

No. 807,773.

PATENTED DEC. 19, 1905.

J. H. PUTNAM.
SNAP HOOK.

APPLICATION FILED OCT. 26, 1904.

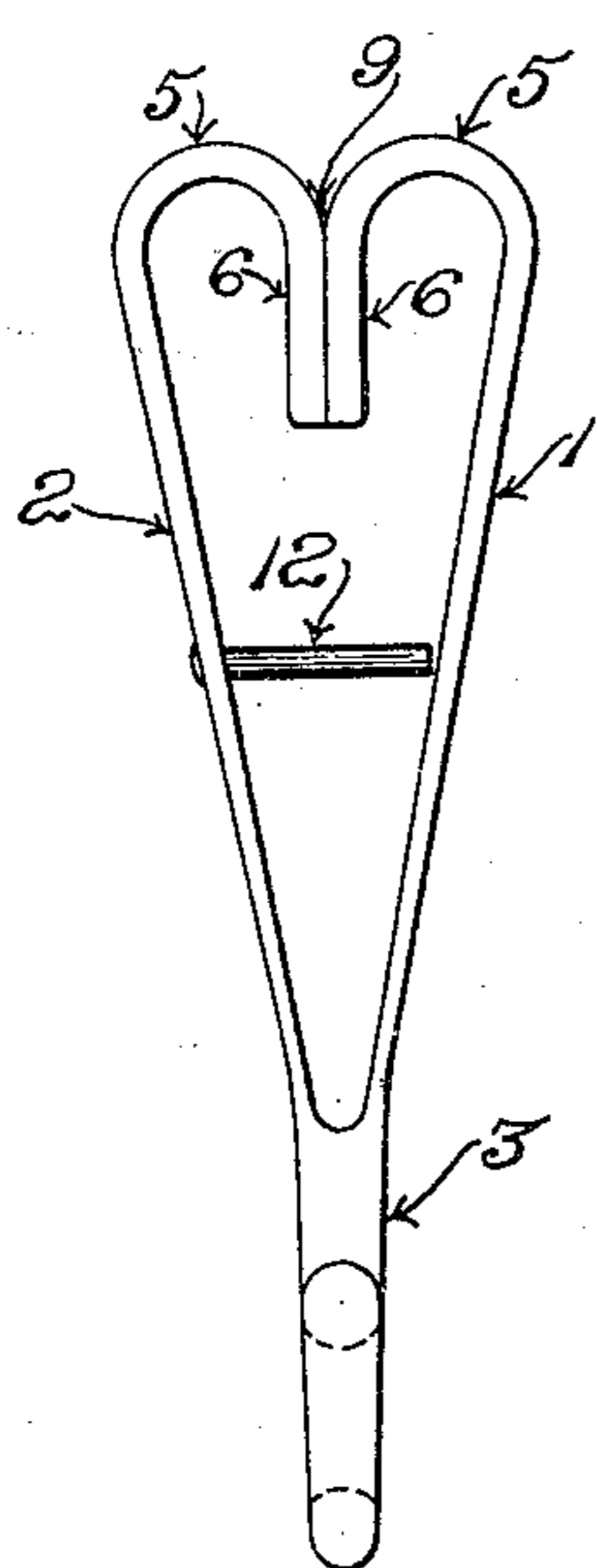


Fig. 1.

