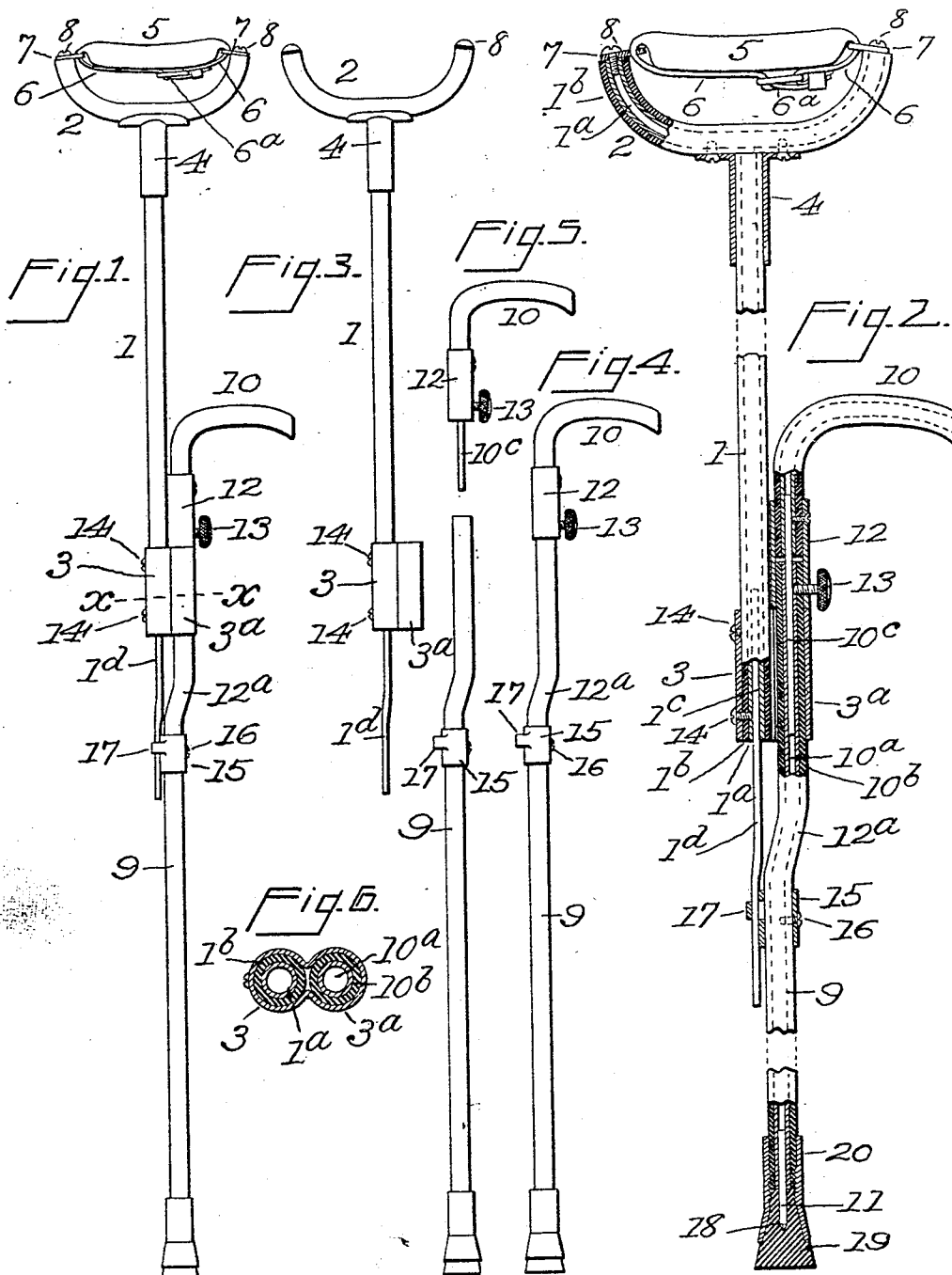


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W. AUTENRIETH.
CRUTCH.

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CRUTCH.

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To all whom it may concern:

Be it known that I, WILLIAM AUTENRIETH, a citizen of the United States of America, and a resident of Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Crutches, of which the following is a specification.

This invention has relation to crutches, especially to those of the convertible type and the object thereof is to provide a crutch of two superposed members adapted to be adjustably and detachably held together, the upper member being an arm or crutch proper and the lower member being a hand or walking-cane.

One of the lesser or special objects of the invention is to provide the upper or crutch member with a curved arm-piece having a detachable, suspended arm rest or pad therein.

Another lesser or special object of the invention is to provide a detachable handle for the lower or cane member of the device, such handle also forming the grip for the hand when the two members are combined for assembled use as a crutch.

Other features of the invention will be fully herein-after described and particularly pointed out in the claims.

In the accompanying sheet of drawings, Figure 1 is an elevation of my device showing the two members united for use as a complete crutch; Fig. 2, a view similar to Fig. 1, but on a somewhat larger scale, and showing a part of the arm-piece in cross-section, a part of the body portion of the crutch-member in cross-section, a part of the upper portion of the cane-member in cross-section and the lower part of said cane-member in cross-section; Fig. 3, an elevation of the crutch-member shown detached and with the suspension arm-piece pad removed; Fig. 4, an elevation of the cane-member detached; Fig. 5, an elevation of the cane-member showing its handle-portion detached and raised above its body portion; and Fig. 6, a sectional plan on dotted-line x, x , of Fig. 1, but on a larger scale.

