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J. H. LAMPE ET AL

2,625,453

KNEE CRUTCH PAD

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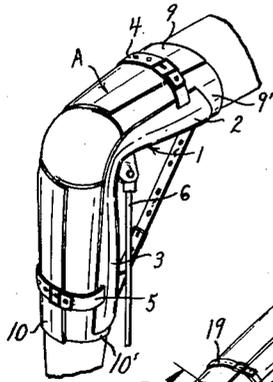


FIG. 1

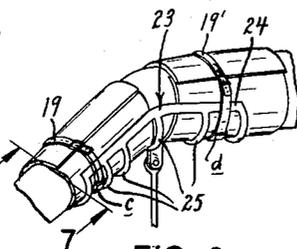


FIG. 6

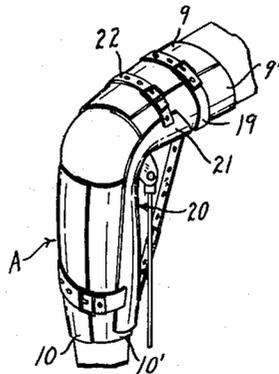


FIG. 2

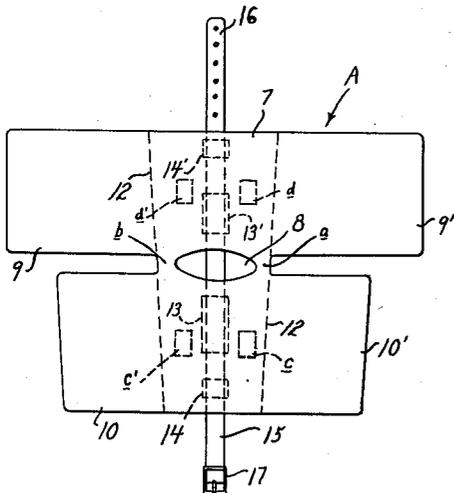


FIG. 3

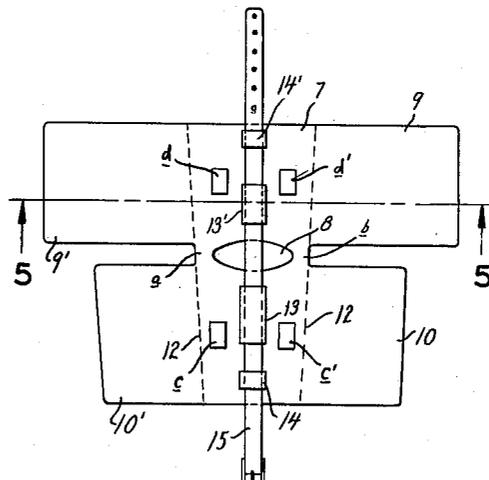


FIG. 4

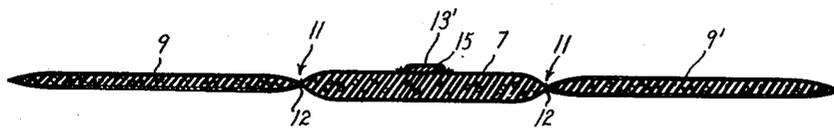


FIG. 5

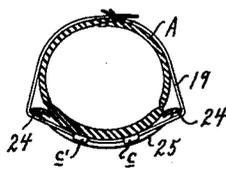


FIG. 7

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KNEE CRUTCH PAD

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2 Claims. (Cl. 311-11)

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This invention relates in general to cushions and, more particularly, to knee crutch pads.

It is the primary object of the present invention to provide a pad for a knee crutch which protects the patient's leg from chafing, surface burns or bruises occasioned by contact with the knee crutch and the belts thereon during medical treatment.

It is another object of the present invention to provide a pad which is adapted for use in various types of knee crutches.

It is a further object of the present invention to provide a pad for a knee crutch which is economically produced, simple in construction, and durable in use.

With the above and other objects in view, our invention resides in the novel features of form, construction, arrangement, and combination of parts presently described and pointed out in the claims.

