

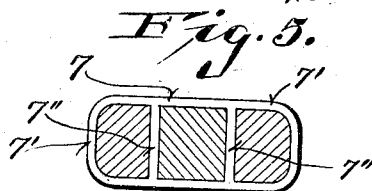
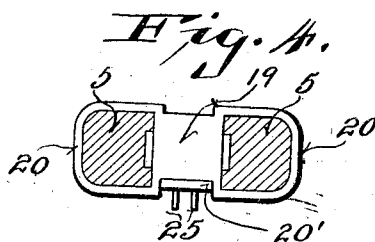
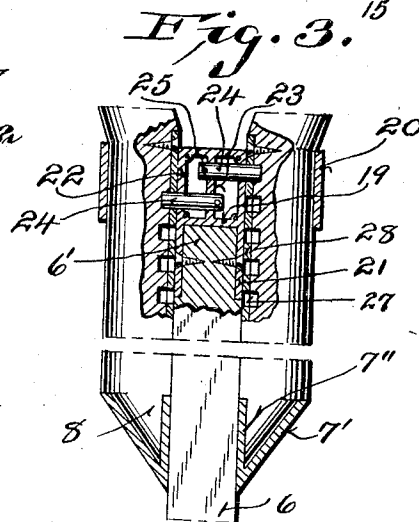
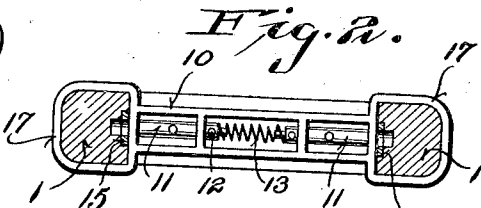
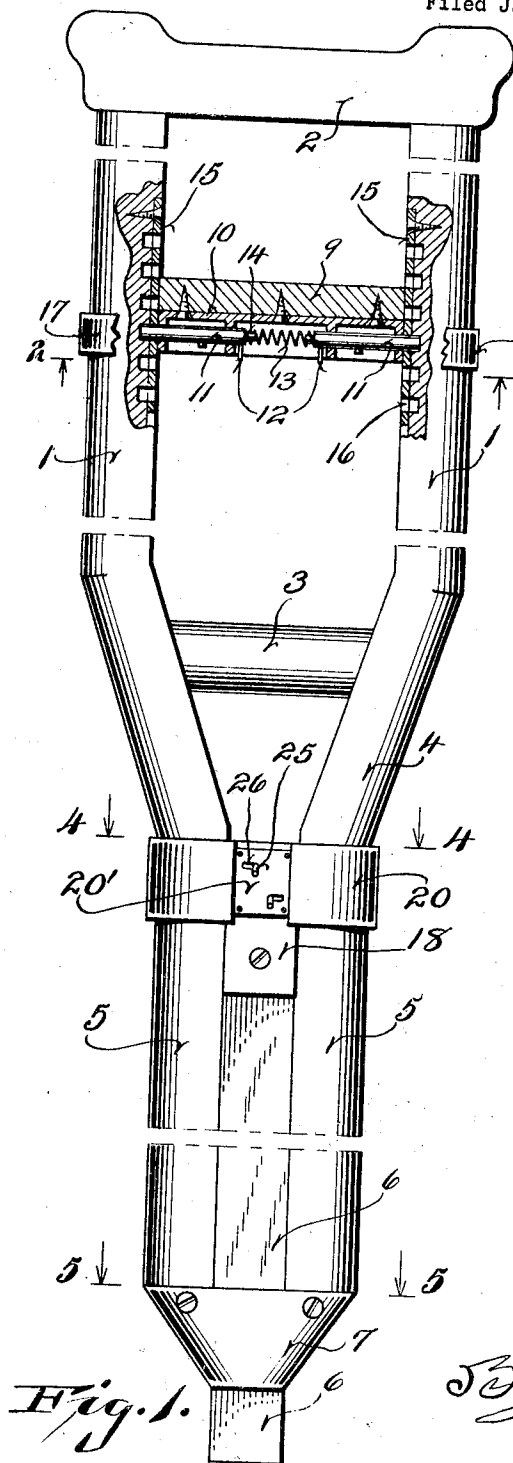
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O. H. ARNDT

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CRUTCH

Filed Jan. 16, 1923



Inventor:
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By

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UNITED STATES PATENT OFFICE.

OTTO H. ARNDT, OF CLINTONVILLE, WISCONSIN.

CRUTCH.

Application filed January 16, 1923. Serial No. 612,973.

To all whom it may concern:

Be it known that I, OTTO H. ARNDT, a citizen of the United States, and resident of Clintonville, in the county of Waupaca and State of Wisconsin, have invented certain new and useful Improvements in Crutches; and I do hereby declare that the following is a full, clear, and exact description thereof.

This invention relates to crutches.

In crutches as heretofore made it is extremely difficult to secure a crutch that exactly fits the prospective user. Not only the length must be accurately selected, but also the distance from the top of the crutch to the grip for the hand must be accurately chosen in order to secure the greatest comfort for the user. Obviously, it is extremely difficult to find a crutch in which both of these dimensions accurately conform to the requirements.

This invention is designed to overcome the above noted defects, and objects of this invention are, therefore, to provide a crutch in which the hand grip and length may be independently adjusted, to accurately conform to the needs of the user.

