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FOOT AND LEG REST

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FIG. 1

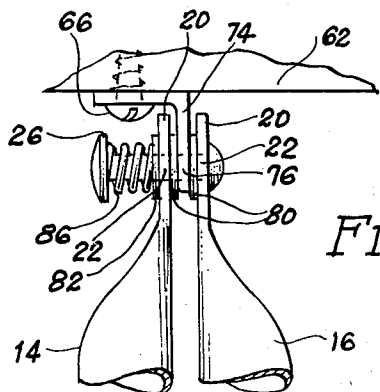
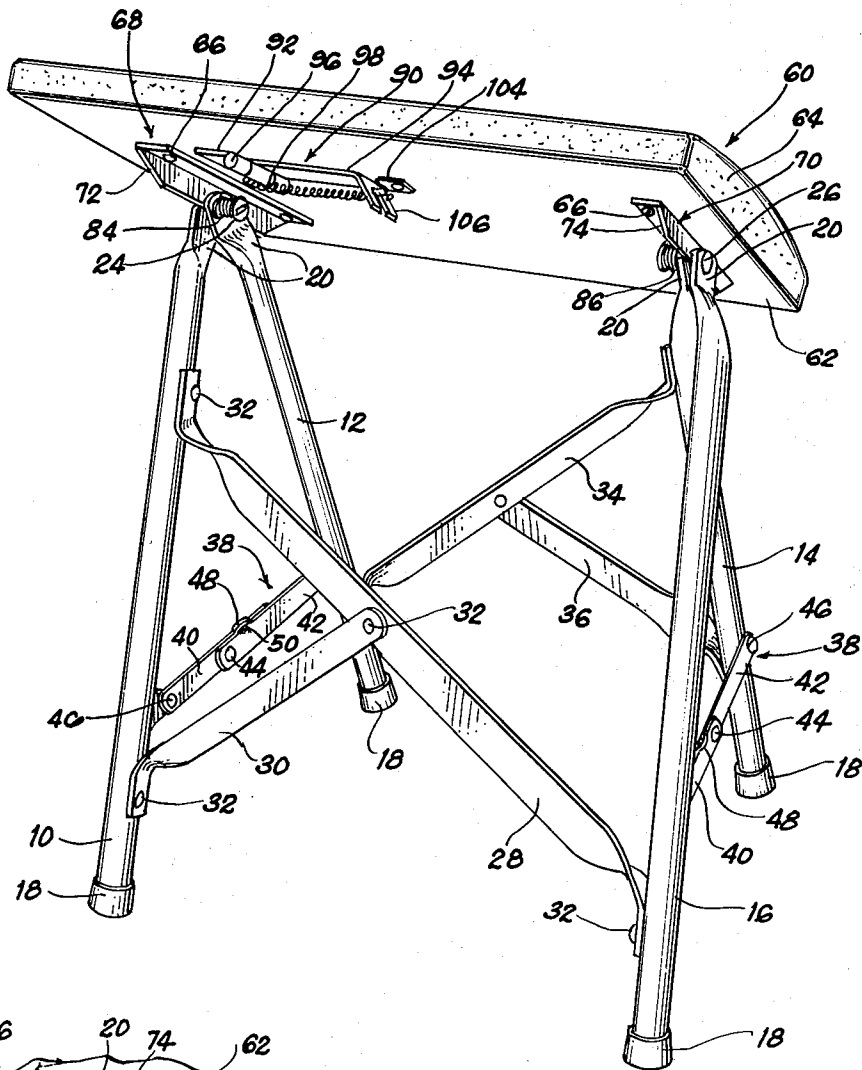


FIG. 2

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FOOT AND LEG REST

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This invention is directed to a foot and leg rest which is therapeutically beneficial. It is well known that raising the level of a sitting person's feet above their normal level, and particularly above the level of the base of the trunk, tends to increase circulation and to relax and ease tired feet and legs. The foot and leg rest described herein is principally concerned with the accomplishment of those purposes.

The main object of this invention is to provide an improved foot and leg rest which more easily enables a person in a sitting position to secure the benefits obtainable from the elevation of his feet and legs.

Another object of this invention is to provide in a foot and leg rest having an eccentrically pivotally mounted foot and leg supporting element, adjustable means for orienting said element in a wide variety of self-sustaining positions which means will not interfere with the free rocking movement of said element when a person's feet of legs have been placed upon said element.

A further object of this invention is to provide in a foot and leg rest having an adjustably positionable foot and leg supporting element, means enabling the foot and leg rest to be folded so that it may be stored in an area smaller than is possible with conventional foot and leg rests.

