

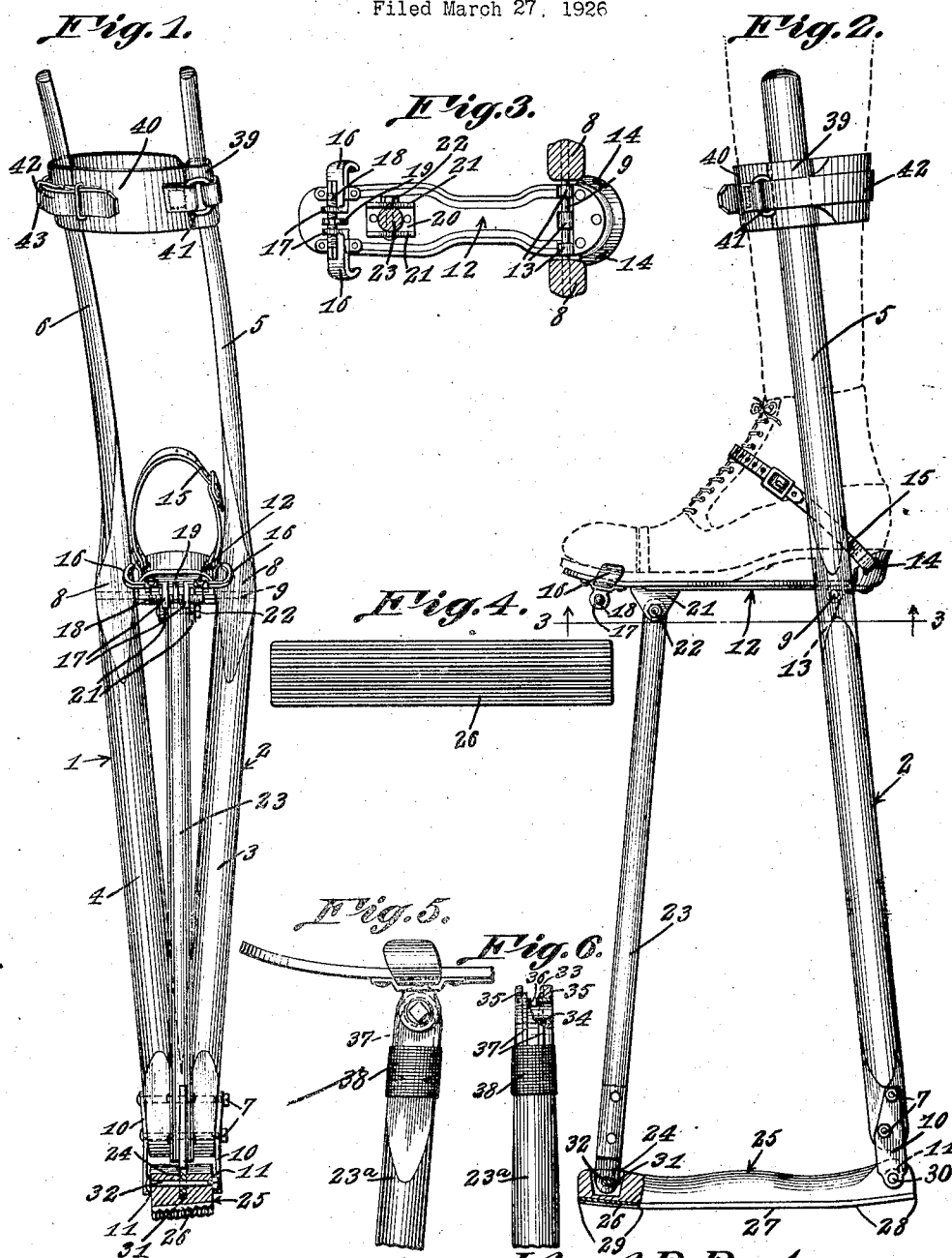
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STILT

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STILT.

