April 18, 1950 J. T. DOWELL 2,504,922

STILT

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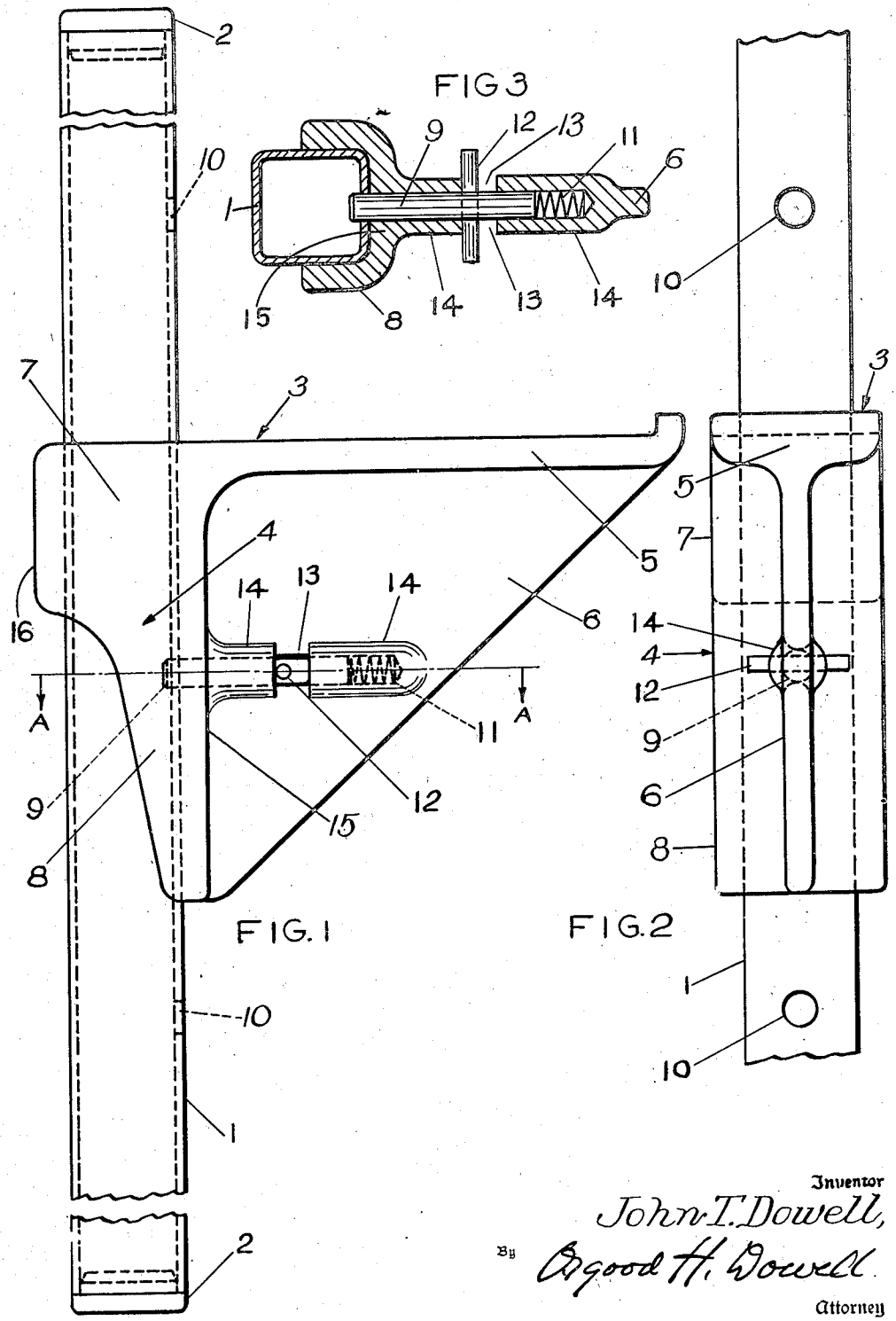


FIG 3

FIG. 1

FIG. 2

Inventor

John T. Dowell,

By Osgood H. Dowell

Attorney

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STILT

John T. Dowell, Riverside, Ill., assignor to Projects, Inc., Berwyn, Ill., a corporation of Illinois

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4 Claims. (Cl. 272—70.1)

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This invention relates to stilts for use in pairs by boys and others for the sport of walking with the feet raised from the ground. These devices consist of standards or poles having laterally projecting supports for the feet, and are adopted to be used as props on which the sportster can poise.

