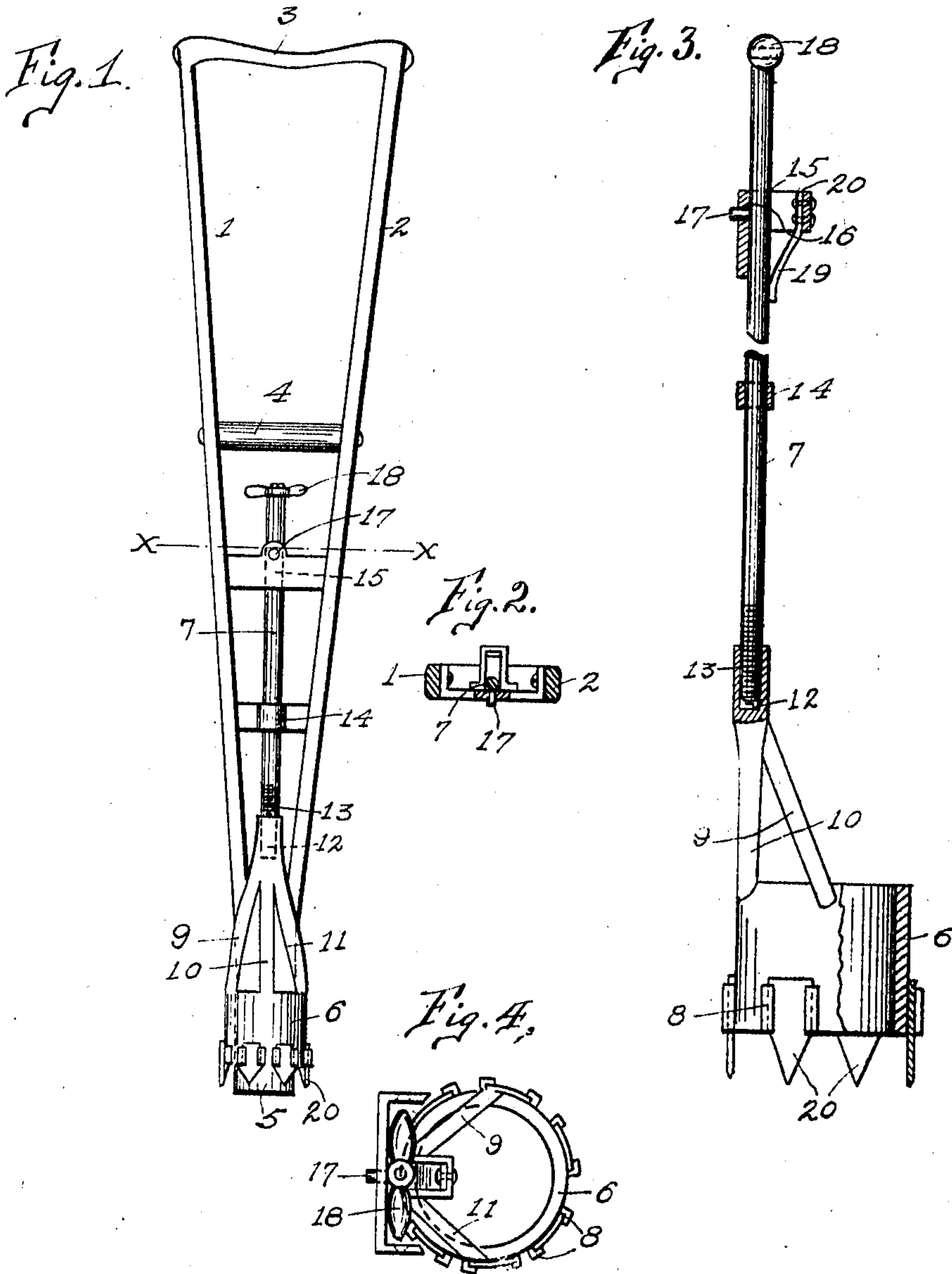


K. D. HARDING.
ATTACHMENT FOR CRUTCHES.
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Patented Sept. 20, 1910.



WITNESSES:

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KATHRYN DOROTHY HARDING, OF EVANSTON, ILLINOIS.

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Specification of Letters Patent. Patented Sept. 20, 1910.

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To all whom it may concern:

Be it known that I, KATHRYN DOROTHY HARDING, a citizen of the United States, residing at Evanston, in the county of Cook and State of Illinois, have invented a certain new and useful Attachment for Crutches, of which the following is a specification.

