

S. A. BRACKETT.

Crutches.

No. 134,351.

Patented Dec. 31, 1872.

Fig. 1.

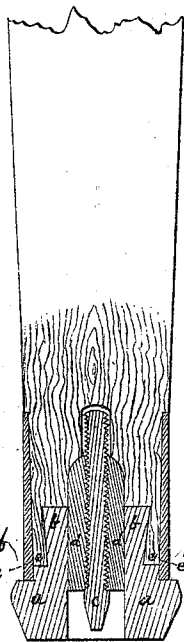


Fig. 2.

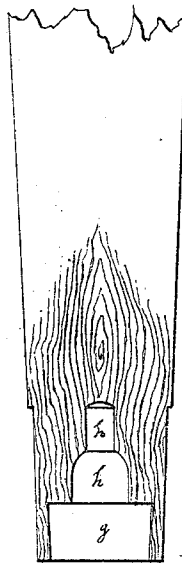


Fig. 6.



Fig. 5.



Fig. 3.

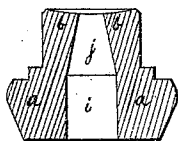


Fig. 4.

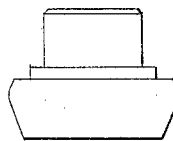
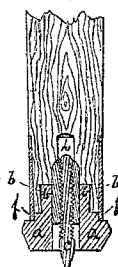


Fig. 7.
Reduced.



Witnesses.

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UNITED STATES PATENT OFFICE.

SAMUEL A. BRACKETT, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN CRUTCHES.

Specification forming part of Letters Patent No. 134,351, dated December 31, 1872.

To all whom it may concern:

Be it known that I, SAMUEL A. BRACKETT, of Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Crutches, of which the following is a specification:

Nature and Object of the Invention.

The first part of my invention relates to a combination, with a crutch, of a tip or tread of rubber or other suitable expansible material, molded into form, and made fast to the crutch by means of an upright tubular tenon upon its inner face, the bore of which gradually diminishes in size from the base of the tenon to its end, and which tenon is inserted in an inwardly-enlarging socket in the end of the crutch, and expanded therein by a cylindrical pin forced through a hole in the tip into and through the bore of the tenon. This part of my invention embraces an adaptation to crutches, canes, legs of chairs, and other similar parts of the principle of my former invention entitled an improvement in heels, for which Letters Patent were issued to me under date of November 5, 1872. The second part of my invention relates to a combination, with such a rubber tip on a crutch, of an adjustable spur or stud to prevent slipping upon ice.

Description of the Accompanying Drawing.

Figure 1 is a vertical section of a crutch embodying my invention, with all the parts in place. *a* is the rubber tip, with its tenon *b* expanded within the inwardly-enlarging socket in the end of the crutch. I prefer to make it with two shoulders, the one bearing against the wood of the crutch at *e*, and the other bearing against the edge of the metallic ferrule *f*, which extends about one-eighth of an inch below the end of the wood, and furnishes lateral support to the tip. *c* is the ice-spur, the screw of which is long enough to admit of its protrusion below the tip, or of its being withdrawn within it. The screw passes through the expanding-pin *d*, and, when withdrawn, into a recess in the crutch beyond the socket.

Fig. 2 is a section of the end of a crutch prepared to receive the tip and the spur. *g* is the inwardly-enlarging socket. *h h* are the recesses, which may be in one, to receive the expanding-pin when it is forced home, and the screw of the spur when the latter is withdrawn.

Fig. 3 is a vertical section of the rubber tip,

showing the cylindrical hole in the tip *i* communicating with the gradually-diminishing bore in the tenon *j*.

Fig. 4 is a side view of the rubber tip.

Fig. 5 is a section of the expanding-pin *d*, with the hole *k* for the reception of the screw upon the ice-spur *c*. This pin is preferably made of iron or other suitable metal.

Fig. 6 is the ice-spur. It consists of an iron or steel stud upon the end of a screw-rod, fitting easily the hole in the expanding-pin. It should be about one-half an inch longer than the expanding-pin, so that when the stud protrudes in use the rod may have the support of the entire length of the screw thereof in the pin.

Fig. 7 is a sectional view of a crutch with all the parts described in place and the ice-spur protruding.

Instead of making the inwardly-enlarging socket in the end of the wood of the crutch, the ferrule *f* may be extended sufficiently far below the end of the crutch, and contracted at its lower end, so as to form the inwardly-enlarging socket within which the tenon of the tip is expanded. In such case the ferrule must be retained in place by being screwed upon the end of the crutch, or otherwise fastened to it; and it will be necessary to form in the wood of the crutch only the recess or recesses for the expanding-pin, and the screw of the stud when the latter is withdrawn into the tip, as described.

The stud upon the end of the ice-spur should be so formed that it can be firmly held by a key or forceps when it is desired to screw it out or in.

I claim—

1. In a crutch, the combination of the elastic tip or tread *a* with a tenon having an inwardly-diminishing bore, and the expanding-pin *d* with or without the screw-hole *k*, and the inwardly-enlarging socket *g*, whether the same is formed in the leg or in an extension of a ferrule, all substantially as and for the purposes described.

2. In combination with a crutch having tip or tread *a* attached, as described, the ice-spur *c*, and the screw-hole *k* in the expanding-pin *d*, substantially as and for the purposes hereinbefore set forth.

SAMUEL A. BRACKETT.

Witnesses:

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