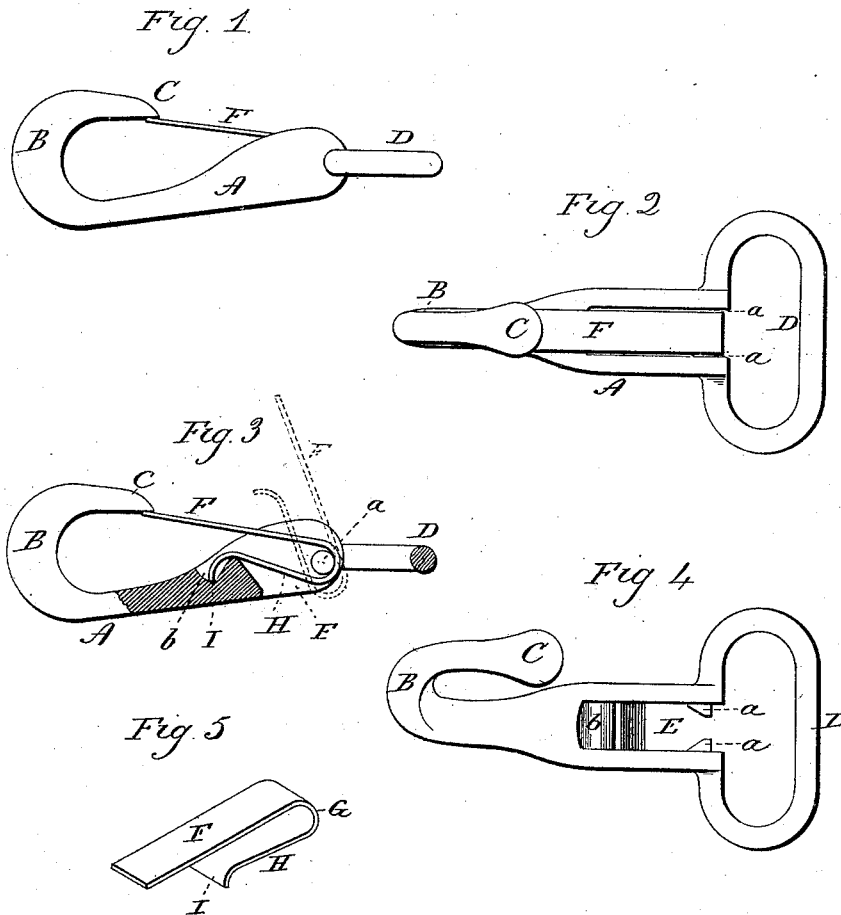


(No Model.)

C. H. SMITH.  
SNAP HOOK.

No. 421,200.

Patented Feb. 11, 1890.



Witnesses  
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# UNITED STATES PATENT OFFICE.

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## SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 421,200, dated February 11, 1890.

Application filed December 9, 1889. Serial No. 333,011. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES H. SMITH, of New Haven, in the county of New Haven and State of Connecticut, have invented a new Improvement in Snap-Hooks; and I do hereby declare the following, when taken in connection with accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1, a side view of the hook complete; Fig. 2, a top view of the hook complete; Fig. 3, a longitudinal section of the hook, illustrating the introduction of the tongue; Fig. 4, a top view of the hook without the tongue and representing the hook as before the tongue is applied; Fig. 5, a perspective view of the tongue-piece detached.

This invention relates to an improvement in that class of snap-hooks in which the tongue is in the form of a flat spring hung at the heel of the hook and adapted to engage under the nose of the hook, and so that by the depression of the spring-tongue the hook is open, and the reaction of the spring-tongue when free closes the hook, the object of the invention being a simple construction in which the spring-tongue may be secured without the introduction of rivets or other means of positive attachment between the tongue and body of the hook; and the invention consists in the construction as hereinafter described, and particularly recited in the claim.

A represents the body of the hook, terminating at one end in a hook B, having its nose C contracted toward the heel or rear end of the body. At the heel or rear end the body terminates in a loop D, or other device, by which the hook may be attached substantially as in hooks of usual construction. The body of the hook is constructed with a recess E, opening from the upper side, the rear end of the opening continued through to the back side of the body. In this recess inwardly-projecting lugs *a* (one or more) are introduced, here represented as one upon each side, to form a support for the heel end of the tongue. In the bottom of the recess E and at its forward end a cavity B is formed, as seen in Fig. 3.

In the formation of the hook it is cast complete, as I have described. To do this the nose C of the hook is turned to one side or out of its normal plane, so as to enable the molding of the hook, and also the recess E, with its cavity *b* and with the lugs *a*, so that the hook thus cast comes from the mold in the form represented in Fig. 4. Subsequently, as will hereinafter appear, the hook is bent to bring the nose into the plane of the body.

The tongue F, as seen in Fig. 5, is made from a flat strip of steel or other suitable elastic metal. It is bent into U shape, and so as to form a bend G, which is adapted to set over the lugs *a*. The tongue forms one leg of the U. The other leg H of the U extends forward and at its extreme end is turned downward, so as to form a hook or shoulder shape, as at I. The distance of this turned-down end I of the leg H from the bend G corresponds to the distance of the cavity *b* in the body from the lugs *a*. The tongue is introduced while the hook is in the shape that it comes from the mold, as seen in Fig. 4, and it is introduced by passing the tongue part open end up, the leg H through the opening E forward of the lug *a*, and the other leg or tongue F to the rear of the lugs, as represented in broken lines, Fig. 3. Then the tongue-piece is turned forward into place, bringing the turned-down end I into the cavity *b*, as clearly seen in Fig. 3. In the tongue-piece prepared for introduction the legs are separated to a considerably greater degree than their normal position when in the hook. After the introduction, as before described, the tongue-piece F is depressed to a plane below the nose C of the hook. Then the hook is twisted to bring it directly over the spring, as seen in Fig. 2, and so that the tongue then left free its ends will come to a bearing upon the under side of the nose, as seen in Figs. 1 and 3.

The lugs *a* form, as it were, a pivot, upon which the tongue works. The turned-down end I of the tongue engaging in the cavity *b* of the body prevents movement of the tongue-piece in a longitudinal direction, and it is therefore firmly secured in place, and without other mechanical operation than the placing of the tongue, it being understood that in

the general construction of snap-hooks it is necessary to cast the hook portion twisted to one side, as I have described, in order that the hook with the loop may be molded. There is therefore a very considerable saving in the manufacture of the hook over the general construction of this class of hooks, the tongues being readily produced complete by machinery.

- 10 The manipulation of the hook in use is substantially the same as that of all other hooks having a spring or swinging tongue which rests under the nose of the hook in its normal position, and from which it must be pressed to open the hook, the return of the tongue  
15 being automatic.

I claim—

- The herein-described snap-hook, consisting of the body A, terminating at one end in an  
20 attaching device, as a loop D, and at the other

end in a hook B, the nose of which is in the plane of the body of the loop, the body constructed with a recess opening to the back of the hook, and with one or more lugs *a* in the side of said recess, and with a cavity *b* at the forward end of said recess, combined with a tongue-piece of U shape made from elastic metal, one leg of the tongue-piece forming the tongue, and the tongue-piece set through said opening, the leg forming the tongue upon the outer side of said lug, the other leg extending forward in the said recess on the other side said lug, its forward end turned down into and so as to engage the said cavity *b*, substantially as described.

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Witnesses:

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