Oct. 2, 1951 K. G. A. THUNBERG 2,569,739

SWIVELING ROCKER CRUTCH

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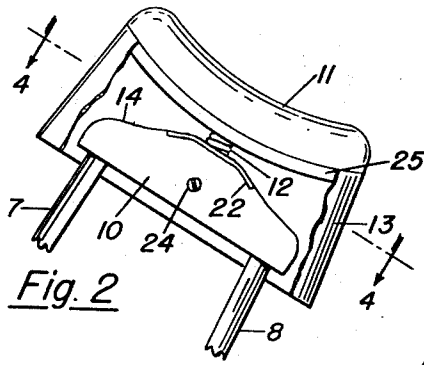


Fig. 2

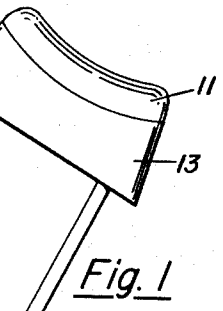


Fig. 1

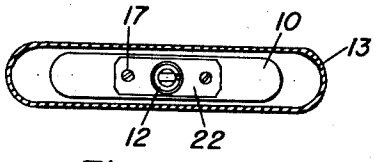


Fig. 4

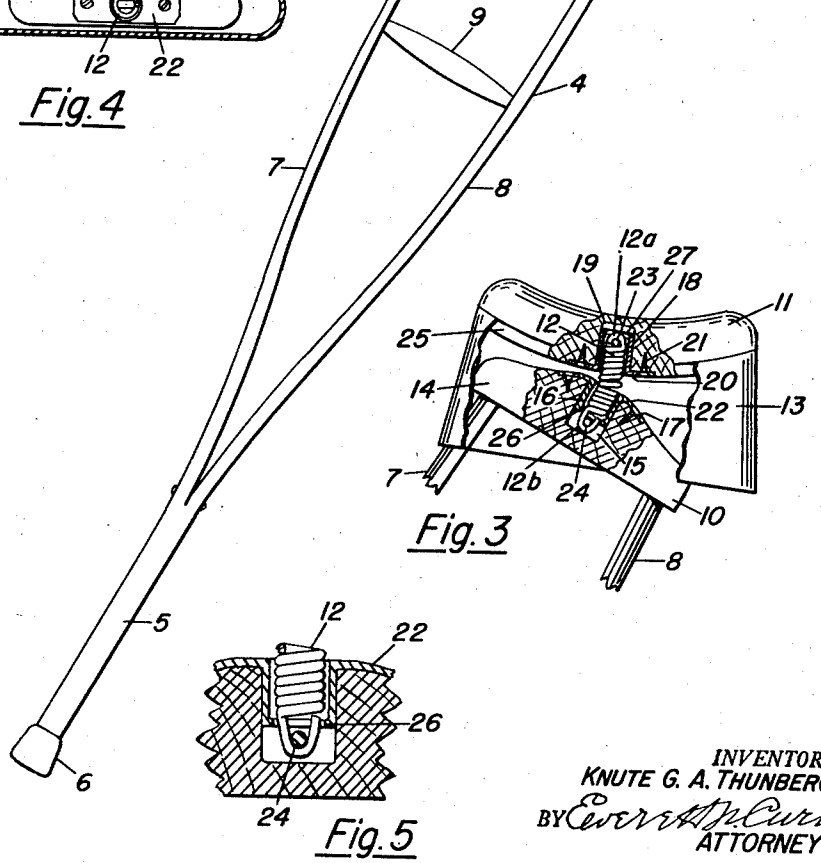


Fig. 3

Fig. 5

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SWIVELING ROCKER CRUTCH

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5 Claims. (Cl. 135—52)

1

My invention relates to swivelling rocker crutches, and its objects are to reduce undue friction or strain of the human armpit upon the arm rest of the crutch; to diminish the discomfort occasioned by, or accompanying the use of, the rigid form of shoulder crutch now in common use; to lessen the wear occasioned from rubbing contact of the crutch upon the clothes of the user thereof; to bring about automatically desired adjustments of the arm rest, when the crutch is used in walking, conforming to the movements of the human body and tending to prevent excessive strain thereon; to provide a pivotally spring mounting of the arm rest upon the body of the crutch, and self-adjusting rocking and torsional movements of said rest without affecting the stability of the crutch; to accommodate the user in the support and manipulation of the crutch so as greatly to reduce his fatigue in the act of walking; to render the parts readily accessible for inspection, removal, replacement, renewal and repair, and generally to provide a device which is economical of construction, efficient in action, and of prolonged life and durability. These and other objects will appear from the drawing, and as hereinafter more fully set forth and described.

My invention primarily consists in a shoulder crutch, comprising an arm rest shaped for ready engagement with the human armpit and having rocking swivelling engagement with the main body of the crutch, said engagement being secured by a helical spring the ends of which are firmly seated in sockets provided therefor in adjacent portions of said rest and body of the crutch respectively, permitting said rocking and swivelling movement.

My invention further consists of novel features of construction, and combinations and arrangements of elements and parts shown in the drawing and more particularly hereinafter pointed out and claimed.