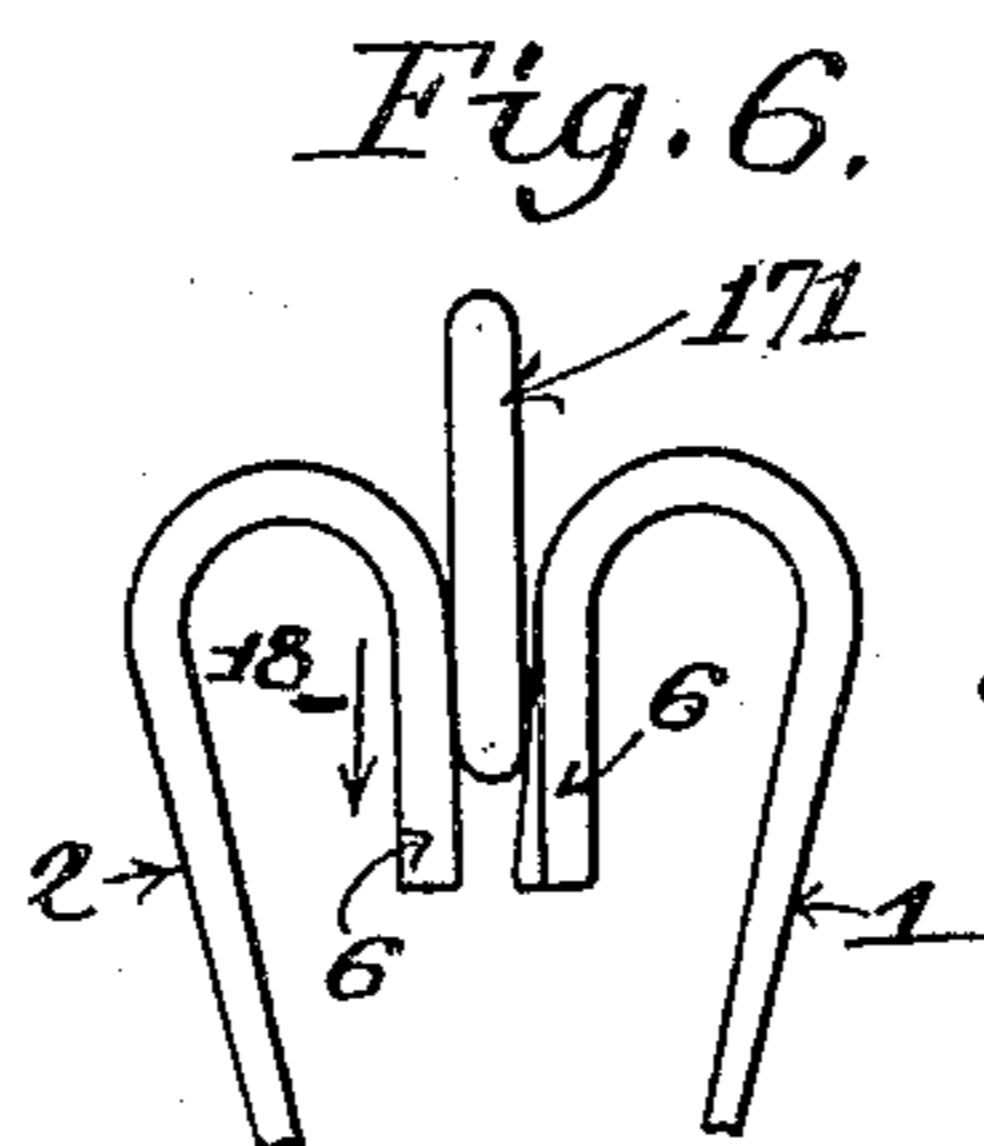


Fig. 6.

