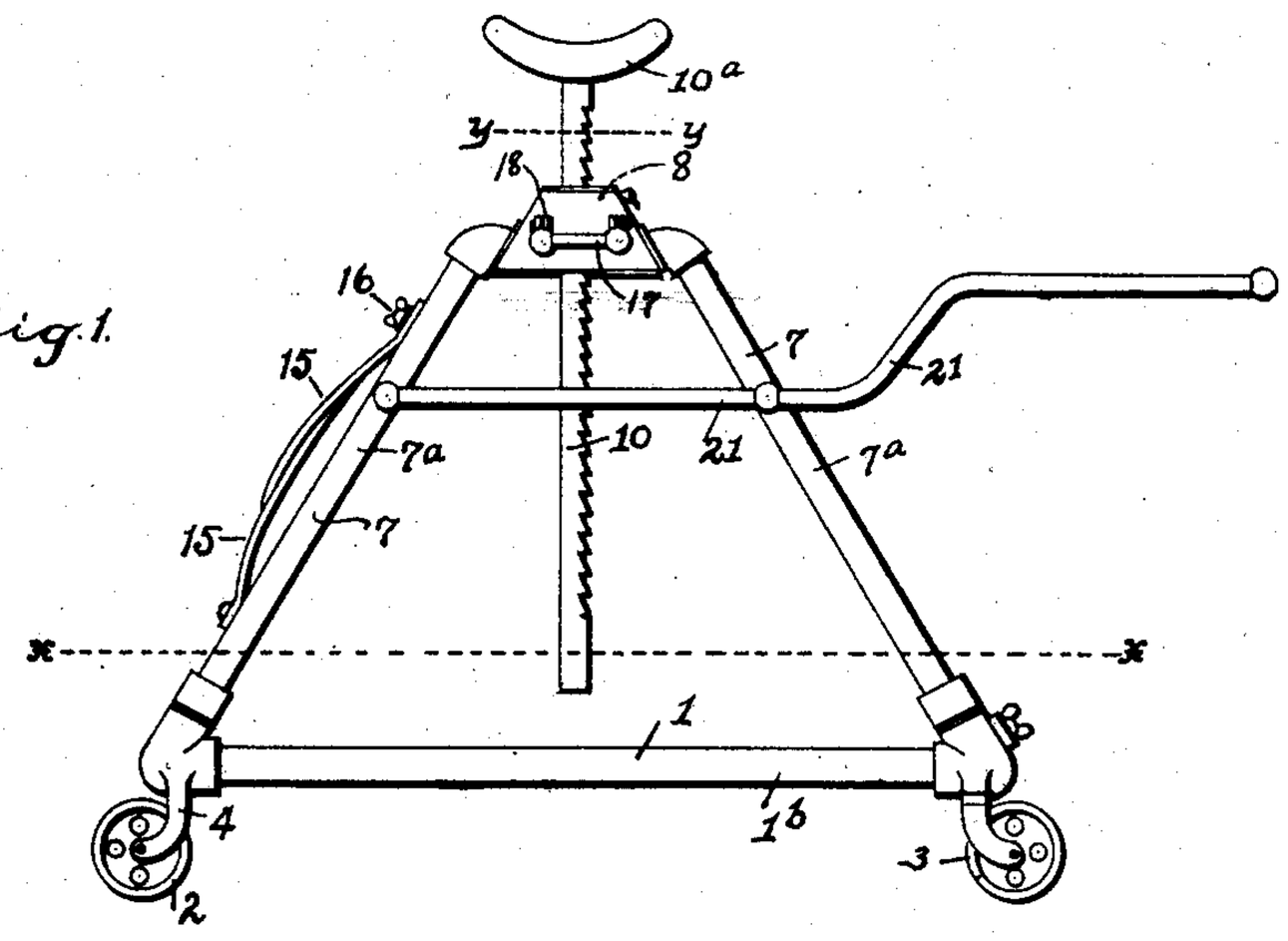
J. W. ADAIR.

WHEELED CRUTCH.

APPLICATION FILED MAR. 9, 1908.

906,845. Patented Dec. 15, 1908.

Fig. 1.



