WALKER WITH ADJUSTABLE CRUTCH HEAD SUPPORTS

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ABSTRACT

A wheeled support structure defining an open framework enclosure open on one side for egress thereinto and exit therefrom. The enclosure includes an adjustable height crotch sling and belt assembly for application to a handicapped person or a convalescent patient, opposite side rails defining handrails which may be gripped by the person using the walker and also vertically and transversely adjustable crutch heads for positioning beneath the base ends of the arms of a person using the walker.

4 Claims, 5 Drawing Figures
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FIG. 4 is an enlarged fragmentary vertical sectional view taken substantially upon a plane passing through the mid-portion of one of the underarm crutch head supports; and

FIG. 5 is a perspective view of the belt portion of the combined safety belt and crotch sling assembly of the walker.

Referring now more specifically to the drawings, the numeral 10 generally designates the walker of the instant invention. The walker 10 includes an upstanding frame 12 which is generally rectangular in plan shape and includes four corner uprights 14, 16, 18 and 20 interconnected at their upper ends by means of a pair of opposite side upper connecting members 22 and 24 extending between the uprights 14 and 18 and the uprights 16 and 20, respectively, as well as a pair of opposite end connecting members 26 and 28 extending between the uprights 18 and 20 and the uprights 14 and 16, respectively. If it is desired, the connecting members 22, 24 and 26 may be of a single tubular member bent into U-shaped configuration and secured at its opposite ends, together with the opposite ends of the connecting member 28, to the upper ends of the uprights 14 and 16.

A pair of opposite side intermediate height connecting members 30 and 32 are connected between the uprights 12 and 18 and the uprights 16 and 20, respectively, and an intermediate height end connecting member 34 is connected between the uprights 14 and 16 at the level of the connecting members 30 and 32. Finally, a pair of lower opposite side connecting members 36 and 38 are connected between the lower end portions of the uprights 12 and 18 and the uprights 16 and 20, respectively, while a lower end connecting member 40 is connected between the lower end portions of the uprights 14 and 16 at the level of the connecting members 36 and 38.

The lower end extremities of the uprights 14, 16, 18 and 20 include caster wheel assemblies referred to in general by the reference numerals 42 and accordingly, the frame 12 is mobile in any direction across the surface 43 upon which the caster wheel assemblies 42 are supported.

A combined safety belt and crotch sling assembly referred to in general by the reference numeral 44 is provided and includes a waist-encircling belt illustrated most clearly in FIG. 5 of the drawings and designated by the reference numeral 46. One end of the belt 46 is provided with a buckle assembly 48 with which the other free end 50 of the belt 46 may be operatively engaged in order to adjust the effective circumference of the belt 46. The belt 46 includes peripherally spaced upper anchor rings 52 as well as lower peripherally spaced anchor rings 54.

The assembly 44 further includes a crotch engaging crotch panel 56 and the panel 56 is elongated and transversely narrowed intermediate its opposite ends. The panel 56 includes four corner portions from which spring closed hooks 58 are supported and the four corner spring closed hooks 58 are engageable with the lower anchor rings 54 for support of the crotch panel 56 from the safety belt 46. Further, the upper opposite side connecting members 22 and 24 include longitudinally spaced front and rear U-bolt anchors 60 to which the spring closed hooks 62 carried by the upper ends of four adjustable length flexible suspension straps 64 are secured. The lower ends of the suspension straps 64
The walker 10 further includes a pair of opposite side vertical support bars 68 at its rear end and provided with upper and lower guide sleeves 70 and 72 slidable on the connecting members 28 and 34, respectively, whereby the bars 68 are supported from the connecting members 28 and 34 for adjustable shifting toward and away from each other. Also, inasmuch as the guide sleeves 70 and 72 are slideably mounted on the connecting members 28 and 34, angular displacement of the bars 68 about their longitudinal axes is prevented.

Corresponding rear end portions 74 of a pair of front-to-rear extending support arms 76 include vertical sleeve portions 78 slidably disposed on the bars 68. The sleeves 78 include set-screws 80 whereby the height of the sleeves 78 on the bars 68 may be adjusted and the forward ends of the arms 76 include longitudinally spaced apertures 82 by which underarm engaging crutch heads 84 may be secured in adjusted position along the arms 76 and for support therefrom. Suitable fasteners 86 are secured through the crutch heads 84 and the corresponding apertures 82 in the associated arms 76. In this manner, the positioning of the crutch heads 84 along the arms 76 may be adjusted as desired. Further, inasmuch as the sleeves 78 carried by the arms 76 are vertically adjustable on the bars 68, the height of the crutch heads 84 may be varied as desired. Still further, inasmuch as the sleeves 70 and 72 carried by the upper and lower ends of the bars 68 are slideable along the connecting members 28 and 34, the spacing between the crutch heads 84 and their positioning transversely of the frame 12 may be adjusted as desired according to the needs of the individual physically handicapped person or convalescent patient utilizing the walker 10.