In the accompanying drawing:

Figure 1 is a perspective view of a pad constructed in accordance with and embodying the present invention as mounted in a knee crutch and disposed encirclingly about portions of the human leg;

Figure 2 is a perspective view of a pad as mounted in a different type of knee crutch and disposed encirclingly about a portion of the human leg;

Figure 3 is a top plan view of the pad;

Figure 4 is a bottom plan view thereof;

Figure 5 is a transverse sectional view taken along line 5-5 of Figure 4;

Figure 6 is a perspective view of the pad as mounted in a so-called "Bierhoff" type of knee crutch and disposed encirclingly about portions of the human leg; and

Figure 7 is a transverse sectional view taken along line 7-7 of Figure 6.

Referring now in more detail and by reference characters to the drawing, which illustrates a preferred embodiment of the present invention, A represents a pad designed for use in a knee crutch 1 of the so-called "long thigh" type, commonly mounted on medical examining and operating tables for support of a patient's legs to facilitate examination and treatment of the lower body parts. The knee crutch 1 comprises a thigh supporting section 2, a calf section 3, belts 4, 5, provided on said sections 2, 3, respectively, and suitable means 6 for attaching said knee crutch 1 to a table (not shown).

The pad A is fabricated preferably of latex foam rubber, although it may be adequately made

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from wool, felt, or any other suitable padding material, and contains a relatively thick, flat central panel 7 having tapered sides. The panel 7 is provided, intermediate its length, with a transversely extending elliptical aperture 8, and in the region extending across the ends of the aperture 8, the panel 7 includes areas *a*, *b* of reduced thickness, thereby providing a zone of greater flexibility transversely across the medial portion of the panel 7 whereby the pad A can be readily bent to conform to the surfaces of the sections 2 and 3 of the knee crutch 1. Laterally extending from the side margins of the portion of the panel 7 above the aperture 8 (reference being made to Figures 3 and 4) are relatively thin thigh enclosing wings 9, 9'. Similarly, extending laterally from the side margins of the panel 7 below the apertures are wings or calf enclosing wings 10, 10', which are somewhat smaller than, but in all other respects similar to, the wings 9, 9'. The upper margins of the wings 10, 10', are separated from the lower margins of the wings 9, 9', by a distance equal to the height of the aperture 8. The areas of juncture between the central panel 7 and the wings 9, 9', 10, 10', are constricted into narrow necks 11, and stitched, as at 12, to form a convenient hinge means whereby the wings 9, 9', 10, 10', may be easily swung in relation to the central panel 7 as well as being a means to preserve the relative thickness of the panel 7 and the wings 9, 9', 10, 10', by preventing the interior padding from moving therebetween.

Stitched, or otherwise suitably secured, to the under face of the central panel 7 along the longitudinal center line thereof are relatively long or tube-forming loops 13, 13', and outwardly thereof relatively short loops 14, 14', respectively, which are adjacent the upper and lower margins, respectively, of the panel 7. Removably disposed within, and extending through, the loops 13, 13', 14, 14', is a belt 15 provided at one end with a tongue 16 and at the other end with a buckle or clasp means 17. Also stitched, or otherwise secured, upon the under face of the panel 7 approximately along the transverse center line of the wings 9, 9', and 10, 10', respectively, are pairs of laterally presented auxiliary loops *c*, *c'*, and *d*, *d'*, located equidistantly on opposite sides of the loops 13, 13', respectively, for optionally receiving auxiliary straps 19, 19', all as best seen in Figures 4 and 6, and for purposes presently more fully appearing.

