

(No Model.)

J. W. TUTTLE.

GRUTCH.

No. 332,684.

Patented Dec. 15, 1885.

Fig. 1.

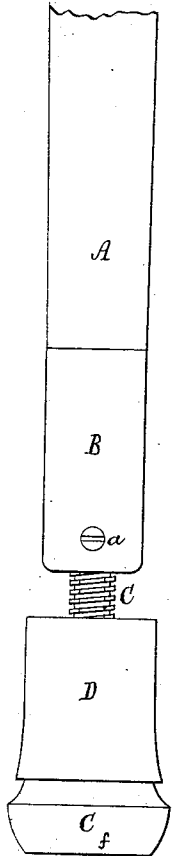


Fig. 2.

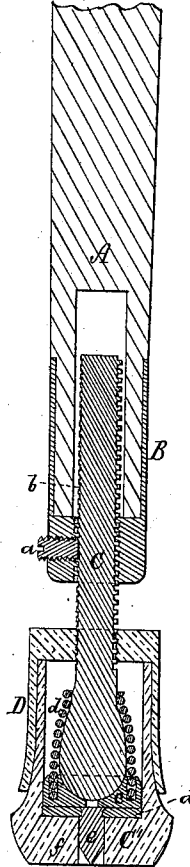
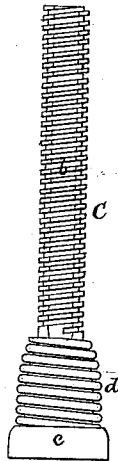


Fig. 3.



Witnesses.
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CRUTCH.

SPECIFICATION forming part of Letters Patent No. 332,684, dated December 15, 1885.

Application filed August 17, 1885. Serial No. 174,596. (No model.)

To all whom it may concern:

Be it known that I, JOHN WENTWORTH TUTTLE, of Watertown, in the county of Middlesex, of the Commonwealth of Massachusetts, have invented a new and useful Improvement in Crutch-Foot; and I do hereby declare the same to be described in the following specification and represented in the accompanying drawings, of which—

Figure 1 is a front elevation, and Fig. 2 a vertical and transverse section, of a crutch-foot embodying my invention, the nature of which is defined in the claims hereinafter presented. Figure 3 is a front view of the stem, the metallic foot, and the tapering spiral spring connecting such foot and stem.

In such drawings, A denotes the lower portion of the staff of a crutch, it being extended within and fixed to a metallic thimble, B, which goes across the lower end of the staff. The stem C, screw-threaded, screws into the head of the thimble and extends up into the staff. On one side of the stem the screw-threads are filed or cut down to a flat surface on each, as shown at *b*, for the inner end of a set-screw, *a*, to bear against to keep the stem from revolving. This set-screw is screwed laterally into the thimble and against the flat part *b* of the stem. The lower end of the stem is stepped in a metallic foot, *c*, such foot being connected to the stem by a tapering or conical spiral spring, *d*, that circumscribes the stem, the said spring at or near its lower end being fastened to the foot. At its upper end the spring is fastened to the stem. The spring not only connects the stem to the foot, but allows the stem to swing laterally on the foot. Covering the foot and stem is a shoe, C', of vulcanized india-rubber, such shoe being formed as represented, and having within it an insole or disk, *d*, of metal. The disk has projecting downward from it at its center a spur or metallic point, *e*, that extends through the sole *f* of the shoe, such point or spur being to prevent the shoe from slipping on a slippery floor or pavement. An auxiliary shoe or cap, D, of vulcanized india-rubber, formed as represented, encompasses the stem and the upper of the shoe C, and contracts closely upon both, and when the crutch is in use yields readily to the lateral movements of the stem without becoming disen-

gaged from it or the shoe. The cap covers the shoe, so as to exclude from it and the stem, foot, and spring within it, all dust and moisture. The screw-threaded stem and the thimble enable the crutch-foot to be adjusted nearer to or farther from the staff, as may be required by a party using the crutch.

I claim—

1. The stem stepped in the metallic foot and connected thereto by a tapering spiral spring encompassing the stem and fixed to the foot, in combination with the elastic shoe surrounding the foot and stem and the said spring, and extending across the under side or tread of such foot.

2. The combination of the covering and contractile cap D, encompassing the stem and upper part of the shoe, with the metallic foot and the stem stepped in the latter, and with the tapering spiral spring connecting the foot and stem and surrounding the latter, as set forth.

3. The combination of the metallic thimble fixed on the staff and extending across the lower end thereof, with the screw-threaded stem screwed into the lower part of the said thimble and stepped into a foot and connected therewith by a conical spring, as described, such foot and stem having upon them the covering-shoe and its contractile cap, as represented.

4. The crutch-shoe having within it the metallic insole and its spur, as described, in combination with the metallic foot and the screw-threaded stem stepped in the foot and arranged in the shoe and its contractile cap, and connected to the foot by a spiral spring, as set forth.

5. The screw-threaded stem having its screw-thread flattened on one side, as represented, and screwed into a metallic thimble provided with a set-screw to screw against the flattened part of the stem, in combination with the crutch-staff inserted in and fixed to the thimble, and with the metallic head, the connecting spiral spring, and the elastic shoe and its contractile cover, all being arranged and applied substantially as set forth.

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Witnesses:

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