In operation, the handicapped person or convalescent patient is assisted into the frame 12 from the front side thereof after the combined safety belt and sling panel 6 have been applied. Then, the lower ends of the suspension straps 64 may be engaged with the anchor rings 52 and the height of the crutch heads 84 as well as their positioning longitudinally and transversely of the frame 12 may be adjusted.

After the convalescent or physically handicapped person has thus been positioned within the walker 10, he may proceed to walk with at least partial support from the walker 10. If but only light support is required, the hands of the person using the walker 10 may be engaged with the connecting members 30 and 32 utilizing the latter as handrails. If additional support for the person using the walker is desired, the height of the crutch heads 84 may be slightly increased so that the person using the walker 10 is also at least partially supported from the crutch heads 84. Finally, if almost total support of the person utilizing the walker 10 is desired, the length of the suspension or support straps 64 may be shortened so that a major portion of the weight of the person utilizing the walker 10 is supported from the combined safety belt and crotch sling assembly 44. Of course, if the person is utilizing the walker 10 only as a mobile hand-rail and he should lose his handgrip as well as his support from the crutch heads 84, the assembly 44 constitutes a back-up support preventing the physically handicapped person or convalescent patient utilizing the walker from falling to the surface 43.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.

What is claimed as new is as follows:

1. A walker for assisting persons to walk, said walker comprising an upstanding frame including front and rear pairs of opposite side upright corner members, longitudinal frame members secured between and interconnecting corresponding front and rear corner members intermediate their upper and lower ends and transverse frame members secured between and interconnecting at least the rear corner members intermediate the upper and lower ends of said rear corner members, said frame including an upper frame portion supported from the upper end portions of said corner members, said frame including opposite side crutch head support members disposed inwardly of upstanding planes containing corresponding corner members of said frame with crutch head members supported from said crutch head support members, said frame including means operatively supporting said crutch head support members for independent vertical shifting relative to said frame as well as independent horizontal shifting transversely of said frame, said means for supporting said crutch head support members for vertical and transverse shifting including said pair of upstanding support bars spaced transversely of said frame inwardly of said rear corner members, said support bars being supported from said frame for independent transverse shifting relative to said frame, a pair of front-to-rear extending generally horizontal support arms having their rear ends slidably mounted on said support bars, said support bars and bars including coacting means operable to releasably retain said support arms in adjusted vertically shifted position, said crutch heads being mounted on the forward end portions of said support arms for adjustable shifting therealong, said support arms comprising said crutch head support members.

2. The combination of claim 1 wherein the lower ends of said upright corner members are provided with ground-engaging support wheels.

3. A walker for assisting persons to walk, said walker comprising an upstanding frame including front and rear pairs of opposite side upright corner members, longitudinal frame members secured between and interconnecting corresponding front and rear corner members intermediate their upper and lower ends and transverse frame members secured between and interconnecting at least the rear corner members intermediate the upper and lower ends of said rear corner members, said frame including an upper frame portion interconnecting the upper end portions of said corner members, said frame including opposite side crutch head support members supported therefrom inwardly of upstanding planes containing corresponding corner members of said frame with crutch head members supported from said crutch head support members forward of the rear corner members of said frame, said frame including means operatively supporting said crutch head support members for independent vertical shifting relative to said frame as well as independent horizontal shifting transversely of said frame, said upper frame portion in-
including front and rear pairs of opposite side upper anchor portions, four downwardly convergent suspension strap members having their upper ends secured to said anchor portions, an adjustable length safety belt for encircling the waist of a person utilizing the walker, said adjustable length safety belt being supported from the lower ends of said strap members, said means for supporting said crutch head support members for vertical and transverse shifting including a pair of upstanding support bars spaced transversely of said frame inwardly of said rear corner members, said support bars being supported from said frame for independent transverse shifting relative to said frame, a pair of front-to-rear extending generally horizontal support arms having their rear ends rotatably and slidably mounted on said support bars, said support arms and bars including coacting means operable to releasably retain said support arms in adjusted rotated and vertically shifted positions, said crutch heads being mounted on the forward end portions of said support arms for adjustable shifting therealong, said support arms comprising said crutch head support members.

4. The combination of claim 3 including an elongated crotch cradling panel constructed of flexible material and draped in upwardly opening generally U-shaped configuration, the upper opposite ends of said panel being removably anchored to diametrically opposite portions of said belt.

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