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WALKER

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4 Claims. (Cl. 135-45)

This invention relates to improvements in walkers, that is a device used by invalids in assisting them in walking from place to place in the nature of a cane or the like.

This type of walker consists of a pair of frames joined to one another along one edge thereof and with the other edges free to permit the user to enter the walker and through grip portions at the upper ends of the frames permit the user to advance the walker and themselves.

In the past such walkers have had, in most instances, the frame and the joining members permanently secured to one another wherefore the problem of storage and transportation of the walker was a relatively acute one. Some attempts have been made to provide collapsible walkers but the means for effecting walker collapse was rather awkward and difficult to operate.

By the present invention there is provided a collapsible walker that can be very readily collapsed and just as readily set up by either the invalid or by a second person.

The principal object of the present invention is therefore the provision of an invalid walker that may be readily collapsed and set up.

Another object of this invention is the provision of means in a collapsible walker that positively locks the walker parts in set position and yet may be readily actuated to unlock the parts and permit of the walker collapse.

Another object of this invention is the provision of locking means for locking the parts of a walker in their set positions that substantially automatically operate to the said locking position and yet must be consciously unlocked to permit of the subsequent collapse of the parts.

Other objects and advantages of the present invention should be readily apparent by reference to the following specification considered in conjunction with the accompanying drawings forming a part thereof and it is to be understood that any modifications may be made in the exact structural details there shown and described, within the scope of the appended claims, without departing from or exceeding the spirit of the invention.

In the drawings:

FIG. 1 is a perspective view of a walker of the present invention in its set up and usable position.

FIG. 2 is a perspective view of the walker of FIG. 1 in its collapsed position.

FIG. 3 is an enlarged sectional view through the locking or latching mechanism of the present invention as seen from line 3-3 on FIG. 1.

FIG. 4 is a longitudinal sectional view through the mechanism of FIG. 3 as seen from line 4-4 on said FIG. 3.

FIG. 5 is a view partly in section and partly in elevation as seen from line 5-5 on FIG. 4.

FIG. 6 is an elevational view of the parts as seen in FIGS. 3, 4 and 5 with said parts in a final locking position and a position just prior to said locked position.

Throughout the several views of the drawings similar reference characters are used to denote the same or similar parts.

The walker of the present invention comprises a pair of side frames 10 and 11 each formed of a continuous piece of tubing and each frame including a rear leg, respectively, 12 and 13 along with a front leg, respectively, 4 and 15. The legs 12-14 and 13-15 are respectively

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joined at their upper ends by top members or hand grips, respectively, 16 and 17.

As seen in the drawings, particularly FIGS. 1 and 2, the connection of said frame tops or hand grips 16 and 17 with their respective front and rear legs is by way of bends in the tubing and which bends are such that the legs 12-14 and 13-15 diverge from their respective top or hand grip portions in each frame 10 and 11, as is customary and whereby stability is given to the walker as a whole.

Disposed on each of the rear legs 12 and 13 of the frames is a sleeve or tube, respectively, 18 and 19 with said sleeves or tubes each having a bore to freely receive said side frames rear legs 12 and 13 to permit relative and independent rotation of said parts on one another but without having such freedom as to be unduly shaky or wobbly.

Each of said side frames 10 and 11 has its front and back legs permanently spaced from one another by means of a spacer member, preferably, a length of tubing, and, respectively, indicated by the reference numerals 20 and 21, respectively, for the side frames 10 and 11. The sleeves or tubes 18 and 19 conveniently extend from said side frame spacers or braces 20 and 21 upwardly to a point below the bend connections of said side frame rear legs with their respective top portions or hand grips.

The said sleeves or tubes 18 and 19 are spaced from one another by spacer bars or braces 22 and 23 with the brace 22 at substantially the upper ends of the sleeves or tubes while the brace 23 is located below the brace 22 but not too close to the lower end of the sleeves or tubes 18 and 19 that interference is given to the user in walking.

The braces 22 and 23 are of such length that the side frames 10 and 11 are suitably spaced to permit a person to stand and walk between them, and said braces 22 and 23 along with the sleeves or tubes 18 and 19 constitute in effect the front of the walker.