Further objects are to provide a crutch in which the adjustments of the parts may be effected in a simple and expeditious manner, in which the parts may be locked in adjusted position, and in which a pleasing and attractive appearance is maintained.

An embodiment of the invention is shown in the accompanying drawings, in which:—
Figure 1 is a side elevation of a crutch with parts broken away to more clearly illustrate the invention.

Figure 2 is a view on the line 2—2 of Figure 1.

Figure 3 is a side elevation of the lower portion of the frame of the crutch, such elevation being shown partly in section.

Figure 4 is a sectional view on the line 4—4 of Figure 1.

Figure 5 is a sectional view on the line 5—5 of Figure 1.

Referring more particularly to the drawings, it will be seen that the crutch comprises an upper frame member adapted to fit beneath the arm of the user and comprising parallel members 1, a transverse member 2, which is the portion immediately in contact with the user's body, a transverse bracing member 3, and converging lower portions 4 of the uprights 1 which terminate in parallel extensions 5. The leg portion 6 of the

crutch comprises a square member adapted to be slidably received between the parallel portions 5 and to be guided adjacent the lower end of said parallel portions by means of a tapered metallic reinforce 7 which comprises slanting side walls 7' and rectangular inner walls 7'', such walls receiving between them, the correspondingly shaped lower portion 8 of the extensions 5, and forming, by its rectangular walls 7 and 7'', a guide for the leg 6 of the crutch.

In crutches it is extremely desirable that both the total length of the crutch and the distance between the upper transverse member 2 and the hand grip be accurately adjusted to the individual needs of the user. This is readily accomplished in the present invention, by making the hand grip adjustable, as illustrated in the drawings, particularly Figures 1 and 2. It will be seen upon reference to these figures, that the hand grip comprises a transverse member 9, which is provided with a frame 10 which slidably receives a pair of plungers 11, such plungers being provided with manipulating pins 12 and with a spring 13, the spring 13 tending to force them apart, such spring being conveniently centered by means of reduced portions 14 formed upon the pins 11. The members 1 preferably have outwardly rounded faces and opposed flat faces. These flat faces are reinforced by means of bearing strips 15 secured thereto, and preferably inset. These bearing strips are provided with a plurality of spaced apertures 16 aligned with the corresponding apertures in the members 1 and are adapted to receive the pins 11.

It is preferable to provide strap-like arms 17 integral with the frame 10 of the hand grip and extending around the uprights 1 to aid in guiding and retaining the hand grip in position.

It will be seen that any desired adjustment of hand grip relative to the transverse bar 2 may be secured by withdrawing the plungers 11 by means of the manipulating pins 12 and allowing them to seat in the appropriate apertures 16 to thereby lock the hand grip in the desired adjusted position.

The leg portion 6 is provided adjacent its upper end with a guiding frame, or slide, provided with downwardly projecting extensions 18 secured to such leg portion and with a transverse upper portion 19 abutting the upper end of the leg portion (see Fig-

ures 3 and 4). This slide is provided with looped arms 20, which surround the parallel portions or extensions 5 of the main frame of the crutch and serve to guide the upper portion of the leg correctly with reference to such parallel portions.

The downward extension 18 may have side walls 21, see Figure 3, which enclose the upper portion 6' of the leg 6, and may be secured thereto by means of suitable screws or other fastening means, as shown in Figures 1 and 3. The transverse portion 19 of the slide is hollow and provided with outer walls 22 and an inner web 23. Plungers 24 are guided by the outer walls and the inner web, and are provided with laterally projecting manipulating pins 25. These pins project thru the side wall of the slide and are guided by bayonet slots 26, such slots being provided with a horizontal portion and with a vertical portion in which latter portion the pins are adapted to seat to lock the plungers 24 in position. These plungers cooperate with apertures 27 formed in the reinforcing wear plates 28 secured to opposing faces of the parallel extensions 5, as may be seen from Figure 3. If desired the extensions 5 may be provided with aligning apertures corresponding to the apertures 27, as shown in such figures.

It will be seen therefore, that when it is desired to adjust the leg portion of the crutch, the pins 25 may be moved upwardly from the vertical portions of the bayonet slots 26 and moved laterally to withdraw the

plungers 24 from the cooperating apertures. Thereafter the leg portion may be adjusted and the plungers again locked in position thereby locking the leg portion rigidly in its desired adjusted position.

It will be seen that an adjustable crutch has been provided in which both the hand grip and the leg portion may be adjusted independently and to the exact needs of the user. It is, of course, to be understood that if desired, the hand grip may be provided with a suitable casing (not shown) closing and housing the operative locked mechanism.

It will further be seen that the crutch, although adjustable, is extremely rigid in its construction, and when its parts are locked in adjusted positions is substantially a unitary, solid, firm structure.

I claim:

An adjustable crutch comprising a frame adapted to fit beneath the user's arm and having a pair of spaced parallel members provided with a plurality of notches upon their opposed faces, a leg adjustably guided between said members, a pair of plungers carried by said leg and adapted to enter any of said notches, and means for operating said plungers and for locking them in their notch engaging positions.

In testimony that I claim the foregoing I have hereunto set my hand at Clintonville, in the county of Waupaca and State of Wisconsin.

OTTO H. ARNDT.