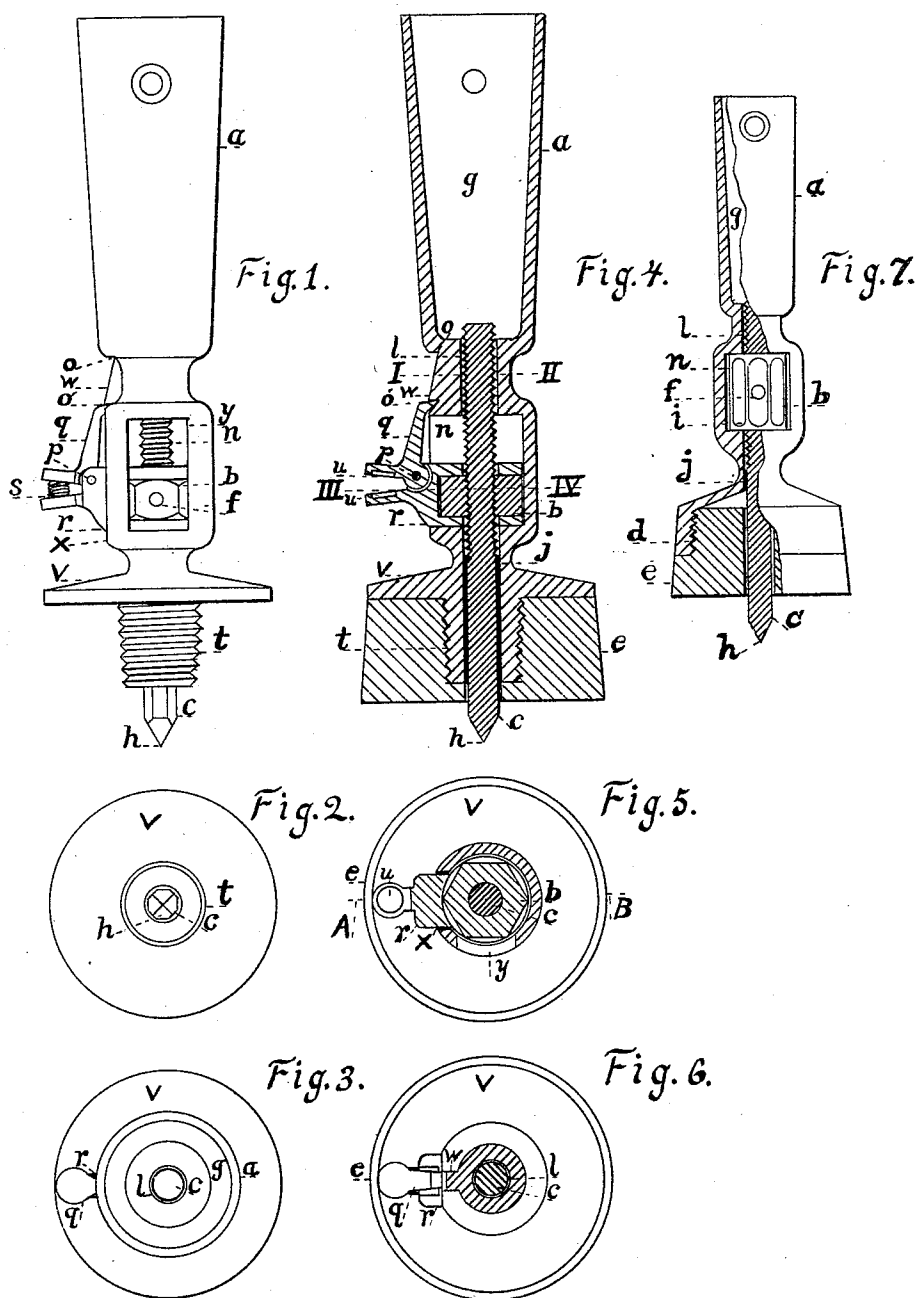


(No Model.)

R. M. LAMP.
CRUTCH.

No. 483,118.

Patented Sept. 20, 1892.



WITNESSES:
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CRUTCH.

SPECIFICATION forming part of Letters Patent No. 483,118, dated September 20, 1892.

Application filed February 23, 1892. Serial No. 422,693. (No model.)

To all whom it may concern:

Be it known that I, ROBERT M. LAMP, a citizen of the United States, residing at Madison, in the county of Dane and State of Wisconsin, have invented certain new and useful Improvements in Appliances for Crutches, of which the following is a specification.

My invention relates to improvements in appliances for the base of crutches, and is in the nature of an improvement on my invention of which I hold Letters Patent granted to me on the 19th day of January, A. D. 1892, No. 467,468.