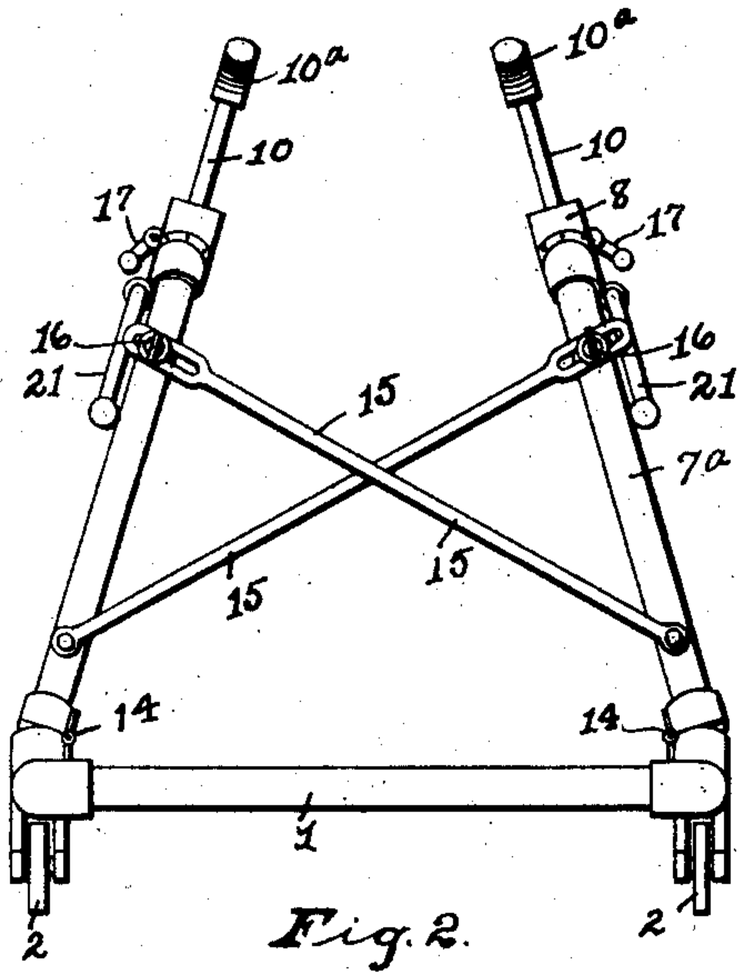


Fig. 2.

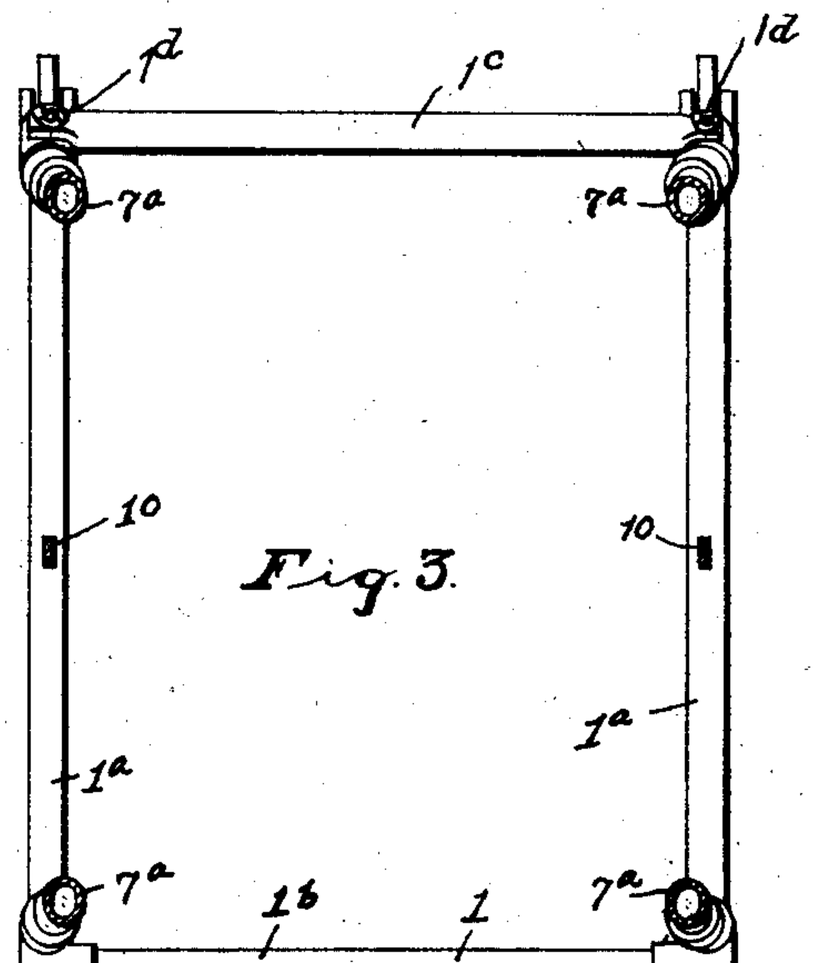


Fig. 3.