Another object of this invention is to provide in a foot and leg rest having a foot and leg supporting element which is self-sustaining in a wide variety of positions, means for locking said element in at least one of said positions, preferably a substantially horizontal position, when it is desired to use the foot and leg rest in a fixed, non-pivoting, non-adjustable orientation. When so locked the foot and leg rest supporting element may also serve, in an "emergency," as a TV tray, a stool, or even a desk for a child.

Pivotaly eccentrically mounted foot and leg rest supporting elements are known. U.S. Patent No. 2,914,116, issued November 29, 1959, to Heinz Goehmann, is illustrative of that. It will be appreciated, however, that the type of structure exemplified by the Goehmann patent requires a force outside of the structure to be exerted to sustain the supporting element in most predetermined orientations. That is because the center of gravity of the supporting element lies outside of the hinge axis upon which it pivots, that is, the supporting element is eccentrically mounted. The force exerted is usually via the hands of the person desiring to use the device, and that force must be exerted at the time that person is already sitting down in the chair with which the foot and leg rest is to be used. Reaching forward to accomplish that is extremely difficult and uncomfortable for many persons, especially those having any one of a number of physical infirmities.

The invention described herein completely eliminates the necessity of such reaching forward or other uncomfortable manipulation of the foot and leg supporting element by enabling the person using the device to orient the surface of the stool in a relatively horizontal self-sustaining position prior to sitting down. Then after sitting down, and when his feet or legs are finally placed upon the supporting element, the person using the foot and leg rest may still cause the element to pivot and obtain the advantages of such relatively free pivotal movement.

Still further objects and advantages of this invention

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will become apparent from the following description and drawings of which:

FIGURE 1 is a perspective view of a preferred embodiment of my foot and leg rest; and

FIGURE 2 is a fragmentary view of one type of pivoting means upon which the foot and leg rest supporting element is supported from a base structure of the device.

Referring now to FIG. 1, the foot and leg rest of this invention includes four supporting legs 10, 12, 14, 16, which may be made of tubular metal, as shown in the drawing. Each leg terminates at its lower end inside a cap 18 made of rubber or other material suitable to prevent the foot rest from slipping and sliding on highly polished surfaces and which also serves to prevent the scratching or cutting of supporting surfaces by exposed metal ends. Each leg terminates at its upper end in a laterally flattened end portion 20. Each flattened end portion 20 has a hole 22 therein. The legs 10 and 12 form one pair and are pivotally connected by a pivot pin or rivet 24, and similarly the legs 14 and 16 form another pair and are pivotally connected by a pivot pin or rivet 26.

The legs 10 and 16, the two front legs, are interconnected by a brace structure including formed metal strips 28 and 30. The strip 28 extends diagonally between legs 10 and 16 and is secured thereto at its opposite ends by rivets 32 or other suitable fasteners. The strip 30 is secured to the mid-region of the strip 28 and extends angularly therefrom to the leg 10, to which it is secured in a similar manner. In the same way, the rear legs 12 and 14 are interconnected and reinforced by a brace structure composed of formed metal strips 34 and 36.

Below their centers, the legs 10 and 12 are interconnected by a folding brace structure 38 which is adapted to hold the legs 10 and 12 in a fixedly spaced relationship to one another when said brace structure is fully extended while the legs 10 and 12 may be brought together manually to closed position by collapsing the folding brace structure. Said folding structure, in the form illustrated, comprises two lever portions 40 and 42 pivotally connected together at adjacent ends by fastening means, such as a rivet 44. Said lever portions, at their other ends, are pivotally connected to the legs 10 and 12 by fastening means, such as rivets 46. The lever portion 40 has an indentation 48 therein and the lever portion 42 has a corresponding protuberance 50, the indentation 48 and the protuberance 50 being so positioned that when the lever portions 40 and 42 are in practical alignment with one another, the protuberance and the indentation mate to maintain the lever portions in their fully extended position. By pushing upwardly from the side opposite the protuberance and indentation near the rivet 44, the interlocked indentation and protuberance may be unlocked and the legs 10 and 12 may be swung together about the pivot pin or rivet 24 to bring those legs to an adjacent or closed position. Similar operations occur between the legs 14 and 16 and the corresponding lever portions and associated means.

A leg or foot supporting element 60 presenting a suitably padded and upholstered surface, which, in the present instance, is substantially rectangular and has a board 62 as its basic structure, and to which padded upholstery 64 is secured to cover its upper surfaces. Attached by fastening means such as screws 66 to the bottom surface of the board 62 are two L-shaped angle brackets 68 and 70 having side portions extending away from the board surface. The side portions 72 and 74 of the angle brackets 68 and 70, respectively, have coaxial holes 76 therethrough. The centers of those holes are substantially on a line which is parallel to the lower surface of the board and which extends longitudinally of the mid-region thereof.