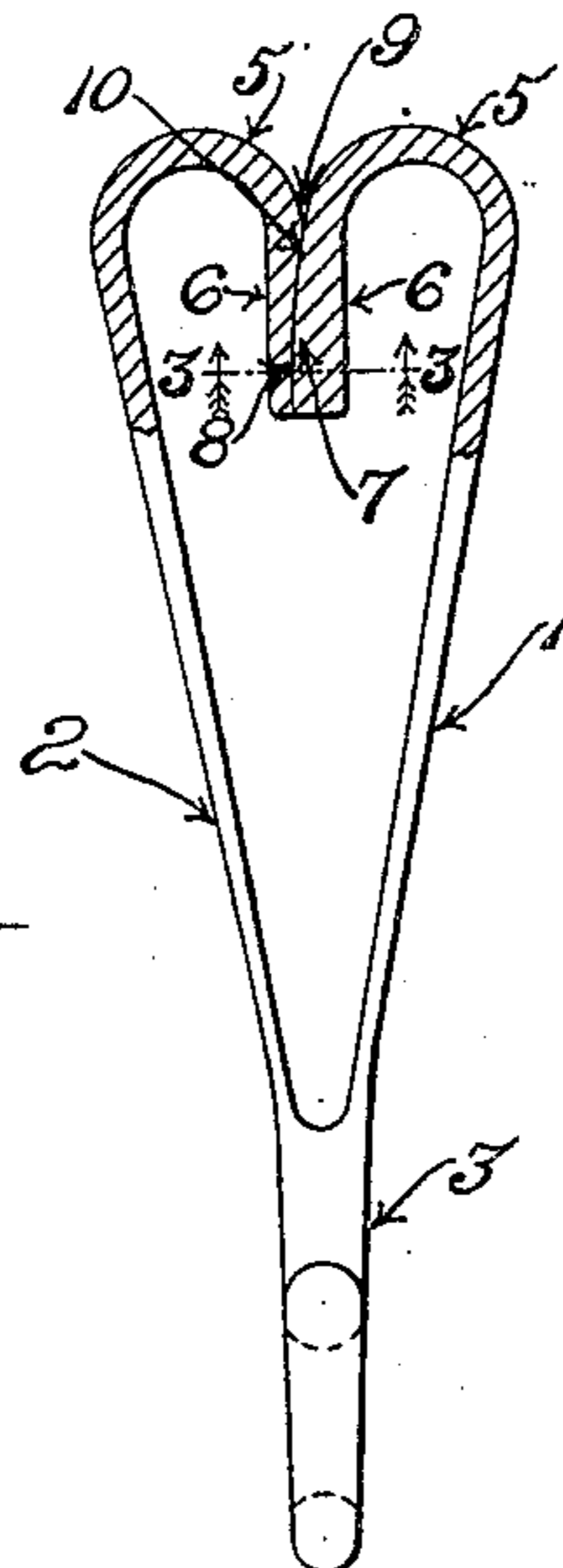


Fig. 2.

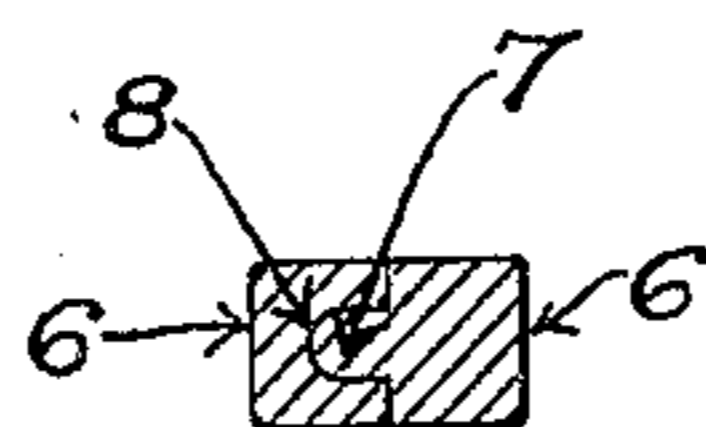


Fig. 3.