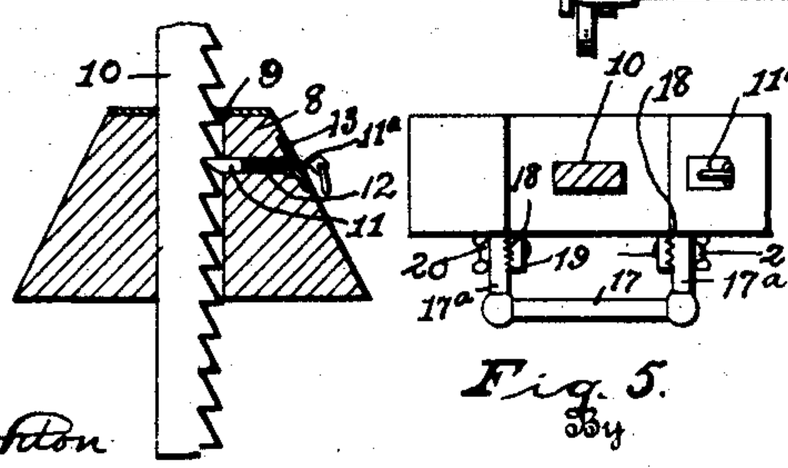


Fig. 4.

Fig. 5.

Fig. 6.

Witnesses

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WHEELED CRUTCH.

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To all whom it may concern:

Be it known that I, JOHN W. ADAIR, a citizen of the United States, residing at Marion, in the county of Marion and State of Ohio, have invented certain new and useful Improvements in Wheeled Crutches, of which the following is a specification.

My invention relates to wheeled crutches or apparatus of that class which are adapted to be used in hospitals, sanatoriums, sick-rooms and similar places for the purpose of aiding patients afflicted with partial paralysis or otherwise incapacitated by disease, weakness or deformity, to walk and support themselves in an upright position.

The objects of my invention are to provide an improved wheeled crutch of this class of superior construction and arrangement of parts; to provide improved means for adjustably supporting the crutch bars at desirable intervals to provide for their use by different persons; to so construct my improved apparatus as to permit of the patient assisting himself into position therein; to provide an improved framework for a device of this character and to produce various other improvements the details of construction of which will be more fully pointed out hereinafter. These objects I accomplish in the manner illustrated in the accompanying drawing, in which:

Figure 1 is a side elevation of my improved apparatus, Fig. 2 is a front view of the same, Fig. 3 is a transverse section on line *x*—*x* of Fig. 1, Fig. 4 is an enlarged central vertical section of one of the frame head blocks illustrating the manner of adjustably supporting one of the crutch bars therein, Fig. 5 is an enlarged sectional view on line *y*—*y* of Fig. 1, showing one of the frame head blocks in plan, and, Fig. 6 is a detail sectional view of one of the lower frame joints illustrating a convenient means of connecting a caster or supporting roller with the framework.

Similar numerals refer to similar parts throughout the several views.

In carrying out my invention, I employ a horizontal base frame 1 which is of a substantially yoke or U-shape, as shown, and comprises the parallel side pieces 1^a which are connected at one end by a cross rod or bar 1^b.

As indicated in Fig. 3 of the drawing, I may close the otherwise open end of the frame 1 by a cross piece 1^c, the ends of which are detachably connected with the frame pieces 1^a through the medium of ordinary thumb screws 1^d. This cross piece may be straight or curved, as desired.

The base frame, as well as the remaining framework of my device, may be produced of any suitable material, but for convenience is preferably formed of metal piping, as shown in the drawing. The base frame is supported upon front and rear caster wheels 2 and 3, the front wheels preferably being rotatably mounted between rigid depending frame arms 4 and the rear wheels 3 having a swivel or pivotal connection with said frame. This latter connection may be produced in the manner indicated more clearly in Fig. 6 of the drawing, in which a pivot screw 5 passes loosely through the upper member of a yoke shaped wheel or caster hanger 6 and engages a threaded opening in a boss or downward extension of the frame.