From the foregoing it will be noted that the side frames 10 and 11 may be swung within the bores of the front frame sleeves or tubes 18 and 19 to the positions thereof illustrated in FIG. 2. The said side frames are locked or latched in the positions thereof illustrated in FIG. 1 through suitable latching mechanism carried by each of said side frames 10 and 11 and respectively indicated in their entirety by the reference numerals 24 and 25, and since each of said locking mechanisms is identical with the other it is deemed sufficient if but one of them be described in detail.

The said locking or latching mechanisms comprises a U-shape bracket member 26 including a semi-circular base 27 which embraces a side frame rear leg at a point at the upper edge of a sleeve or tube 18 or 19 mounted thereon and with said base 27 having extending from its ends, tangentially of the said frame rear leg, arms 28 and 29. The said bracket member 26 is preferably welded to the rear leg of its frame and conveniently acts as a stop member for the sleeve or tube 18 or 19 associated therewith and which bracket member 26 cooperates with its side frame transverse brace 20 and 21 in defining the zone for its sleeve or tube.

Opposed to and telescoped with the bracket member 26 is an oscillatable carrier 30 which includes a base 31 illustrated in the drawings as semi-circular in plan and from the ends of which project arms 32 and 33. Said arms 32 and 33 are telescoped within the arms 28 and 29 of the bracket 26 and with their bases, respectively, 31 and 27 opposed to one another. Said bracket arms 28 and 29 and carrier arms 32 and 33 have formed there-through aligned apertures through which projects a pivot rod 34 having its opposite ends threaded for respectively receiving nuts 35 and 36 through which said bracket 26 and carrier 30 are connected to one another while per-

mitting oscillatory movement of the carrier 30 with respect to the bracket 26 for a purpose presently to be made clear.

Secured to the bottom face of the carrier 30, preferably by welding, is a latch or lock indicated in its entirety by the reference numeral 37. The latch or lock 37, per se, as seen in FIG. 5, is U-shape in cross section and comprises a base 38 with depending arms 39 and 40 at the opposite ends of said base 38. The lower ends of the arms 39 and 40 are provided with rounded corners even to the extent of having the free ends of said arms 39 and 40 semi-circularly formed as at 41 and which rounded corners act as cams for a purpose subsequently to be made clear.

The said latch or lock 37 is yieldably biased to at all times be in its lower position and for which purpose use is made of a coil spring 42. The coil spring 42 is conveniently carried by the pivot rod or bolt 34 and has one end 43 thereof resting on the base 38 of the latch 37; said base 38 having a portion thereof inwardly of the base 31 of the carrier 30 and which inward portion is identified in FIGS. 3 and 4 by the reference numeral 44, and it is on this portion of the latch that the spring end 43 rests.

The spring 42 has its other end 45 anchored in the side frame rear leg, 12 or 13, whichever one it is associated with. The connection of the spring arm 45 with its side frame leg is by way of an aperture 46 in said leg. The latch or lock 37 is shown in its normal or neutral position in FIG. 2, that is, the spring 42 normally holds the said latch or lock 37 in this position for operation as hereinafter set forth.

It is believed obvious from the foregoing and the disclosure in the drawings how the walker operates which briefly is as follows:

Assuming the walker to be set up as in FIG. 1 and it is desired to collapse the same, it is only necessary to raise the latch or lock members 37 of each mechanism 24 and 25 whereupon the side frames 10 and 11 are oscillated toward the front frame. As soon as the said latch or lock members 37 are beyond the front frame brace bar 22 they may be released and the said frames positioned as in FIG. 2. It is to be understood that either side frame 10 and 11 may be folded to be beneath the other.

To set up the walker as illustrated in FIG. 1 from its collapsed position in FIG. 2 it is only necessary that the side frames 10 and 11 be swung to their operative positions. As said frames reach their operative positions the free ends 41 of the latch arms 39 and 40 engage with the front frame brace 22 and the said rounded ends 41 act as cams for automatically raising the said latch or lock members 37 and their carriers 30 to ride over the said brace bar 22. This position of the parts is illustrated in phantom lines in FIG. 6 and wherein the said latch or lock member 37 is in its raised position on top of the brace bar 22.

