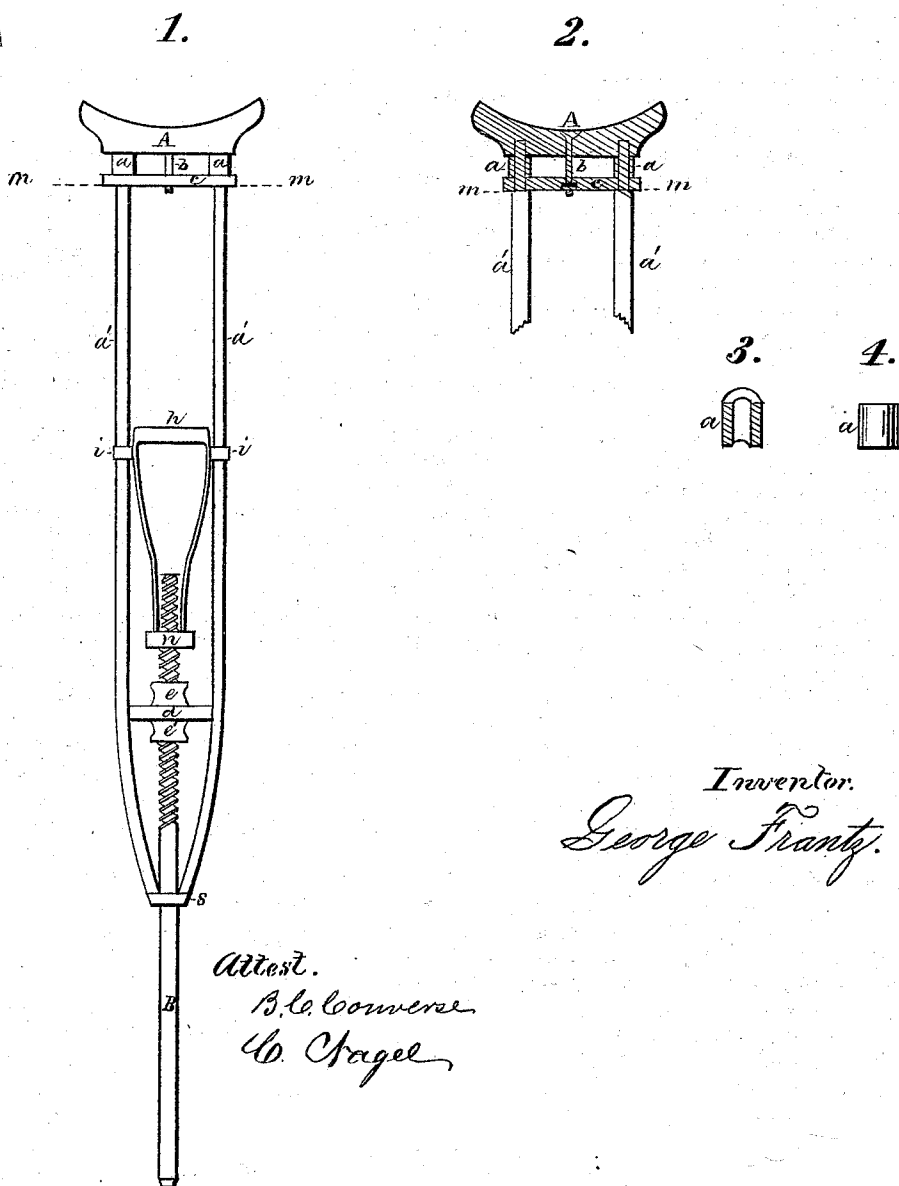


G. FRANTZ.

Crutches.

No. 147,491.

Patented Feb. 17, 1874.



UNITED STATES PATENT OFFICE.

GEORGE FRANTZ, OF CLARKE COUNTY, OHIO.

IMPROVEMENT IN CRUTCHES.

Specification forming part of Letters Patent No. **147,491**, dated February 17, 1874; application filed April 19, 1873.

To all whom it may concern:

Be it known that I, GEORGE FRANTZ, of the county of Clarke and State of Ohio, have invented certain Improvements in Crutches, of which the following is a specification:

My invention relates to a strong, durable, and convenient crutch, capable of ready adjustment in its length; also, in the handle part to suit the height of the person using it, and to lengthen it when worn away.

Figure 1 is an elevation of my improved crutch. Fig. 2 is a sectional view of the head part above line *m m*, with parts of side bars. Figs. 3 and 4 are whole and sectional views of springs *a a*.

A is the head, which is hollowed out, padded, and covered with leather or other suitable material, in the usual manner. This rests on springs of rubber *a a*; below these is a cross-piece, *c*. A screw-bolt, *b*, passes up through the center of the cross-piece *b* into the head *A*; or, preferably, the screw-bolt may be put down through the head from the top, and secured by a nut, which can be let in the under side of *b*. The object of this manner of attaching the head is to give it a firm and even set on the springs *a a*, so that they may have sufficient room for compression when the weight of the person is thrown on the crutch; also, to allow the head *A* to be easily taken off and put on, when necessary to renew the springs, or for other purposes. *a' a'* are the side bars, forming the shaft of the crutch. These are about four inches apart, and parallel the greater portion of their length, being bent together at their lower ends, on which is formed a sleeve, *s*, through which the central shaft or foot-piece *B* works snugly. A screw-thread is cut for some length on the upper end of *B*, (which is of wood,) and it passes up through the lower cross-piece *d*. On each side of the latter are jam-nuts *e* and *e'*, for adjusting the height of

the crutch. The end of *B* also enters the nut *n*, which is hung on the lower ends of the bent wooden rod, which forms the handle *h* by the turn on its upper part, which is in the form of an inverted stirrup. Handle *h* is padded and covered with leather to make it easy on the hand, and *i i* are sleeves or bands, which are attached to the handle-bow *h*, and slide up and down on the side bars *a' a'*, when the handle is moved up or down. This can be done by loosening the upper jam-nut *e* and letting *e'* remain; then, by turning *B* to the right, the screw will draw down the handle *h*, making the distance greater from it to the top of the crutch. When it is desired to raise the handle, the lower jam-nut *e'* is loosened and the screw-shaft *B* turned to the left. The same operation can be performed, in either raising and lowering the handle or lengthening or shortening the crutch, by loosening one jam-nut and turning the other, and vice versa. The lower cross-piece *d* has no thread in it, but simply a hole sufficiently large for the external diameter of screw of *B*, so that by turning the jam-nuts *e* or *e'*, the shaft *B* passes through *d* without turning on its axis. The lower end of *B* may be tipped with rubber or armed with a steel point and ferrule, as desired.

Other equivalent devices for adjusting the several parts may be used, such as grooving the side bars *a' a'*, and constructing the handle-piece *h* with projections to work up and down in them, so as to produce like results.

I claim as my invention—

The adjustable parts consisting of handle *h*, sleeves *i i*, or their equivalents, nut *n*, jam-nuts *e* and *e'*, screw-shaft *B*, and sleeve *s*, as and for the purpose hereinbefore set forth.

GEORGE FRANTZ.

Attest:

B. C. CONVERSE,
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