As heretofore disclosed, the flattened end portions 20

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of the legs 10, 12, 14 and 16 each have a circular aperture 22 therein. The pivot pins or rivets 24 and 26 are inserted through those apertures and through the holes 76 and 78 in the side portions 72 and 74 of the angle brackets 68 and 70. Washers 80 are mounted on the pivot pins or rivets 24 and 26 between the flattened leg portions 20 and the side portions 72 and 74 of the angle brackets 68 and 70. Washers 80 may have either a smooth or a knurled or otherwise roughened surface.

As shown in FIG. 2, inwardly of the flattened ends 20 of the legs, washers 82 are mounted on the pivot pins or rivets 24 and 26, against which the ends of coiled compression springs 84 and 86 press. The other ends of the coil springs 84 and 86 press against enlarged ends or heads of the pivot rods 24 and 26. The coil springs 84 and 86 exert a predetermined pressure against the washers 82 for a purpose which will be described.

Also mounted on the bottom surface of the board 62 is a structure 90 for holding the supporting element 60 in a predetermined position. Said structure includes a mounting plate 92 which hingedly supports a fork plate 94 on a hinge pin 96. A coil spring 98 is attached at one end to the fork plate 94 and at the other end to the mounting plate 92. As shown in FIG. 1, the coil spring 98 is under tension. At the end of the fork plate 94 a spring snap detent 104 is secured to the undersurface of the board 62. The fork plate is positionable to be retained by the snap detent to keep it in its inoperative position. The fork plate 94 may be manually released from the snap means, so that it will swing downwardly from the bottom surface of the board 62 toward the legs 10 and 12 and into engagement with either of the legs 10 or 12. The cut-out or forked portion 106 of the fork plate 94 is shaped and proportioned to straddle fit over the selected one of the legs 10 or 12. The coil spring 98 remains under sufficient tension, when the forked portion engages one of the legs, to resiliently retain the fork plate 94 in its operative positions. When it is desired to return the fork plate 94 to its inoperative position, said plate may be manually swung away from the leg against which it was positioned and returned to its inoperative position.

In use, the legs of the foot and leg rest of this invention are moved to their fully open position in which the folding brace structures 38 are extended. The foot and leg rest is then placed in its proper orientation with respect to the chair with which it is to be used. Supporting element 60 is swung to a substantially horizontal position and is kept there by the adjustable, position-sustaining means of this invention.

The coil springs 84 and 86 being under compression, the coil spring 84 presses against the washers 82, and forces washers 80, flattened portions 20 and depending arm 72 into close frictional engagement. Likewise, coil spring 86 acts upon flattened portions 20 of legs 14 and 16 and arm 74. Sufficient force is exerted that the frictional force between portions 20 and arms 72, 74 (and washers 80) overcomes the tendency of the eccentrically mounted supporting element 60 to seek its position of equilibrium. Thus the foot and leg supporting element 60 may be oriented in any predetermined position, most usually a substantially horizontal position. However, the

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frictional forces are so slight that once a person's legs or feet are placed upon the top surface thereof, substantially no resistance to free rocking movement of the supporting element is encountered.

If desired, the foot and leg supporting element can be locked, as described, through the use of the fork plate 94 and its associated means. And, when it is desired to store the device, it may be collapsed by folding the legs together and swinging the foot and leg supporting element 60 to a position generally parallel to the legs.

The structure herein described is an illustrative embodiment only and I intend the scope of my invention to be limited only by the claims appended hereto.

I claim:

1. A foot and leg rest comprising, in combination, a supporting structure including pairs of legs in spaced and opposed relationship to one another, relatively rigid brace structures secured to and connecting opposed legs of said pairs, the legs of each pair having overlapped upper ends with aligned openings therein and extending therethrough, and folding braces connecting the legs of said pairs at positions spaced from said overlapped upper ends, a leg supporting element having a relatively flat lower surface with bracket means secured thereto in opposed relationship to one another and projecting therefrom at positions spaced to conform to the spacing between said pairs of legs, said bracket means having aligned openings therein, pivot pins extending through the aligned openings in the upper ends of each pair of legs and the opening in one of said bracket means and supporting the leg supporting element relative to the supporting structure for rocking movement relative thereto, resilient means mounted on each of said pivot pins and urging the upper ends of said pairs of legs and said bracket means toward one another to provide friction for holding said leg supporting element in an adjusted position relative to said pairs of legs, manually operable means movably secured to the lower surface of said leg supporting element and having a portion selectively engageable with either of said legs of one of said pairs for retaining said leg supporting element in either of two fixed positions relative to said legs, said selectively engageable portion of the manually operable means comprising an arm hingedly attached to said leg supporting element and having a forked end for selectively engaging either of said legs of one of said pairs, and means for holding said manually operable means in an inoperative position relative to said leg supporting element.

2. A foot and leg rest as defined in claim 1, and wherein said forked end of said arm is resiliently held in engagement with said selected one of said legs by spring means.

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