A. B. CONDE.

Manufacture of Snap-Hooks.

No. 160,879. Patented March 16, 1875.

Fig. 1.

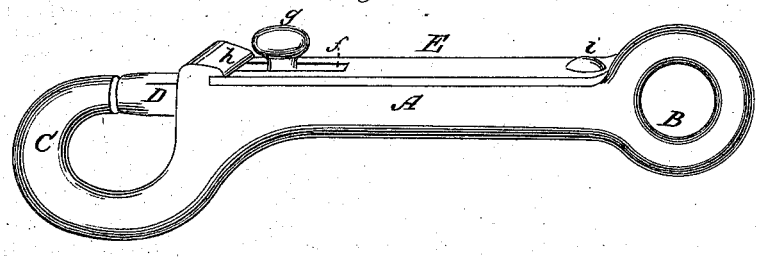


Fig. 2.

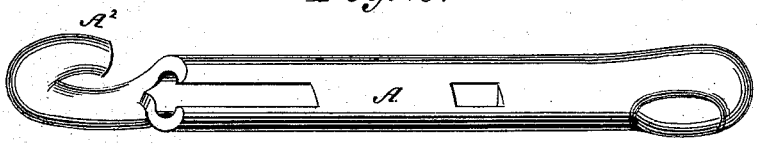


Fig. 3.

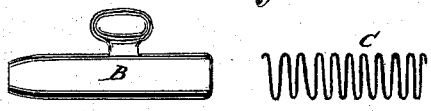


Fig. 4.

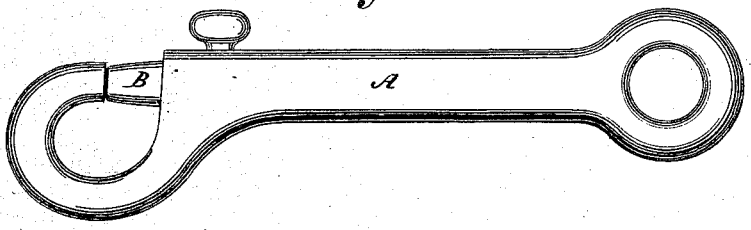
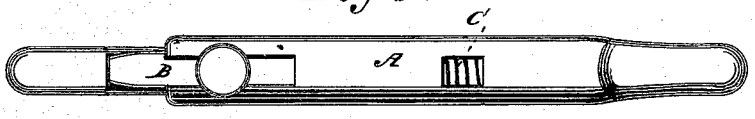


Fig. 5.



Witnesses:
E. Wolff
Jacob Felbel

Inventor:
A. B. Conde
By his attorney
J. McGuire

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

ALONZO B. CONDE, OF TRUMANSBURG, NEW YORK.

IMPROVEMENT IN THE MANUFACTURE OF SNAP-HOOKS.

Specification forming part of Letters Patent No. **160,879**, dated March 16, 1875; application filed August 13, 1874.

To all whom it may concern:

Be it known that I, ALONZO B. CONDE, of Trumansburg, county of Tompkins, in the State of New York, have invented an Improvement in Snap-Hooks; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

My invention relates to a novel method of manufacture in the production of that kind of snap-hook or other analogous article in which a spring-bolt is employed that is arranged to slide longitudinally in the body of the article, and is pressed outward to a bearing against the end of the hook. This kind of hooks are employed mostly in the hold-back of heavy harness, but may be used for a variety of purposes under different modifications of form and size.

To make perfectly clear the nature of my invention it will be proper for me to first explain the process or method of manufacture practiced prior to my invention, and point out therein the objections which it has been my object to overcome. This I will do by reference to the accompanying drawing, in which, at Figure 1, I have illustrated in perspective a form of hook extensively made and used prior to my invention. Articles of this kind are made of malleable cast-iron, and are usually given a finished appearance by the well-known process of japanning.

