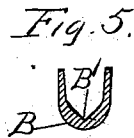
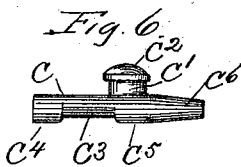
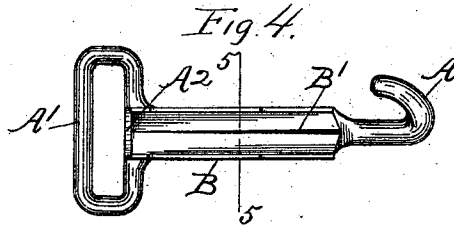
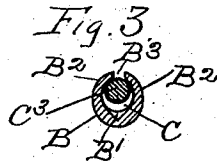
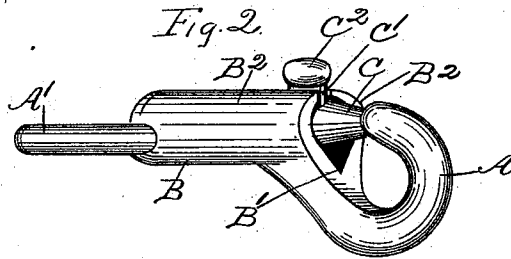
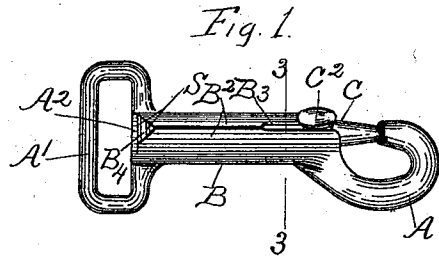


(No Model.)

J. C. COVERT.
SNAP HOOK.

No. 530,750.

Patented Dec. 11, 1894.



Witnesses:
George J. McDonnell
Frank Nagelmann

Inventor:
James C. Covert,
By Mosher & Curtis
attys.

UNITED STATES PATENT OFFICE.

JAMES C. COVERT, OF WEST TROY, NEW YORK.

SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 530,750, dated December 11, 1894.

Application filed July 27, 1894. Serial No. 518,693. (No model.)

To all whom it may concern:

Be it known that I, JAMES C. COVERT, a citizen of the United States, residing at West Troy, county of Albany, and State of New York, have invented certain new and useful Improvements in Snap-Hooks, of which the following is a specification.

The invention relates to such improvements and consists of the novel construction and combination of parts hereinafter described and subsequently claimed.

Reference may be had to the accompanying drawings, and the letters of reference marked thereon, which form a part of this specification.

Similar letters refer to similar parts in the several figures therein.

Figure 1 of the drawings is a view in perspective of my improved snap-hook. Fig. 2 is a perspective view of the same on an enlarged scale. Fig. 3 is a cross-section taken on the broken line 3—3, in Fig. 1. Fig. 4 is a top plan view of the blank casting. Fig. 5 is a cross-section taken on the broken line 5—5, in Fig. 4. Fig. 6 is a view in side elevation of the bolt. Fig. 7 is an end view of the same.

My invention relates to that class of snap-hooks in which a hook and loop are connected by and integral with a tubular body, in which a spring-actuated bolt is placed and moved to and from the hook. In all such constructions heretofore the body part of the opened casting or blank from which the barrel is formed, is U-shape in cross section, so that when the sides are bent toward each other or closed in, to form the barrel or slide-way the said slide-way for the bolt was approximately circular in cross section and engaged the bolt on all sides. The bolt employed was also made approximately cylindrical throughout its length, except that it had a slightly tapered head. In such forms of construction, a slight variation due to wrapping the patterns, slight imperfections due to various causes well known to foundrymen, and irregularities in bending the sides of the casting to form the barrel, will each prevent the bolt from moving freely in the barrel so formed and cause a sufficient variation in the axial line of an inserted bolt to render the completed article unsalable.

I have ascertained, after many experiments, that by making a longitudinal groove in the bottom of the slide-way or barrel the imperfections and variations which materially affect the successful operation of the snap-hook having the usual barrel, do not materially affect my improved device. The bolt is operated by pressure upon the projecting thumb-piece, which pressure is partially downward toward the bottom of the barrel whereby the bolt engages when operated the inclined sides only of the barrel or slide-way and is itself engaged on its opposite sides only. Any imperfections on the bottom of the barrel or on the lower side of the bolt, in my construction of device, will not engage each other or interfere with the successful operation and easy movement of the bolt. Furthermore, in all similar constructions the bolts are made of cast metal, and in molds which are necessarily parted on a plane bisecting the thumb-piece, as well as the bolt, thereby occasionally forming a fin or ridge on the lower side of the bolt which must engage the bottom of the barrel or slide-way unless the fin is removed which involves considerable labor and expense.