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This invention relates to walking stilts and has for its primary object, the general improvement of the construction of such articles in such manner as to make them easier and more comfortable to use and improve the strength and durability of the same.

The invention contemplates the provision of a pair of supporting members having straight lower portions which converge and are secured together at their lower ends while the intermediate portions of the members and the upper ends of the straight portion are held in spaced relation by a pivot member upon which a foot rest is pivotally mounted. The upper portions of the members are curved in the same direction and when applied bear against the user's leg in such a manner as to assist the user in maintaining his equilibrium under all conditions. An auxiliary supporting member depends from the front portion of the underside of the foot plate and the other end of the supporting member is pivotally attached to the front portion of a tread plate, while the convergent ends of the supporting members are pivotally secured to the rear of this tread plate member. Improved joint connections between the pivotally connected parts of the members form an additional feature of the device as does also the particular manner in which the tread plate of the stilts is formed.

The invention will be best understood from a consideration of the following detailed description taken in connection with the accompanying drawing forming a part of this specification, with the understanding that the invention is not confined to any strict conformity with the showing of the drawing but may be changed and modified so long as such changes and modifications mark no material departure from the salient features of the invention as expressed in the appended claims.

In the drawing:—

Figure 1 shows in front elevation the stilt embodying this invention, the same being adapted for use upon the right side.

Figure 2 shows the stilt in side elevation, showing in dotted lines the manner in which a user's foot and leg is secured thereto.

Figure 3 is a section taken upon the line 3—3 of Figure 2 looking upwardly.

Figure 4 shows in bottom plan the bottom plan of the tread plate, of the stilt.

Figure 5 shows in side elevation a modification of the pivotal connection between the foot rest and the front or auxiliary support therefor.

Figure 6 shows in front elevation the modified joint referred to in Figure 5.

Referring now to the drawing in detail wherein like numerals of reference indicate corresponding parts throughout the several views shown, there is indicated generally by the numerals 1 and 2 the inner and outer supporting members respectively, of a right stilt, of the type embodying this invention.

The description is here confined to the showing of one stilt only, the same being adapted to be used upon the right side but it is of course understood that the stilt to be used upon the left in cooperation with this one shown, is an exact duplicate of the one described with the single exception of the upper portion of the members 1 and 2, in which case these portions will be curved in the opposite direction to the members here shown.

As is clearly shown in Figure 1 each of the members constitute two distinct portions, the straight relatively heavy lower portions 3 and 4 and the lighter curved upper portions 5 and 6, respectively. The upper portions 5 and 6, as shown, are curved or bowed both in the same direction, which is toward the outer side of the stilt shown.

The free or lower ends of the portions 3—4 converge as shown and are brought together and held by the screw bolts 7. The upper ends of the members 3—4 or that part lying between the members 3—4 and the members 5—6, which is indicated by the numeral 8, are held in spaced relation by the combined spacing and supporting pin 9.

The bolts 7 which secure the lower ends of the members 3 and 4 together also serve to secure against the outer side of each of these members the hinge plate 10 the lower end of which plate extends a substantial distance beyond the ends of the members 3—4 and these lower ends are apertured and the inner face of each of the plates has formed thereon about the aperture an inwardly extending boss 11.

Positioned between the portions 8 of the members 1, 2, is a foot rest or support indicated generally by the numeral 12. The rear or heel portion of this foot rest 12 has formed transversely of the underside thereof the hinged knuckles 13 through which the

pivot supporting pin 9 passes thus pivotally securing the foot plate 12 at its rear, between the members 1, 2, in the manner shown. An upstanding flange 14 is formed about the heel portion of the foot plate 12 and from this flange there extends, from each end, a rear foot strap portion 15 which strap portions are adapted to be secured over the instep of the user of the device.