7 represents triangular side frames, each of which comprises two converging members 7^a which are connected at their upper ends with opposite sides of a head block 8. Each of these head blocks is formed, as shown more clearly in Fig. 4 of the drawing, with a central vertical opening 9 therethrough, through which is adapted to pass and to be supported as hereinafter described, a vertical rack bar 10, which carries on its upper end a desirable form of crutch top or arm rest 10^a.

11 represents a horizontally disposed bolt which is adapted to fit and slide within a horizontal bolt-way in each of the blocks 8, this bolt having an outer reduced stem portion 11^a which within the block opening is encircled by a coiled spring 12, the latter abutting against an outer side plate 13 and the shoulder formed by the enlargement of the inner end portion of the bolt. Through the medium of the spring 12, the bolt 11 is normally projected into the block opening 9 and in the path of the teeth of the rack bar 10 which passes therethrough. The lower ends of the side frame members 7^a are, as indicated at 14, hinged to the side frame pieces 1^a of the base frame, said side frames being thus adapted to be swung inward toward each other. This inward movement or inclination of the side frames 7, is limited by bars 15 which are preferably crossed, as shown in the drawing, and which have their lower ends pivotally secured to the front and lower portions of the side frame stand-

ards 7ª and which have their upper slotted ends adjustably secured through the medium of clamping screws 16 at higher points on the side frame pieces 7ª.

For reasons hereinafter set forth, the crossed bars 15 are preferably bowed outward or forward as shown more clearly in Fig. 1. The outer side face of each of the blocks 8, is provided with an adjustable handle 17, this handle being of a substantially U-shape and having its parallel side members 17ª toothed on their inner sides as indicated at 18, said teeth adapted to engage correspondingly toothed lugs 19 which project from the block 8 and into connection with which the side arms of the handle 17 are clamped through the medium of a clamping screw 20.

To the outer sides of each pair of the side frame arms 7 at a desirable height, are secured the horizontal portions of rearwardly extending handles 21, the projected portions of which are bent to suitable heights and shapes.

Owing to the fact that one end of the base frame of my apparatus is capable of being opened, it is obvious that the device may be wheeled into a position in which the frame portions will extend on opposite sides of a patient seated in a chair, thus bringing the patient in such position that he may extend his arms over the lowered crutch bars and by grasping and bearing his weight on the handle rods 21, raise himself partly or wholly to an upright position within the framework. This being accomplished, an attendant may raise the crutch bars as far as possible, then the patient may transfer his weight to the crutch bars, and by shifting the grasp from the handle 21 to the handle 17, further elevates his body to the full extent and the crutch bars are further raised to the desired height, thereby enabling him to support his body after the manner in which ordinary crutches are used. The operation described, brings the patient completely within the framework of my device in a standing position and permits the patient to throw such weight of his body as may be desirable or necessary, on to the crutch bars or to divide the weight in accordance with the strength or condition of the patient, between the crutch bars and the patient's feet.

It will be understood that the rack bars 10 may be adjusted to varying heights by pulling the bolts 11 outward and temporarily disengaging them from the teeth of the rack bars, permitting the latter to be moved upward or downward. It is evident that in the construction of my device, the framework may be of such height and the rack bars supported in a sufficiently lowered position to enable the patient when seated in a chair, to bring the inner portions of his arms over the crutch heads or supports with comparatively slight effort. This being accomplished, it is obvious that the crutch bars may be raised to the height desired, as the patient lifts himself or is lifted wholly or partially into position.

In order to adapt the device for patients of different heights, I have made the handles 17 adjustable in the manner described, to such positions as will facilitate the grasping of the same by the patient.

In order to prevent the cross bars 15 at the front of the device from interfering with the walking movement of the patient, said cross bars are bowed outward as shown.

What I claim, is:

1. In a wheeled crutch, the combination with a wheeled base frame, and opposing side frames having a hinge connection with said base, of crutch bars supported by and vertically adjustable in said side frames, and means for regulating the inward swinging movement of said side frames.

2. In a wheeled crutch, the combination with a framework comprising a wheeled base and opposing side frames hinged to said base, said side frames being adjustably connected one with the other, of crutch bars vertically adjustable in said side frames, and parallel handles extending from said side frames.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN W. ADAIR.

Witnesses:

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