It will be appreciated that even though the spring 42 is normally under tension the raising of the latch or lock member 37 and carrier 30 further tensions said spring 42 so that as soon as the latch or lock member 37 passes beyond the upper edge of the brace bar 22 it is yieldably forced to its locking position as illustrated in FIGS. 4, 5, and 6 for embracing between its base 38 and arms 39 and 40 the said front frame 22.

After the said frames have been locked or latched in their operative positions with respect to the front frame as illustrated in FIG. 1 they cannot be repositioned without a definite and positive unlatching of the latch members or lock members 37 as above set forth.

Each of the side frames 10 and 11 carries at the lower ends of its legs 12-14 and 13-15 a rubber or similarly soft and flexible tip or boot to absorb the shock of setting the walker down and to eliminate the thud of such action, as is the usual custom in devices of this kind.

From the foregoing it is believed obvious that there

has been provided a walker that may be readily collapsed for transportation and storage purposes and which collapsed walker takes up a minimum of space, and that the objects initially set forth have been accomplished.

What is claimed is:

1. In a walker of the class described the combination of a front frame including end members in the form of sleeves or tubes, a side frame at each end of the front frame each including a front leg respectively disposed in a sleeve or tube of said front frame so that said side frames may be swung relative to the front frame from positions superimposed on one another to positions angularly related to one another, latch means for latching the frames in their angularly related positions comprising a bracket carried by each side frame front leg, a U-shape latch pivotly mounted on each of said brackets with said latches each including a base and depending arms at opposite ends of said base, and a brace bar associated with the front frame received between the latches depending arms.

2. In a walker of the class described the combination of a front frame including end members in the form of sleeves or tubes, a side frame at each end of the front frame each including a front leg respectively disposed in a sleeve or tube of said front frame so that said side frames may be swung relative to the front frame from positions superimposed on one another to positions angularly related to one another, latch means for latching the frames in their angularly related positions comprising a bracket carried by each side frame front leg, a U-shape latch pivotly mounted on each of said brackets with said latches each including a base and depending arms at opposite ends of said base, a brace bar associated with the front frame received between the latches depending arms, and yieldable means between each of said latch brackets and its U-shaped latch member for yieldably retaining same in operative latched position.

3. In a walker of the class described the combination of a front frame including end members in the form of sleeves or tubes, a side frame at each end of the front frame each including a front leg respectively disposed in a sleeve or tube of said front frame so that said side frames may be swung relative to the front frame from positions superimposed on one another to positions angularly related to one another, latch means for latching the frames in their angularly related positions comprising a bracket carried by each side frame front leg, a U-shape latch pivotly mounted on each of said brackets with said latches each including a base and depending arms at opposite ends of said base, a brace bar associated with the front frame received between the latches depending arms, yieldable means between each of said latch brackets and its U-shape latch member for yieldably retaining same in operative latched position, and means carried by each said latches cooperating with the front frame spacing bar for actuating each latch against its yieldable means during the swinging of the side frames relative to the front frame from their superimposed to their angular positions and prior to the final positioning of said side frames and front frame angularly of one another.

4. In a walker of the class described the combination of a front frame including end members in the form of sleeves or tubes, a side frame at each end of the front frame each including a front leg respectively disposed in a sleeve or tube of said front frame so that said side frames may be swung relative to the front frame from positions superimposed on one another to positions angularly related to one another, latch means for latching the frames in their angularly related positions comprising a bracket carried by each side frame front leg, a U-shape latch pivotly mounted on each of said brackets with said latches each including a base and depending arms at opposite ends of said base, a brace bar associated with the front frame received between the latches depending arms

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yieldable means between each of said latch brackets and its U-shape latch member for yieldably retaining same in operative latched position, and cam means at the free ends of each of the latch arms cooperating with the front frame spacing bar for automatically actuating the latch members against their yieldable means prior to the latching of the side frames in their angular positions with respect to the front frame.

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