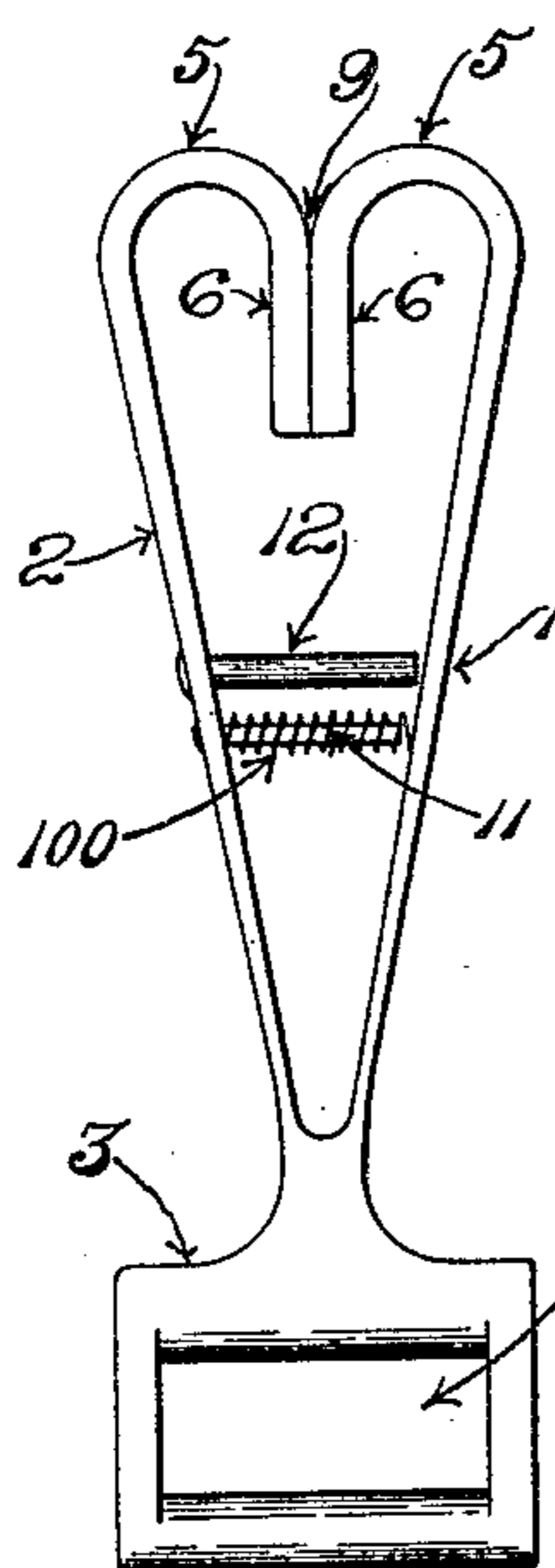


Fig. 4.