Objects of the invention are to provide an improved stilt the foot support of which can be easily adjusted to different elevations and reliably and firmly secured in adjusted position, without liability of being jarred or shaken loose or becoming accidentally unfastened, and to provide such a stilt of a light metal construction having the security and refinements possible in metal work and sufficiently simple to make its manufacture practicable.

Further objects ancillary or subsidiary to those above stated will be understood from the following description with reference to the accompanying drawings wherein there is shown for illustration a stilt embodying the invention in one practicable form.

Fig. 1 is a front elevation of the illustrative stilt.

Fig. 2 is a side elevation thereof looking toward the inner side of the standard, i. e. the side from which the foot support projects.

Fig. 3 is a sectional view along line AA of Fig. 2.

Referring to the drawings, the standard 1 of the illustrative stilt is of light metal tubing, preferably one inch square aluminum tubing formed with rounded corners and having a wall thickness of one sixteenth of an inch, the tubing being closed at the ends by aluminum caps 2 which are cast for a drive fit in the tubing and need no other fastening. Such a standard is of convenient size for grasping by the hand and, though of fairly light weight, is sufficiently sturdy to withstand the entire weight of a man when imposed on the foot support 3 carried by the standard.

Said support 3 consists of a bracket or member formed as a one-piece casting, preferably of aluminum and preferably in a skeletonized form such as shown. It has a cored out guide portion 4 slidably fitted on and held to the standard, and a laterally projecting portion of T-shaped cross-section forming a relatively wide step or foot-rest 5 and a bracing web 6 thereunder. In the form shown, the guide portion 4 comprises an upper tension strap 7 by which the bracket is held to the standard and a lower channel-shaped part 8 embracing the standard and cooperating with said tension strap to prevent wobbling of

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the bracket and to hold it steady or against material relative movement other than longitudinally of the standard.

The load imposed on the foot support is carried by a steel pin 9 slidably fitted in a bore therefor drilled in the lower part of the bracket and transfixing the inner side wall of the tubular standard, there being in said wall a series of suitably spaced and longitudinally aligned holes 10 selectively engageable by said pin. Protraction of said pin through the hole 10 in registration therewith is effected by the expansive force of a helical spring 11 compressed between the outer end of said pin and outer closed end of said drilled bore, said spring being loosely fitted in said bore. Limitation of protractive movement of said pin, so that it will only protrude a slight distance into the tubular standard is effected by a cross pin 12 transfixing the locking pin 9 and projecting at opposite sides of the web 6 through openings 13 allowing a limited range of movement of said cross pin. The cross pin also serves as a finger bar by means of which the locking pin can be easily retracted or withdrawn from the hole 10 to permit vertical adjustment of the foot support by sliding it on the standard until the locking pin snaps into the desired hole 10.

As the web 6 in the illustrative structure is of no greater thickness than the diameter of the locking pin 9, the portion of the web in which the bore for said pin is drilled is formed with swells or bosses 14. The cross pin could project through longitudinal slots in a continuous swollen portion of the web, though in this instance the web is shown formed with spaced swells or bosses, leaving the openings 13 between them.

The pins 9 and 12 may be made of commercially available cold rolled steel rounds, and the only machining operations necessary on the pins is the cutting to lengths and drilling a hole through one which will allow a press fit of the other therein. It is found that a standard ⅛" drill will make a hole of just the right diameter for a press fit therein of the commercially available cold rolled round steel used for the cross pin 12 and that no reaming is necessary in this connection. And the only machining operation necessary on the bracket or member 3 constituting the foot support is the drilling therein to the right depth the hole or bore for the locking pin. It will be observed that said hole or bore for the locking pin is drilled from the interior side of the wall 15 of the guide portion 4 of said bracket, said guide portion being of such form as to allow the drilling operation and insertion of the spring 11 and

locking pin 12 before assembly of the bracket with the standard 1.

It will also be observed that the guide portion 4 of the bracket 3 is of a form eliminating unnecessary metal. The upper sleeve part thereof or tension strap 7 is subjected to tension by imposition of load on the footrest 5, drawing the outer wall 16 of said guide portion against the outer side of the standard, while the lower part of the bracket is subjected to compression, forcing the lower part of the wall 15 against the inner side of the standard. The bracket may be considered as exemplifying a block having a sleeve portion slidably fitted on the standard and a laterally projecting foot rest, said sleeve portion having a cut out portion to eliminate functionless or unnecessary metal as well as to permit drilling the bore for and inserting the locking pin.