Adjacent the toe end of the foot plate 12 is a shoe clamp formed of a pair of clamp members 16 which are adapted to engage the edges of the sole of a shoe while the inner ends of these clamps are down turned and in spaced aligned position as indicated at 17 and provided with threaded apertures therethrough. A right and left hand threaded bolt 18 engages in the apertures in these spaced portions 17 of the clamp to draw the clamp members together. A central bolt guide and supporting lug is indicated at 19, completing the clamp structure. As will be readily observed this clamp structure is substantially the same as that used upon the ordinary skate.

Secured to the underside of the foot plate 12 rearwardly of the shoe clamp above described, in such position as to lie beneath the ball of the user's foot, is an inverted substantially U-shaped member 20 the side legs or ear portions 21 of which are apertured to receive the pivot bolt or pin 22.

Associated with the front portion of the foot plate 12 is an auxiliary front supporting rod 23. The upper end of this rod 23 is apertured and provided with a bearing sleeve through which the pivot bolt 22 extends when the apertured end is positioned between the ears 21. The lower end of the members 23 is also slotted to receive one end of a link 24 as shown.

A tread plate is indicated generally at 25. This tread plate is relatively long as is shown and has a broad tread surface covered by a non-slipping surfacing material 26 such as rubber or other appropriate substance. The tread surface of the plate 25 is divided into three portions, the intermediate portion 27 being relatively flat, and lying between the pivot points 9 and 22, the rear portion lying between the points 28 is slightly curved upon an arc struck from the pivot 9 and the forward portion lying between the points 29 is curved upon an arc struck from the pivot point 22. Thus when the stilt is in use the curved end portions of the tread surface of the plate make the use of the same easier than would be the case if the plate were flat and the intermediate portion 27 being relatively flat makes it easy for the user of the stilts to stand as the tread plates will naturally come to rest upon this intermediate relatively flat portion. Further, the tread surface of the plate 25 is at an angle with the top or in other words the inner wall

of the plate is of less height than the outer wall to enable it to come to rest flat upon the surface 27 as otherwise proper positioning of the tread plate would not be had, because of the outward curving of the stilt against the leg.

The apertured lower ends of the hinge plates 10 are positioned one on each side of the rear portion of the tread plate 25, the bosses upon the inner faces of the plates 10 acting as bearings against the sides of the plate. A securing pivot pin or bolt 30 secures these members in position.

There is cut into the top of the plate 25 at the front thereof the recess or socket 31. Into this socket there is extended the lower end of the link 24 through which the pivot bolt 32 extends. The other end of the link engages the member 23 as described above and shown in the drawing.

Attached to one of the members 5 or 6 as at 39, is a leg engaging strap 40, the strap having secured thereto at the point where it attaches to the member of the stilts, the ring 41. A considerable length of the free end of the strap 40 is reduced to provide the narrow strap 42 and when the broad strap 40 is passed about the leg of the user of the stilts, after being placed between the members 5 and 6, the narrow strap 42 has its end passed through the ring 41 and reversed or passed back over itself and the free end of this strap is then passed through the buckle 43 which is carried by the broad strap 40 and lies on the other side of the stilt from the ring 41, when the strap is in use. The upper portions of the members 5 and 6 are thus held securely against the sides of the legs of the user.

The modification shown in Figures 5 and 6 has to do with the method in which the upper end of the auxiliary supporting bar 23 is hingedly attached to the plate 12. In this construction the upper end of the supporting bar 23^a is provided with a slot or recess thereacross as indicated at 33, which recess merges with the transverse aperture through the end of the bar, into which aperture the sleeve 34 is fitted. There is thus formed at each end of the sleeve the upstanding ears 35. The central portion of the sleeve 34 has a transverse slot 36 cut therethrough which slot extends through substantially half the diameter of the sleeve and opens upwardly through the slot 33 in the end of the bar 23. The slot 36 is of materially less width than the slot 33 in the bar and there is passed over the sleeve on either side of the slot 36 the substantially U-shaped securing members 37. The yokes of these members lie across the sleeve 34 while the legs thereof pass downwardly upon each side of the bar 23^a. The free ends of the legs of the members 37 are pointed and turned inwardly and forced in-