In use, the pad A is placed within a knee crutch such as, for example, the long-thigh crutch, 1

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with the upper portion of the panel 7 resting within the thigh supporting section 2 and the lower portion of the panel 7 disposed within the calf section 3. The tongue 16 of the belt 15 is then drawn downwardly and secured in the buckle 17 which has been pulled upwardly underneath the knee crutch 1 whereby the pad A is snugly maintained within the knee crutch 1. The patient's leg is then placed on the pad A in the crutch 1 and the wings 9, 9', are placed in overlapping relation about the sides and upper portion of the patient's thigh. The belt 4 of the knee crutch 1 is then secured over the overlapping wings 9, 9', to maintain them in position. Similarly, the wings 10, 10', are secured enclosingly about the calf of the patient by the belt 5. It is to be particularly noted that the pad A, when disposed within the knee crutch 1, will not be distorted but will lie smoothly in un wrinkled conformity with the contours of the sections 2, 3. This is effected by leading the ends of the belt 15 outwardly through the loops 13, 13', and 14, 14', which latter loops are spaced immediately inwardly of the respective outer margins of the sections 2, 3.

If desired, the pad A may be used in a different, yet equally common, so-called "short thigh" type of knee crutch 20, which has a relatively short thigh supporting section 21 provided with a belt 22, as best seen in Figure 2. When the pad A is disposed in the crutch 1, the corresponding end of the belt 15 may be led outwardly through the loop 13', disregarding the loop 14', so that the belt 15 will exert its downward or upward pull, as the case may be, against the marginal area of the section and not against the outwardly projecting unsupported part of the pad A. Because of its proximity to the knee when the patient's leg is placed within the pad A, the belt 22 will not adequately maintain the wings 9, 9', about the patient's thigh. Thereupon, the strap 19, may be passed through the loops d, d', and thus used to maintain the wings 9, 9', firmly about the patient's thigh, as shown in Figure 2.

Similarly, the pad A may be used in a further widely used type of knee crutch or so-called "Bierhoff" crutch 23, integrally comprising an outer frame 24 connected with a series of grill-like arcuate rod-members 25. When the pad A is disposed in the crutch 23, the auxiliary straps 19, 19', are threaded through and externally around the frame 24, as shown in Figures 6 and 7, and thence around the leg of the patient. By this means, the pad A can be held securely and comfortably in place without discomfort or injury to the patient.

It should be understood that changes and modifications in the form, construction, arrangement, and combination of the several parts of the knee crutch pad may be made and substituted for those herein shown and described without departing from the nature and principle of our invention.

Having thus described our invention, what we claim and desire to secure by Letters Patent is:

1. For use with a knee crutch having trough-like calf and thigh supporting sections disposed at an angle to each other, each being provided with a belt member; a pad comprising an elongated unitary central panel having elongated substantially straight side margins, upper and lower

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pairs of wings for respectively enclosing the thigh and calf extending laterally from and hingedly connected to the longitudinal side margins of said central panel, said pairs of wings being spaced longitudinally from each other in the provision of a narrow hinge-forming medial section extending transversely across the mid-portion of said central panel, dividing said central panel into an upper and lower section, whereby said wings are swingable toward each other with relation to the central panel, the upper pair of wings, together with the upper portion of the central panel, being swingable as a unit toward and away from the lower portion of the central panel and the wings therewith associated, and means for maintaining the pad within the knee crutch.

2. For use with a knee crutch having trough-like calf and thigh supporting sections disposed at an angle to each other, each being provided with a belt member; a pad comprising an elongated central panel having substantially straight elongated side margins and relatively short transverse end margins, said panel being provided with an elongated aperture extending transversely across its mid-portion, thereby dividing the panel into an upper portion and a lower portion, thigh enclosing wings extending laterally from the upper portion of the panel and being hingedly connected thereto along the side margins, lower leg enclosing wings extending laterally from the lower portion of said panel and being hingedly connected thereto along the side margins, the lower margins of said thigh enclosing wings being separated from the upper margins of the lower leg enclosing means by a distance substantially equivalent to the height of said aperture for permitting free swinging of the upper portion toward and away from the lower portion, and a flexible strap secured to the under face of the central panel, said strip extending lengthwise centrally thereof and projecting outwardly at its opposite ends from the opposite transverse ends of the central panel for extending around and under the under side of the crutch to hold the pad securely within the crutch in lengthwise-bent conformity therewith.

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