As will be seen by reference to Fig. 1, the body A, eye B, and hook C of the article are all cast in one piece, with the body A cored out for the passage through its front end of the square bolt D, and with a proper seat to accommodate said bolt, and a spiral spring arranged behind its back end. The bolt D, as shown, is retained in its seat or housing (in the body A) by means of a top plate, E, which is provided with a slot, *f*, extending from its front end rearward a short distance, for the purpose of permitting the proper play to the handle or knob *g* of the bolt D; and this top plate E is secured at its forward end by interlocking with the lip-like projection *h* of the body, and at its rear end by a rivet or pin, *i*. When the parts mentioned are put together, as shown, a complete and efficient contrivance is formed, in which any ring or other hook may be readily engaged with, or disengaged from, the hook C by simply pressing back the bolt D through the medium of its handle or knob *g*, in a manner well known; but in the manufacture of such like articles these serious objections or difficulties occur, viz: The seat for the bolt has to be cleaned out by hand labor, and as the hole through which the forward end of bolt passes is in line with and close to the end of hook C it is with great trouble and labor with a hand-tool that said hole can be finished out. As the insertion and securement of the top plate renders some hammering necessary at the front and rear ends the japanning must be done after the parts are put together, and even then nicety of workmanship is necessary in order to avoid fouling up in the slot; but as the process of japanning involves the necessity of the application of heat to the article it follows that in many cases the temper of the spiral spring contained in the body is completely spoiled, and the whole contrivance thus rendered defective. Besides these serious difficulties it will be seen that the article, when it may have been successfully finished, is expensive of manufacture on account of the number of separate parts embraced, the amount of hand labor involved, and the loss of occasionally-spoiled ones, (returned as defective.)

By my invention I am enabled to afford a neater article with less number of parts and nearer perfection, but can, by reason of the great saving in labor effected in the manufacture, afford such better article at less cost.

The nature of my invention consists in making the body of the hook with a cored-out receptable for the reception of the bolt, and with the hook portion distorted from its normal position, so that the bolt-seat can be readily finished out in a drilling-machine, and the spring and bolt be inserted through the forward open end of said seat, and in first japanning the parts so made, and then putting them together and bending the hook to its proper position, all as will be hereinafter more fully explained.

To enable those skilled in the art to make and use my invention, I will proceed to more

fully describe the same by reference to the accompanying drawings, in which I have represented in perspective at Fig. 2 the body portion or main casting as it appears previously to the putting together of the parts; at Fig. 3, the bolt and its actuating-spring; and at Figs. 4 and 5, in side and edge views, the finished article.

In the several figures the same letter of reference denotes the same part of the machine.

A is the main casting, comprising in one piece the body, eye, and hook of the contrivance. B is the sliding catch-bolt, and C the spiral spring which actuates it. I first make a casting with its hook portion A^2 out of line with the body portion, as illustrated at Fig. 2. Such a casting, it will be seen, I can readily put into a drilling-machine or lathe, and finish up or clean out by the insertion of any suitable tool revolving on an axis coincident with the center line of the cylindrical cavity in or cored-out receptacle of the casting.

After having properly finished up the castings I japan them by the usual cheap process of dipping and baking, and I then drop the spring *c* into its receptacle in the main casting A, insert the bolt B through the open forward end of its seat or socket in said casting, (the distorted position of the hook part A^2 permitting this mode of putting together the parts,) and then simply bend the hook part A^2 into the proper position, (shown at Figs. 4 and 5,) when the article is completed.

It will be seen that by the described method of manufacture I am not only enabled to produce an article of manufacture of greater perfection with a less number of parts, but also save a vast amount of hand labor, and can consequently produce the improved article at much less cost.

As the parts are subjected to the japanning process before they are put together, the spring is, of course, never injured in the least.

In putting the parts together the main casting should be held in a wooden socket or between jaws of any suitably soft material, to avoid any mutilation of the japanned surface, and for the same reason a wrench or bending-tool having its jaws or bearing-faces covered with leather or other suitably soft material should be employed to take hold of and bend into place the hook part A^2 of the casting.

It will be understood that my invention may be carried out in various forms and modifications of the described article, and can be practiced with advantage in the manufacture of any and every sort of hook and bolt contrivance analogous to that shown.

Having so fully described my invention that any one skilled in the art to which it appertains can make and use it, and having pointed out the distinguishing features between my improvements and what was before known and practiced, what I claim as new, and desire to secure by Letters Patent, is—

1. In the manufacture of snap-hooks and analogous articles, the process of casting the main or body portion with its hook in a distorted position, substantially as described, whereby the finishing up of the socket by machinery is rendered possible, as set forth.

2. In the manufacture of snap-hooks and analogous contrivances, first japanning the castings, and subsequently putting them together with the inserted spring, and retaining the parts together by bending the hook into line with the bolt, substantially as and for the purposes described.

In testimony whereof I have hereunto set my hand and seal this 28th day of July, 1874.

A. B. CONDE. [L. S.]

In presence of—
GEO. T. SPINK,
J. WARREN HALSEY.