The objects of my improvements are to provide for easily and effectually regulating at will the length of the projection of the spiked peg through the buffer or other terminal, whereby the crutch will be adapted to all the different characters of walks traversed by the wearer, and to provide for the wear of the parts and for securely retaining the rubber buffer on its base, and especially to enable the wearer to quickly expose the spiked peg or cause it to retreat into the buffer, as the state of the different walks may demand, without taking the crutch from under his arm and with the aid of his foot. I attain these objects by the mechanism illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation; Fig. 2, a bottom view. Fig. 3 is a plan view. Fig. 4 is a vertical section through the line A B. Fig. 5 is a horizontal section through the line III IV. Fig. 6 is a horizontal section through the line I II. Fig. 7 is a side elevation showing appliance patented January 19, 1892, which I seek to improve.

Similar letters refer to similar parts throughout the several views.

A standard forms all the stationary metallic parts of my device, comprising the wood-socket and the shank having an inclined plane and notches and a cylindrical space in the interior of the shank with two lateral openings at right angles to each other opening into the cylindrical space. The standard terminates in a threaded spindle having a circular flange rising from its base.

a designates a wood-socket case at the summit of the standard, and *g* its upward opening. The socket receives in its base the wood

of the crutch, which wood has a socket in which the upper end of the screw-bolt plays in vertical adjustment.

t designates a threaded spindle forming the termination of the shank, having a circular flange *v* rising from its base. This flange *v* is to give a bearing-surface to the rubber buffer when the rubber is screwed in place on the spindle. An opening continues from the wood-socket through and into the circular space, hereinafter described, found in the shank and through the spindle, and such opening is formed into bearings *l j*, the lower one of which *j* is polygonal, fitting the polygonal screw-bolt, hereinafter described, preventing rotary and allowing vertical motion in the bolt as it traverses a nut having end bearings in a nut-case hereinafter described.

n designates a cylindrical space in the nut-case containing the nut works in vertical adjustment in the shank.

c designates a steel octagonal screw-bolt, or it may be of any polygonal form. It terminates at its downward end in a spike *h*. Such bolt in its upper position extends from above the base of the wood in the upper socket to the base of the rubber buffer, and in such position is screw threaded from its summit to the base of the nut.

b designates a cylindrical or polygonal nut contained in a nut-case, hereinafter described, and receiving the screw-bolt *c*.

f designates holes for the insertion of a lever to aid in manipulating the nut. The nut is inwardly annular and tapped to the screw-bolt upon which it turns either way, thus giving the bolt reciprocal vertical motion.

All the parts thus far explained, except the threaded spindle and its flange, are found in my old device.

The nut-case *r* is new and holds the nut by an upper and lower surface of cylindrical shape which fits the cylindrical space in the shank. An annular opening to allow the free passage of the bolt when regulated by the nut is found in the upper and lower surface of the nut-case. The nut-case *r* also forms a support and bearing-surface for the pivot *p* about which the dog *q* rotates.

q designates the dog of the bell-lever type, of which the extremity of the working arm

is circular in horizontal section, for the reason to give surface for the placing of the foot in manipulating or working the device.

w designates an incline plane terminating in the notches *oo'* and contained in the shank and allows for the sliding of the dog from notch to notch. When the nut-case is raised, the dog *q* is retained by the notch designated *o*. When the nut-case is depressed the dog

q is retained by the notch designated *o'*.

s designates the spring retained in place by the two spring-sockets *u* in the nut-case *r* and dog *q* and serves to hold the dog *q* in position in the notches, thus preventing the bolt from sliding down or being forced up when the weight of the body is rested upon the same.

x is a lateral opening into the cylindrical space *n*, such that will allow a free vertical motion for the exterior projection of the nut-case *r*.

y is a lateral opening into the cylindrical space *n*, such as will give free access to the nut *b*.

e designates the rubber bufferscrewed onto the threaded spindle.

My device is manipulated as follows: The foot is placed on the cylindrical surface of the dog *q*, causing the spring *s* to yield and allowing the dog to slide from the notch *o* down the inclined plane *w*, carrying with it the nut-case and nut and the bolt until the lower surface of the nut-case rests upon the shank forming the bearing within the cylindrical

surface at its lower extremity. The foot being taken from the cylindrical surface of the dog *q*, the spring *s* forces the dog into the notch *o'* and holds the nut-case, nut, and bolt firmly in position. To raise the bolt, the foot is employed, as before, to throw the dog *q* out of the notch *o'*, and then by pressing down on the crutch the weight resting on the spike *h* of the bolt *c* causes the bolt, nut, and nut-case to slide up, and the foot being removed the spring *s* forces the dog against the inclined plane or into the notch *o*, thus holding it in position. The nut is retained for the purpose of enabling the wearer to regulate the length of the spike beyond the rubber buffer.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is—

In a crutch-bottom, the combination of a standard having a shank within which moves a spur that is vertically adjusted by means of a pawl and ratchet, the ratchet-teeth for the engagement of the spring-pawl being placed in the shank and the spring-pawl being carried by a nut fitted to the spur, and the termination of the standard and shank into a threaded spindle having a circular flange rising from its base, all said parts combined and operated substantially as set forth.

ROBT. M. LAMP.

Witnesses:

HENRY LEBEIS,
A. F. WARDEN.