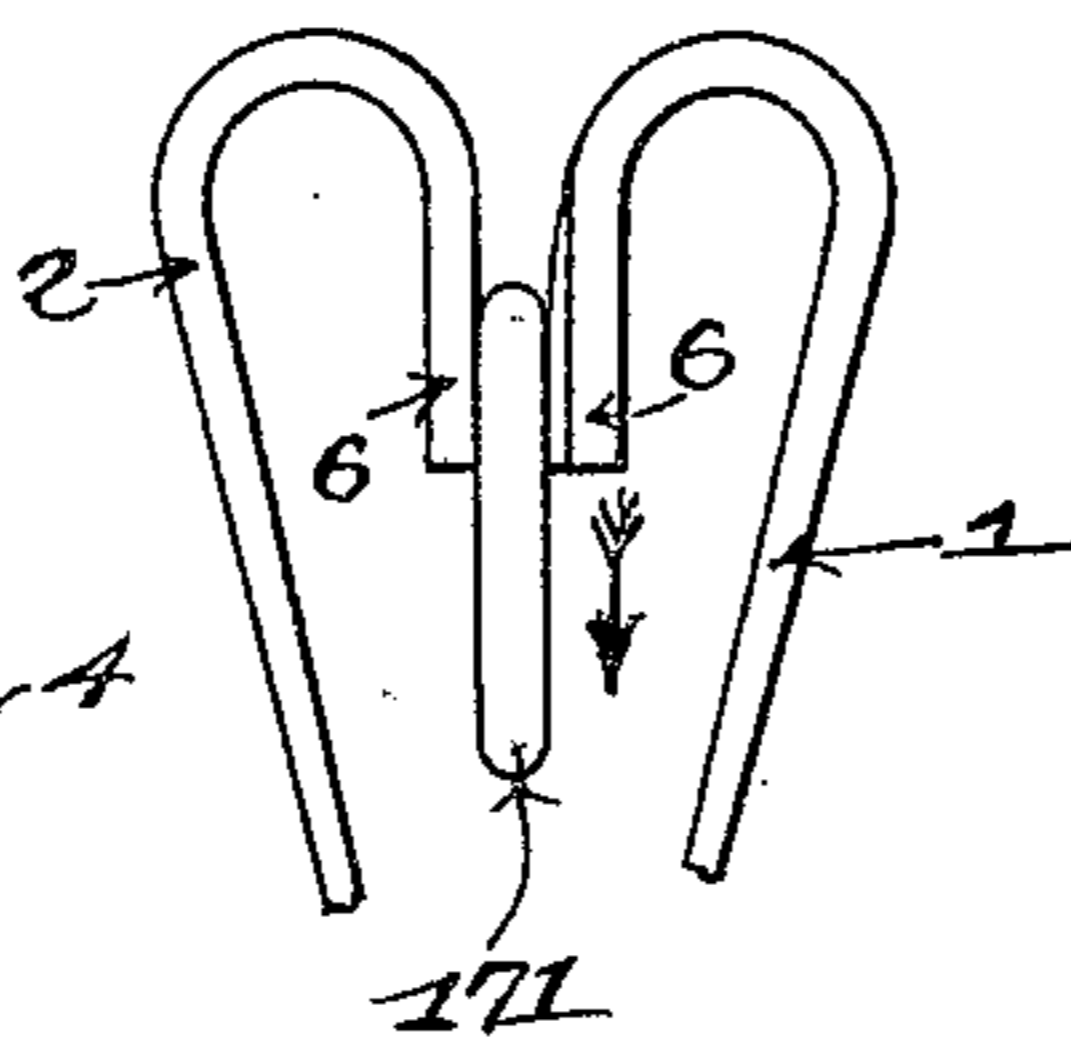


Fig. 7.