to the body of the bar. Suitable binding thread 38 is then wound about the legs of the member 37 to prevent the accidental displacement of the same. This end of the bar 23^a is not positioned or secured between the ears 21 of the foot rest 12, but is carried by the bolt member 18 of the shoe clamp. When the end of the member 23^a is positioned upon the bolt 18 the supporting guide stud 19 of the bolt extends through the slot 36 in the sleeve 34 while the ear portions 35 are arranged between the opposed ends 17 of the clamp members 16 and the adjacent faces of the stud 19. The bolt 18 serves the double purpose of shifting and securing the clamp members 16 and also pivotally supporting the auxiliary supporting bar 23 in the manner shown and described.

From the foregoing description it will be readily seen that the herein described stilt structure is of materially improved design, strong and durable and of safe construction.

Having thus described my invention what I claim is:—

1. A stilt of the character described, comprising a pair of main supporting members convergent at their lower ends and having their upper ends in spaced curved relation, a tread plate, a foot rest pivotally secured at one end between said members intermediate the ends thereof, an auxiliary support for the forward part of said rest, and pivotal means connecting the front and rear ends of said plate to said auxiliary support and convergent members.

2. A stilt of the character described, comprising a pair of elongated supporting members secured in spaced relation at their central portions and secured in convergent contacting relation at one end, the other ends of the members being curved alike toward one side, an elongated tread plate, a hinge joint between the convergent ends of said members and one end of said plate, a foot support hingedly mounted at one end between the members at their central point of connection, and an auxiliary supporting bar pivotally attached at one end to the forward part of said plate support and at its other end to the forward end of said foot.

3. A stilt of the character described, comprising a pair of elongated supporting members secured in spaced relation at their central portions and secured in convergent contacting relation at one end, the other ends of the members being curved alike toward one side, an elongated tread plate, a hinge joint between the convergent ends of said members and one end of said plate, a foot support hingedly mounted at one end between the members at their central point of connection, and an auxiliary supporting bar pivotally attached at one end to the forward part of said foot support and at its

other end to the forward end of said plate, said plate having its tread surface provided with a relatively flat central portion and slightly curved upwardly at each end of said portion.

4. A joint in a device of the character set forth including a foot plate carrying a shoe clamp comprising a pair of clamp members having turned opposed inner ends, a draw bolt passing through said ends and a guide lug carried by the plate between said ends, a supporting rod for the front of said plate having one end transversely apertured and further having a slot formed in the end transversely of the aperture to receive said lug, a sleeve in said aperture through which said bolt is adapted to pass, having a transverse slot of less width than and opening into said first slot to receive said lug, and a pair of strengthening substantially U-shaped members overlying said sieve one on each side of the slot therein and having their legs secured to the rod.

5. In a stilt of the character set forth, a main supporting structure, a forward auxiliary support, a tread plate pivotally connecting between the lower ends of said supports and having the front and rear portions of the tread surface curved, and a foot support pivotally mounted adjacent its front and rear, on said auxiliary and main structures respectively, the arc of said curved front and rear portions being struck from the corresponding front and rear pivotal points of said foot support.

6. In a stilt of the character set forth, a main supporting structure, a forward auxiliary support, a tread plate pivotally connecting between the lower ends of said supports and having the front and rear portions of the tread surface curved, and a foot support pivotally mounted adjacent its front and rear, on said auxiliary and main structures respectively, the arc of said curved front and rear portions being struck from the corresponding front and rear pivotal points of said tread plate support, that portion of the foot, lying between the curved portions thereof being flat, and of a length corresponding to the distance between the pivotal points of the foot support.

7. In a stilt of the character set forth, a main supporting structure, a forward auxiliary support, a tread plate pivotally connecting between the lower ends of said supports and a foot support pivotally mounted on said auxiliary and main structures respectively, the front and rear pivots of said foot support being so located as to fall directly beneath the ball and heel respectively of the wearer's foot.

In testimony whereof, I affix my signature hereto,

LLOYD B. ROOT.