 of the drawings, the slide 24 is in its uppermost position in the opening 23, and thus the designation "Lordosis" appears through the opening 55 in the front plate, showing that in this position of the parts the figure has assumed a lordosis posture. In this instance the pivots 48 and 51 are disposed in the lower ends of the slots 28 and 27, and therefore the pivot 48 has been moved to the left-hand end of slot 16, while pivot 51 has been moved to the right-hand end of slot 17. The knee joint, therefore, has been moved or bent rearwardly, while the upper thigh joint 43 has been moved forwardly. Likewise, the neck and head joints 40 and 37 have been permitted to drop downwardly

in the slots 14 and 15, as is the case in faulty posture. As the pivot 44 is fixed with respect to the support 10, movement of the pivot 48 forwardly or to the left, as shown in Figs. 4 and 6, moves the pivot pin 43 to the left so as to expose the curved backline 22 on the card 10, and presents a true lordosis posture.

If now the slide 24 is moved downwardly, by the disks 32 and 33, to an intermediate position in which the notation "Erect" appears through the opening 55, the parts are in the position shown in Fig. 1. In this case the pivot 48 will lie substantially centrally of the slot 16, and likewise the pivot 51 will lie substantially centrally of the slot 17. This moves the pivot 43 backwardly or to the right so as to move the pivots 40 and 37 upwardly, as permitted by the slots 14 and 15, to bring about a true erect posture.

Upon further downward movement of the slide 24, bringing the notation "Fatigue" opposite the window 55, it will be seen that the knee joint 51 will be moved forwardly, or to the left-hand end of the slot 17, while the pivot 48 will be moved further rearwardly, or to the right-hand end of the slot 16 in the front support 10, so as to bring about a forward bending of the figure at the knee, and a rearward bending at the hip. Likewise, the pivot pin 43 will be moved rearwardly, thus again permitting the pivots 37 and 40 to drop downwardly to the lower ends of slots 14 and 15, thus bringing about the fatgue posture, shown in Fig. 3. In this position of the jointed members of the figure, the wrinkled flesh line 21 on the background 10 is exposed forwardly of the chest and abdominal sections 39 and 42.

While I have shown and described a preferred embodiment of my invention, it will be understood that it is not to be limited to all of the details shown, but is capable of modification and variation within the spirit of the invention and within the scope of the claims.

What I claim is:

1. A device for posture study comprising a front support, a two-dimensional jointed figure carried on one face thereof, the sections of which have the contours of parts of the human body, said figure comprising an upper body section having a pivot member adjacent its upper end, a lower body section pivoted to the support adjacent its lower end, an upper leg section pivoted to the lower body section above the pivotal connection of the latter with the support, said body sections being pivoted together at their adjacent ends, said upper leg section having a pivot member adjacent its lower end, said support having a slot therein to receive the pivot member adjacent the upper end of the upper body portion and additional slots therein to receive the pivots at the upper and lower ends of said leg section, and a movable operating member connected to said last-named pivots to move the leg and lower body sections and thereby move the upper body section.

2. A device for posture study comprising a front support, a two-dimentional jointed figure carried on one face thereof, the sections of which have the contours of parts of the human body, said figure comprising an upper body section having a pivot member adjacent its upper end, a lower body section pivoted to the support adjacent its lower end, an upper leg section pivoted to the lower body section above the pivotal connection of the latter with the support, said body sections being pivoted together at their adjacent ends, said upper leg section having a pivot member adjacent its lower end, said support having a slot therein to receive the pivot member adjacent the upper end of the upper body portion and additional slots therein to receive the pivots at the upper and lower ends of said leg section, a movable operating member connected to said last-named pivots to move the leg and lower body sections and thereby move the upper body section, and a head section pivotally connected to the upper body section and movably connected to the support.

3. A device for posture study comprising a front support, a two-dimensional jointed figure carried on one face thereof, the sections of which have the contours of parts of the human body, said figure comprising an upper body section having a pivot member adjacent its upper end, a lower body section pivoted to the support adjacent its lower end, an upper leg section pivoted to the lower body section above the pivotal connection of the latter with the support, said body sections being pivoted together at their adjacent ends, said upper leg section having a pivot member adjacent its lower end, said support having a slot therein to receive the pivot member adjacent the upper end of the upper body portion and additional slots therein to receive the pivots at the upper and lower ends of said leg section, a movable operating member connected to said last-named pivots to move the leg and lower body sections and thereby move the upper body section, and a lower leg section pivoted to the support at its lower end and pivoted to the upper leg section at its upper end.

4. A device for posture study comprising a front support, a two-dimensional jointed figure carried on one face thereof, the sections of which have the contours of parts of the human body, said figure comprising an upper body section having a pivot member adjacent its upper end, a lower body section pivoted to the support adjacent its lower end, an upper leg section pivoted to the lower body section above the pivotal connection of the latter with the support, said body sections being pivoted together at their adjacent ends, said upper leg section having a pivot member adjacent its lower end, said support having a slot therein to receive the pivot member adjacent the upper end of the upper body portion and additional slots therein to receive the pivots at the upper and lower ends of said leg section, a movable operating member connected to said last-named pivots to move the leg and lower body sections and thereby move the upper body section, a spacing member secured to the opposite face of the support and having an opening in which said operating member is slidably disposed for rectilinear movement, said member being guided by the edges of said opening, and a backing member covering said opening.

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