The invention reduces the labor cost of manufacture to a small fraction of the cost of the material utilized, which makes it practical to put a high quality item of this character on the market. Stilts embodying the invention in the form shown and described are of slender construction and light weight, but adequately strong and rigid for their purpose, and conveniently adjustable but free from the danger of accidental unfastening or loosening and displacement of the foot supports.

The illustrative structure may be modified in form and details within the scope of the appended claims. The term "aluminum" is intended to include aluminum alloyed with other metals, and the invention is not intended to be limited to a construction either entirely or partly of aluminum.

I claim:

1. An adjustable stilt comprising a tubular standard, a member consisting of a one-piece casting having a guide portion slidably fitted on said standard and a laterally extending portion of T-shaped cross section forming a foot-rest and a bracing web thereunder, the upper part of said guide portion being a sleeve, the lower part of said guide portion being channel-shaped, a bore drilled into said web from the inner side of a wall of said guide portion below said sleeve, said bore being closed at its outer end, there being in the inner side of the standard vertically spaced holes selectively registrable with said bore, a load-sustaining pin slidably fitted in said bore, a helical spring compressed between the outer end of said pin and outer closed end of said bore, whereby said pin is protracted into the hole of the standard in registry therewith, and a lateral projection on said pin limiting protractive movement thereof and affording means by which to retract it, there being an opening in the wall of said bore through which said projection extends, said opening being proportioned to allow necessary movements of said pin.

2. An adjustable stilt comprising a tubular standard, a member consisting of a one-piece casting having a guide portion slidably fitted on the standard and a laterally projecting portion of T-shaped cross-section forming a relatively wide foot-rest and a bracing web thereunder, said guide portion comprising an upper sleeve and a lower channel-shaped part extending from said sleeve, a bore drilled into said web from the inner side of the adjacent wall of said channel-shaped part, there being in the inner side of said standard vertically shaped holes selectively registrable with said bore, a load-sustaining pin slidably fitted in said bore and spring-urged to protrude into the hole in registry therewith, and a cross-pin transfixing said load sustaining pin and projecting through opposite openings in the walls of said bore so proportioned that said cross-pin limits protractive movement of said load-sustaining pin and affords means by which to retract it.

3. A stilt comprising a standard having a plurality of longitudinally spaced holes, a skeletonized block consisting of a one-piece metal casting having a cored out portion slidably fitting on said standard and a laterally projecting portion to provide a foot-rest, said block having an upper tension strap by which it is held to the standard and a lower compression part which by imposition of load on said foot-rest is pressed against the standard, and a retractible spring-actuated pin slidably mounted in said compression part and with which said holes are selectively engageable for supporting said block at different elevations on the standard and locking it thereto, said block having a thin bracing web joining the foot-rest to the portion of the block which slidably fits the standard, said web having a bored swollen portion containing said locking pin, said swollen portion having opposite openings and said locking pin having a cross-pin inserted therethrough and projecting through said openings, the openings being of appropriate proportions to allow retraction of said locking pin by said cross-pin and to limit protractive movement of said locking pin by abuttment of said cross-pin against end walls of said openings.

4. An adjustable stilt comprising a tubular metal standard, a skeletonized block consisting of a one-piece metal casting having a cored out guide portion slidably fitted on the standard and a laterally projecting portion of T-shaped cross section forming a relatively broad foot-rest and a relatively thin bracing web thereunder, said guide portion comprising a sleeve and a channel-shaped part extending downwardly from said sleeve, said web extending from said channel-shaped part, there being in said web and adjacent wall of said channel-shaped part a bore at right angles to said standard and in the plane of said web, said standard having vertically spaced holes selectively registerable with said bore, said web having spaced swollen portions in which said bore is drilled, said bore being of a diameter substantially as great as the thickness of said web except the swollen portions thereof, a load-sustaining pin slidably fitted in said bore and spring-urged to protrude into the hole in registry therewith, and a cross-pin transfixing said load-sustaining pin and projecting between said swollen portions of the web, said cross-pin limiting protractive movement of said load-sustaining pin and affording means by which to retract it.

JOHN T. DOWELL.

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Certificate of Correction

Patent No. 2,504,922 April 18, 1950

JOHN T. DOWELL

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction as follows:

Column 3, line 73, for the word "shaped" read *spaced*;

and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 11th day of July, A. D. 1950.

[SEAL]

THOMAS F. MURPHY,
Assistant Commissioner of Patents.