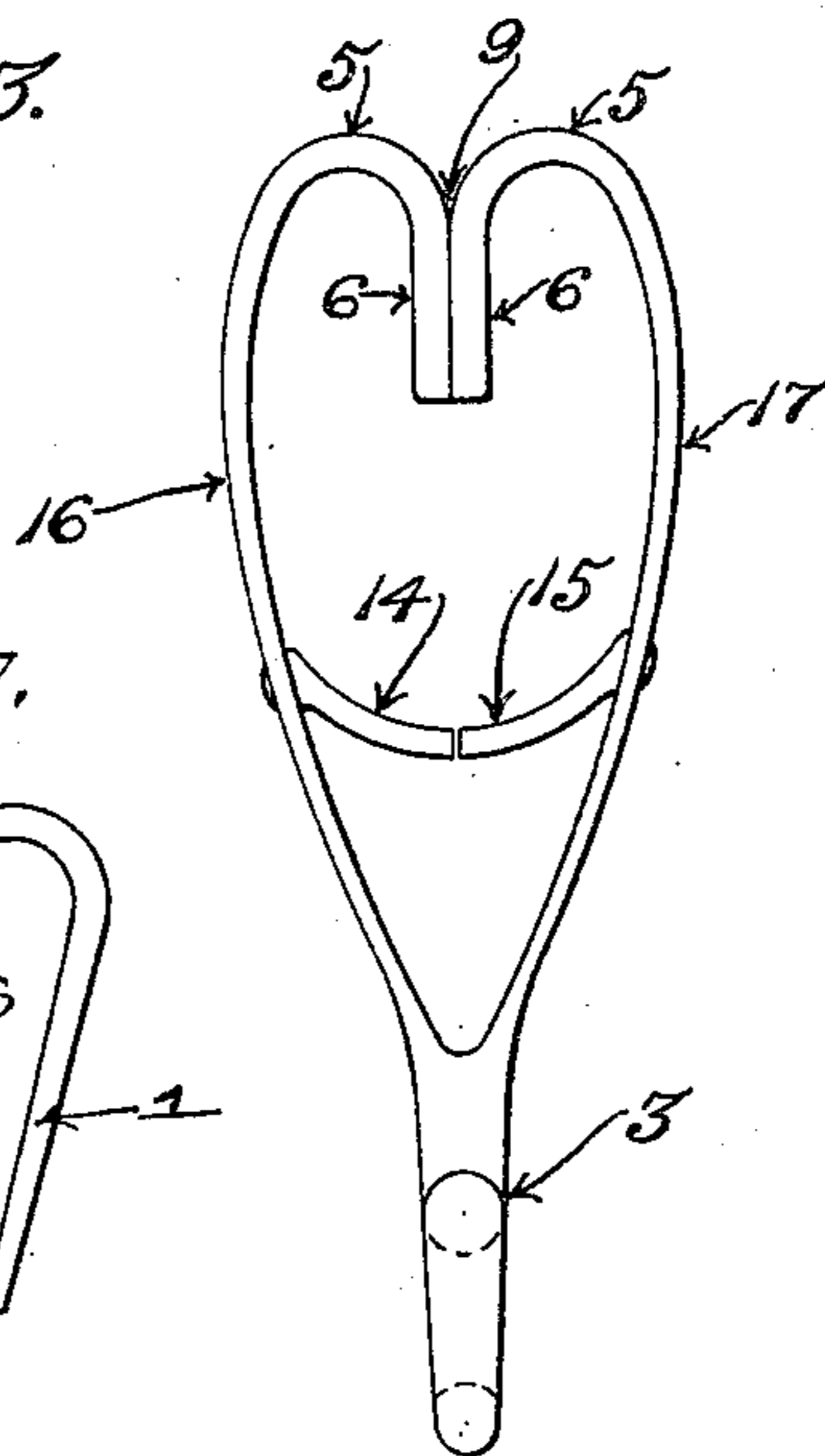


Fig. 5.

Witnesses:
J. Henry Parker
Oscar F. Hill

Inventor:
John H. Putnam
by Harold Calver & Randall
Attorneys.

UNITED STATES PATENT OFFICE.

JOHN H. PUTNAM, OF WINTHROP, MASSACHUSETTS.

SNAP-HOOK.

No. 807,773.

Specification of Letters Patent.

Patented Dec. 19, 1905.

Application filed October 26, 1904. Serial No. 230,020.

To all whom it may concern:

Be it known that I, JOHN H. PUTNAM, a citizen of the United States, residing at Winthrop, in the county of Suffolk, State of Massachusetts, have invented a certain new and useful Improvement in Snap-Hooks, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to certain improvements in snap-hooks adapted to be used with harnesses and the like; and it consists in the construction and arrangement of the members or parts of the hook, as hereinafter described and as shown in the accompanying drawings, which form a part hereof.

The novel features of the invention will be pointed out, and clearly defined in the claim at the close of this specification.

In the accompanying drawings, Figure 1 is a plan view of a snap-hook embodying my invention. Fig. 2 is a similar view, partially broken away to show more clearly a certain detail of construction hereinafter more fully set forth. Fig. 3 is a cross-section on the line 3 3 of Fig. 2. Figs. 4 and 5 are plan views showing details hereinafter referred to. Figs. 6 and 7 illustrate the movement of a ring during the engagement and disengagement of the ring and snap-hook.

Having reference to the drawings, 1 and 2, Fig. 1, designate jaws which are of flexible material and preferably formed integral with the shank or eye portion 3. The said shank portion is of the usual form and is provided with an opening 4, through which a strap or the like may be passed in securing the latter to the hook. What I have termed the "jaws" 1 and 2 are preferably formed of spring-steel, although any other material having the requisite strength and springiness may be employed. The jaws 1 and 2 preferably flare or diverge outwardly from the shank 3, as shown, and at their outer ends are provided with intumed, preferably curved, portions 5, which terminate in straight portions 6, which lie parallel and in contact with each other when the hook is in its normal closed position. The straight portion 6 should for the best results be of substantial length, which insures greater safety in the hold of the hook—that is, it renders the hook less likely to become detached from the metallic ring or eye with which such hooks are usually employed. To further increase the strength of the hook and lessen the danger of possible detachment, I preferably provide the contact-faces of the

portions 6 with a corresponding projection and recess or depression. Such a projection and recess or depression are shown in section, Fig. 3, the projection on one of the portions 6 being designated 7 and the recess on the other portion 6 being designated 8. The said projection and recess are clearly shown in the cross-sectional view, Fig. 3.