In my improved construction of snap hook all irregularities on the bottom of the bolt and irregularities in the bottom of the barrel do not require removal, as the bolt is never formed to engage the bottom or sides of the groove in the barrel, but engages with the sides of the barrel above the groove. The usual thumb-piece on the bolt which works in the usual guide slot in the upper side of the barrel, serves to prevent the bolt from rotating and keeps the irregularities on the other side of the bolt within the groove out of contact with the walls of the barrel. The groove being in the same vertical plane with the thumb-piece and the bolt being pressed down thereby when operated, it will be seen that such downward pressure will not force the irregularities on the base of the bolt into contact with the base of the barrel or any irregularities thereon.

Another important advantage in the formation of the groove in the bottom of the barrel which groove is preferably V-shape in cross section, is in preventing the unequal shrink-

age of the casting or metal at the junction of the hook and barrel.

In the usual form of snap-hooks of this class a considerable amount of metal is found at the junction of the hook and body part and a blank at or near such junction is often rendered defective by the unequal shrinkage of the metal at that point. I have discovered that a V-shape groove extending at an incline from the base of the barrel into this mass of metal materially decreases the imperfections due to shrinkage, and by deepening the groove slightly at the place of junction of the body and hook as shown in Fig. 2, the mass is effectually divided and gradually reduced permitting thereby an equal cooling of the entire mass and resulting in the production of a perfect casting.

Referring to the drawings A is the hook and A' the loop, connected by a body part B which is integral with both hook and loop. The blank is cast with a central longitudinal groove B' in the body part and usually with the hook inclined to one side. After the casting has been annealed or rendered malleable in the usual manner the sides of the body portion are bent toward each other to form the barrel or slide-way. A coil spring S is inserted in the tubular portion with one end bearing on the seat A² and the bolt C is then inserted and rests against the other end of the spring, whereupon the hook is bent in line with the outer end of the bolt in the usual and well known manner. Any desired space may be left between the introverted sides B² except that a suitable space is left on the hook end of the body to form the guide slot B³ adapted to receive the shank C' which connects the thumb-piece proper C² with the body of the bolt. The corners of the side at the loop end are beveled or contracted so as to form an opening B⁴ when the sides are introverted. The V-shaped groove is deepened or tapered at the hook end of the barrel as shown so as to extend down into the base of the shank of the hook itself, as seen in Fig.

2, whereby the heaviest part of the device is gradually reduced to substantially correspond in thickness with the thickness of other parts for the reasons heretofore stated. The bolt is contracted in size at C³ confining the bearing points thereof to the inner end C⁴ and the section C⁵ extending from the contracted portion to the beveled head C⁶. The general form of the body part of the bolt is made approximately cylindrical and thereby adapted to be inclosed wholly by the tubular barrel. The upper surface of the bolt is left longitudinally straight with the upper surfaces of the part C⁴ and C⁵ for the purpose of closing the slot B³ when the bolt is forced out by the spring.

In Fig. 7 I have shown a bolt formed with an irregularity or fin which is occasionally formed during casting.

By contracting the body part of the bolt intermediate its ends it is better adapted for use in connection with the tubular barrel because it is sure of end bearings and all rocking movement thereof is prevented which would cause the bolt to bind and render its operation difficult.

What I claim as my invention is—

1. In a bolt snap hook, a hook blank comprising an integral barrel in which the bolt works, having a longitudinal groove in its base extending from a point at or near the rear of the barrel to the hooked end thereof, and an elongated guide slot in the upper end of the barrel, substantially as described.

2. In a bolt snap hook, a hook blank comprising an integral barrel in which the bolt works, having a longitudinal groove in its base extending to the hooked end thereof, increasing in depth toward the hooked end, substantially as described.

In testimony whereof I have hereunto set my hand this 24th day of July, 1894.

JAMES C. COVERT.

Witnesses:

GEO. A. MOSHER,
FRANK C. CURTIS.