In these views, 1 indicates the body portion or stick of the upper or crutch member, 2 the curved arm-piece at the upper end thereof, and 3, 3^a a short length of double tubing, the portion 3 of which latter is engaged by the lower end of the body portion 1.

The body portion 1 and the arm-piece 2 are preferably made of an internal metal tubing 1^a and an external tubing 1^b of rubber or the like, a solid rod 1^c being suitably inserted and held in the metal tubing of said body portion and such metal rod extending below the lower end of said body portion, as shown at 1^d in Figs. 1, 2 and 3.

4 is a T-shape hollow reinforce and coupling connecting the arm-piece to the upper end of the said body portion.

5 represents a flexible pad having straps 6, 6 at its respective opposite ends; such straps being passed through loops or eyes in plates 7, 7, the latter being detachably secured to the opposite ends of the arm-piece by means of screws 8, 8. The ends of the straps 6, 6 are buckled together at 6^a, the tension of the pad being regulated and determined by the position of the draw-strap in the buckle, as is obvious. The pad is intended for initial use, or for sore and tender arm-pits, but ordinarily it is dispensed with and the plain curved arm-piece; without the pad, as shown in Fig. 3, is used.

Thus far I have described in detail the crutch-member proper of my device and I will now take up the description in detail of the cane-member of my device, such cane-member being essential to the complement of my device as a crutch, the said crutch-member being of no material use of itself.

9 represents the body portion or stick of the walking-cane member proper of my device, it forming the complement of my convertible crutch when assembled with the crutch-member proper, as seen in Fig. 1, ready for crutch purposes.

10 represents a lateral arm, forming a handle at the upper end of the cane-member and, when in assembled position with the crutch-member, lying parallel, but not in anywise adjacent, to the arm-piece and forming, also, the hand-grip of the crutch.

The cane-member is composed of an inner metal tubing 10^a and an external tubing 10^b of rubber or other suitable material, a metal rod 10^c extending from the handle downward into the metal tubing or core of the body portion 9 and a metal rod 11 extending from the lower end of the inner tube of said body portion 9, all as best seen in Fig. 2.

A metal tubing or jacket 12 extends from the lower end of the handle portion of the cane-member, its hollow extended end telescoping the upper end of the body portion 9, such upper end of the body portion 9 being slightly bent or deviated from a straight course at 12^a and passing upward through the member or barrel 3^a of the double tube at the lower end of the crutch-member. The upper end of the body portion 9 extends beyond the upper end of the barrel 3^a, about half the length of the jacket 12 and a set-screw 13 is used to detachably secure the handle-member to the body portion of the cane-member.

Set-screws 14, 14 are used to attach the member 3 of the double tubing to the lower end of the body portion of the crutch-member, the other member 3^a of said double tubing practically forming a guide-way as well as a means of connecting the body portion of the cane-member to the crutch-member. It will be seen that the jacket 12 and the set-screw 13, when secured in place, prevent the body portion 9 of the cane-member becoming detached from the member 3^b of the double

tubing that forms the coupling or union between the crutch and cane members.

To further connect and brace the crutch and cane members of my device, I place a short metal tubing or sleeve 15 on the body portion 9 of the cane-member and secure it in the desired position thereon by means of a screw 16, and a lateral eye 17 is constructed on the side of said sleeve 15, such eye being engaged by the lower end of the extended portion 1^a of the internal rod or core of the body portion 1 of the crutch-member. A firm and strong connection between the cane-member and the crutch-member of my device is thus produced in a practical and simple manner, and the device is readily converted for use as a crutch or a cane, the two members forming the respective crutch and cane members of the device being readily separable and readily united as desired.

The position of the crutch-member on the cane member may be adjusted lengthwise, to suit slight variations in the height of several users by simply supplying a series of screw-holes for the screws 13 and 16.

The lower end of the walking-stick is provided with the spur 18 which is part of the rod thereof and the usual rubber pad 19, with its tubular attaching-section 20 is screwed into place on the lower threaded end of the outer tubing of said cane-section. The spur 18 is for use on slippery surfaces, especially for winter use, but the rubber pad 19 and its tubular attaching-section

20 are first removed from place at the lower end of the cane-section.

In Fig. 1, I show how the device is made up when used as a crutch, with all the parts properly assembled, and in Fig. 4, I show the device as it appears as a cane and with all the parts of the crutch-member removed.

I claim:—

1. A convertible crutch comprising a crutch-member proper having an arm-piece at its upper end and a double tube coupling at its lower end, a cane-member having a detachable handle and with its body portion engaging one of the barrels or tubes of said double tube coupling of the crutch-member and means for detachably uniting the said crutch-member and said cane-member.

2. A convertible crutch and cane comprising a crutch-member proper having a curved arm-piece at its upper end, a double tube coupling and an extension rod at its lower end, a walking-cane member having a detachable handle and engaging one of the tubes of said double tube coupling at the lower end of said crutch-member, means for detachably uniting the crutch and cane members and a sliding sleeve on the cane-member engaging the extension rod of the crutch-member.

3. A crutch comprising a body portion having a curved or concave arm-piece, a flexible pad having extended ends adjustably connected together beneath the pad and loops detachably secured to the opposite ends of said arm-piece and adapted to support the pad by its extended ends.

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