My invention relates to that class of devices which are designed to provide means to keep the crutch from slipping when on ice or other slippery places, which means may be retracted and brought out of engagement with the ground or other surface walked upon. Devices of this kind with which I am familiar are subject to the objection that the user has to stop and turn the crutch up, making the necessary adjustment at the bottom.

My invention has for its object to provide a novel attachment which may be extended or retracted at the will of the user without removing the crutch from the arm-pit, and to construct such device so that it may be used as an attachment and placed upon crutches of the ordinary or usual construction.

My means of accomplishing the foregoing may be more readily understood by having reference to the accompanying drawings which are hereunto attached and are a part of this specification; in which—

Figure 1, shows my improvement applied to a crutch. Fig. 2, is a cross section taken on the line double X in Fig. 1. Fig. 3, is an enlarged detail view of my device. Fig. 4, is a top or plan view of the same.

Similar reference numerals refer to similar parts throughout the entire description.

As shown in Fig. 1, the crutch is provided with arms 1 and 2, a concave top-piece 3, a cross-piece 4 for a hand rest, and a tip 5.

So far as described the crutch is of the usual, ordinary construction.

My attachment consists, as more clearly shown in Figs. 3 and 4, of a member 6, which may be conveniently formed of tubing. The inner diameter of this tubing conforms with the exterior of the tip 5; a series of teeth 20, detachably secured in shoulders 8 formed upon the member 6, are adapted to engage the surface of the ice or other slippery surface upon which the user is walking. The member 6 is connected to a rod 7 by means of three arms 9, 10 and 11, the upper ends of which are welded together and provided with an internal, screw-thread-

ed opening 12, adapted to receive the lower end 13 of the rod 7 which has threads cut thereon to coincide with the threads in the opening 12. The rod 7 may be carried in bearings 14 and 15 which may be fastened to the arms 1 and 2, of the crutch, by screws, or any other convenient method of fastening. The bearing 15 is provided with an opening 16 to receive a pin 17 fixedly mounted upon the rod 7, a handle 18 of any desired form may be attached to the upper end of the rod 7; a flat spring 19 is secured to a rearwardly extending portion 20 of the bearing 15, the said spring exerting a tension to hold the pin 17 in the opening 16.

The operation of this device is as follows:—Normally the attachment is in the position shown in Fig. 1. When it is desired to use the teeth to prevent the slipping of the crutch the handle 18 is moved laterally until the pin 17 is removed from the opening 16, the rod 7 is then pushed downwardly until the pin 17 comes below the bearing 15, this projects the teeth 20 beyond the tip 5 so that they are in a position to engage the surface upon which the user is walking. They are prevented from retraction by the engagement of the pin 17 with the lower edge of the bearing 15, the rod 7 being held firmly against the bearing by the pressure exerted by the flat spring 19.

It is obvious from the above description that the user may advance or retract the teeth 20 while the crutch rests beneath the arm, with perfect ease, while the convenient method of attaching the teeth provides for their renewal when they are worn off. The method of attaching the upper ends of the arm 9, 10 and 11 to the lower end of the rod enables one to immediately remove the attachment from the crutch, when desired, as in the summer time for instance, when such an attachment would not be required, thus avoiding the necessity of carrying its weight except when it is needed.

I desire to be understood that my invention is not limited to any specific form of arrangement of parts except in so far as such limitations are specified in the claims. Having described my invention, what I regard as new and desire to secure by Letters Patent, is:—

1. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, detachable teeth mounted upon said mem-

ber, a plurality of arms extending upwardly from said member, said arms forming a socket having internal threads therein, a rod mounted in said socket, a series of
5 bearings for said rod said bearings being detachably secured to said crutch, means to project or retract said member and teeth, means to hold said member in position.

2. In a device of the character described,
10 the combination with a crutch of a tubular member surrounding the tip of the crutch, a plurality of teeth formed on the lower edge of said member, a plurality of arms extending upwardly from said member, said arms
15 forming a socket having internal threads therein, a rod mounted in said socket, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and
20 teeth, means to hold said member in position.

3. In a device of the character described, the combination with a crutch of a tubular

member surrounding the tip of the crutch, detachable teeth mounted on said member, 25 a rod detachably secured to said member, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and teeth, means to hold said member in 30 position.

4. In a device of the character described, the combination with a crutch of a tubular member surrounding the tip of the crutch, detachable teeth mounted upon said member, 35 a rod detachably secured to said member, a series of bearings for said rod, said bearings being detachably secured to said crutch, means to project or retract said member and teeth, spring actuated means to hold said 40 member in position.

KATHRYN DOROTHY HARDING.

Witnesses:

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