In passing the hook onto a ring the ring and hook are brought into contact with the ring bearing on the hook at the point designated 9, Fig. 2. The two are then forced together, the ring operating to wedge apart the jaws of the hook, and thus the ring is permitted to pass between the jaws, the two members of the hook snapping together after the ring has passed. In removing the hook from the ring, which may be very readily effected, the same method is employed. The inside surface of the ring is brought into contact with the converging jaws 1 and 2 of the snap at the point 9 and the ring is then forced downwardly and toward the shank 3 until the wire of the ring has passed the intumed portions 5 of the jaws, thus effecting the disengagement of the ring from the snap-hook. This will be clearly seen from Figs. 6 and 7, in which a ring 171 is shown as being inserted between the jaws 6 6 of the snap-hook. In Fig. 6 the ring 171 is being moved in the direction of the arrow 18 and is shown as having forced the said jaws 6 6 apart. Continued movement in the direction of the arrow 18 will complete the engagement of the ring with the snap-hook. In Fig. 7 the disengagement of the ring 171 is shown. To complete the disengagement of the ring there shown, it is necessary to move the ring in the same general direction in which it was moved during its engagement—i. e., in the direction of the arrow in Fig. 7—until the jaws 6 6 snap together, leaving the ring free. In both these operations a section of the ring passes between the portion 6 of each of the hook members and passes inwardly with relation to the said portions, the jaws of the snap being forced apart by the wire of the ring. The snap may therefore be attached or detached without using the fingers to spread the jaws of the snap. In order, therefore, to facilitate the passage of the ring, the projection 7 is formed with an inclined surface, as shown at 10, so that the ring may readily ride over it. The depression or recess 8 is of a size and shape to receive the projection 7, the latter preferably fitting the said recess and being

preferably a close fit. The employment of such a projection 7 and recess 8 serves to lock the two members or jaws of the hook together (see Fig. 3) and hold them securely as against any strain except such as tends to open the hook—that is, the hook members are free to separate when the engaging ring is passed between them.

At Fig. 4 I have shown a modification of my device, which consists of a spiral spring 100, the opposite ends of which are firmly secured to one of said jaws or flexible members 1 and 2 of the hook and which tends to hold said members together—that is, to maintain the hook in its normal closed position. To prevent the spring from displacement and strengthen the construction, I prefer to employ a stud 11, which is secured at one end to one of the said arms or members and around which the spiral spring is coiled. By the employment of such a spring the members or jaws 1 and 2 of the hook do not require to be formed from a material having such a high degree of resiliency or spring quality, since instead of depending upon the spring of the said members or jaws to maintain the hook in a closed position this object is effected by the said spring 100, and the force exerted upon them to hold them together—that is, to maintain the hook in a closed position—may be varied by varying the quality, size, &c., of the said spring. When a spiral spring, as 100, is employed between the jaws 1 and 2, I preferably employ a guard 12, which consists of a stud secured at one end to one of the jaws, as shown in Figs. 1 and 4, and which projects across the opening between the said jaws to close the same when the hook is in its closed position. This guard may be so set as to

limit the play of the ring in the hook as desired, and it further serves to protect the spiral spring and prevent it from coming in contact with the ring or the like with which the hook engages.

At Fig. 5 I have shown a slightly-modified form of hook in which the spring members or jaws are curved and given a more graceful shape and which is preferable for some purposes for which such hooks are employed, especially with a smaller and lighter ring. In said Fig. 5 the guard is formed in two portions 14 and 15. The outer ends of the said guards or studs 14 and 15 are secured to the jaws or hook members, (designated 16 and 17, respectively, in said figure,) and the inner or proximate ends of the said studs 14 and 15 come together when the hook is in its normal or closed position. The said guard 14 and 15 may be curved, as shown, which serves to somewhat enlarge the limits of play of the ring within the hook and also to give the structure a more graceful and ornamental appearance.

What I claim is—

A snap-hook comprising a shank, spring-actuated jaws attached thereto, the free ends of which project inwardly toward each other and are provided with opposing faces, said faces having thereon a corresponding projection and recess, the projection being inclined to facilitate the passing of a ring between the jaws of the hook.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN H. PUTNAM.

Witnesses:

WM. A. MACLEOD,
ALICE H. MORRISON.