Attention is hereby directed to the accompanying drawing, illustrating a preferred form of my invention, in which similar numerals of designation refer to similar parts throughout the several views, and in which—

Figure 1 is a side elevation of my improved swivelling rocker crutch and skirt secured to the arm rest thereof;

Fig. 2 is an enlargement of the upper portion of the view shown in Fig. 1, showing the skirt broken away for the purpose of better illustration;

Fig. 3 is a view similar to that shown in Fig. 2,

2

showing the parts further broken away to illustrate the pivotal engagement of the arm rest with the body of the crutch, including the heavy helical spring and sockets therefor;

Fig. 4 is a section on line 4—4 of Fig. 2 looking in the direction of the arrows, and

Fig. 5 is an enlarged detail view of the seating of the lower end of the spring as shown in section in Fig. 3.

As shown in the drawing, my improved crutch 4 comprises the leg 5, foot 6, arms 7 and 8, handhold 9, head 10, arm rest 11, swivelling pivotal connector 12, and arm rest skirt 13. The arms 7 and 8 are of conventional construction and are secured in any suitable manner to the head 10. The head 10 is formed with the rounded top 14, and has depressed therein at the center thereof the recess 15, shaped to receive the metal socket 16, the rim 22 of which is extended to conform to the surface of said top, and which is secured thereto by the screws 17. Adjacent to the socket 16 and in registration therewith is the metal socket 18, seated in the recess 19 formed in the bottom wall of the arm rest 11, and having its rim 20 conforming to said wall, and secured thereto by the screws 21. The swivelling pivotal connector 12 consists of a helical spring, the looped ends 12*a*, 12*b* of which extend through openings provided therefor in the bottoms of said sockets and which are respectively secured to pins or screws 23, 24, embedded in the respective walls of the arm rest 11 and the head 10 of the crutch; the end convolutions of said spring resting against the shoulders 26, 27, respectively at the ends of said sockets. This helical spring is preferably sturdy in character, as for example five-eighths of an inch in diameter and of twelve gauge wire, but may be of any dimensions or gauge suitable for the purposes of the invention.

As shown, the said spring permits not only the rocking of the arm rest 11 thereon, but also a swivelling torsional movement thereof; the adjacent confronting faces of said rest and head being thereby separated and at all times held out of contact, so that the said rest rocks and swivels solely upon said spring and out of contact with said head. Preferably, for the purpose of limiting the twist of said torsional movement and of guarding the working parts of the crutch and also to improve the appearance thereof, I secure to the peripheral wall of the arm rest in an annular groove 25 provided therefor, the skirt 13 of leather or other suitable material. This skirt also serves to prevent the clothing of the user of the crutch from being caught in the

connector spring 12, or between the adjacent parts of the said rest 11 or head 10. Also the curved portion of the rest 11, may be provided with a pad covered with leather or other smooth pliable material, affording yielding shoulder contact.

When my improved crutch is in actual use by a person deprived of the use of one of his legs, and the arm rest is placed in contact with his arm pit, and a step is taken by him, it is obvious that whatever contact is made by the foot 6 of said crutch with the ground or whatever position the arms 7 and 8 may assume in the act of walking, the rest 11 will immediately adjust and accommodate itself with the said arm pit; the rest 11 rocking upon the connector spring 12 or pivoting torsionally thereon to conform automatically with the movement of the body, swing of the arm and twist of the crutch. At the same time, the said spring 12, together with the cushioning effect of said pad, will tend to diminish the shock upon the user of the crutch of its contact with the ground.

My invention may be embodied in other specific forms without departing from the spirit or essential characteristics thereof. The present embodiment, as above set forth, is therefore to be considered in all respects as illustrative and not restrictive, the scope of my invention being indicated by the appended claims rather than by the above description, and all changes which come within the meaning and range of equivalency of the claims are therefore intended to be embraced therein.

What I claim and desire to secure by Letters Patent is:

1. In a swivelling rocker crutch, the combination of a head having a socket centrally located therein; an arm rest having a socket therein registering with the socket of said head, and resilient means seated and anchored against turning in said sockets and connecting said head and rest and permitting said rest to rock and swivel solely upon said means and out of contact with said head.

2. In a swivelling rocker crutch, the combination of a head having a socket centrally located therein; an arm rest having a socket therein registering with the socket of said head, and a single helical spring, the ends of which are firmly seated and anchored against turning in said sockets, connecting said head and rest and permitting said rest to rock and swivel solely upon said spring and out of contact with said head.

3. In a swivelling rocker crutch, the combination of a rounded head having a socket centrally located therein; an arm rest with an arcuate shaped bottom having a socket therein registering with the socket of said head, and a single helical spring, the ends of which are firmly seated and anchored against turning in said sockets, connecting said head and rest and permitting said rest to rock and swivel solely upon said spring and out of contact with said head, in conformance with the movements of the arm and body of the person using the crutch.

4. In a swivelling rocker crutch, the combination of a rounded head having a socket centrally located therein; an arm rest with an arcuate shaped bottom having a socket therein registering with the socket of said head, and a single helical spring, the ends of which are firmly seated and anchored against turning in said sockets, connecting said head and rest and permitting said rest to rock and swivel solely upon said spring and out of contact with said head, and a skirt secured to the edge of said rest and depending therefrom and guarding the working parts of said spring and serving to protect the clothing of the user from contact therewith.

5. In a swivelling rocker crutch, the combination of a rounded head having a metallic socket centrally located therein; an arm rest with an arcuate shaped bottom having a metallic socket therein registering with the socket of said head; a single helical spring the convolutions of which are firmly seated in said sockets with looped ends extending through the bottoms thereof and being firmly secured to both said head and rest and permitting said rest to rock and swivel solely upon said spring and out of contact with said head, and a skirt secured to the edge of said rest and depending therefrom and guarding the working parts of said spring and serving to protect the clothing of the user from contact therewith.

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