(No Model.)

E. P. FORD.

SAFETY SNAP HOOK.

No. 431,042. Patented July 1, 1890.

Fig. 1.

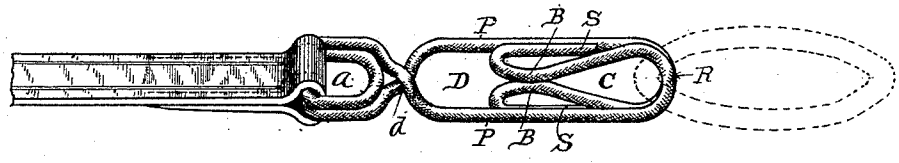


Fig. 2

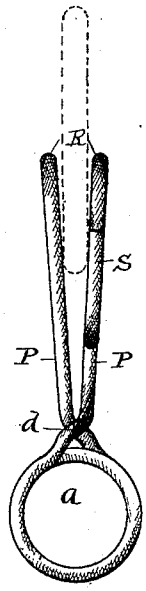


Fig. 3.

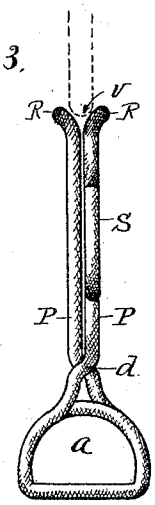


Fig. 4.

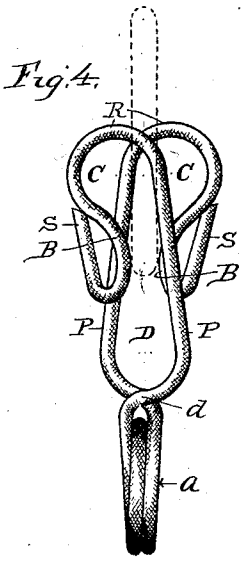
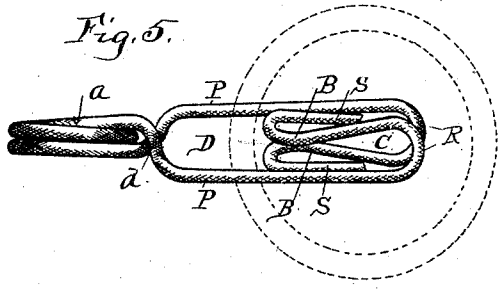


Fig. 5.



Witnesses.
Samuel E Thayer
S. M. Noel

Inventor.
Elijah P. Ford.
By Wm J. Hutchins
Atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

ELIJAH P. FORD, OF WICHITA, KANSAS.

SAFETY SNAP-HOOK.

SPECIFICATION forming part of Letters Patent No. 431,042, dated July 1, 1890.

Application filed June 13, 1889. Serial No. 314,081. (No model.)

To all whom it may concern:

Be it known that I, ELIJAH P. FORD, a citizen of the United States of America, residing at Wichita, in the county of Sedgwick and State of Kansas, have invented certain new and useful Improvements in Safety Snap-Hooks, of which the following is a specification, reference being had therein to the accompanying drawings, and the letters of reference thereon, forming a part of this specification, in which—

Figure 1 is a perspective view of my invention, showing it in position as when in use. Fig. 2 is a side view of the same, showing the arms thereof spread apart as they would appear when admitting a ring between them. Fig. 3 is a similar view showing the arms in their normal position. Fig. 4 is a plan of the same, showing the arms thereof sprung laterally as they would appear when admitting a ring within the terminal loop; and Fig. 5 is a perspective view of the same, showing the arms spread apart as they would appear when releasing a ring.

This invention relates to certain improvements in wire snap-hooks adapted to be used with harnesses, hitching-straps, and the like; and it consists of a single piece of wire or rod centrally bent to form an eye, by means of which it is attached to a strap or rope, and the end parts bent to form a retaining-loop with its plane at right angle to the eye, said arms crossing each other at the junction of the eye and loop, and bent near their end parts similarly but reversely, to coincide, thus inclosing the loop, and having their end parts curved toward each other, meeting at or about the center of the loop, thus dividing the loop into two compartments, and the wire ends bent back to span the hollow of said curves, and thus shielding the wire ends; and it is adapted to admit a ring within the loop by first entering it between the arms, thus spreading them apart, admitting the ring to the inner compartment, and then by entering the ring between the end curves of the arms, thus springing the arms laterally, admitting the ring to the outer compartment, where strain will be brought to bear equally on both arms.

Referring to the drawings, *a* represents the eye of the device, formed by coiling or bending the wire, as shown.

P P represent the arms crossed at *d*, adjacent to the eye, in such manner as to bear against each other at that place. Said arms are similarly but reversely curved, as shown at R, near their end part, and rest side by side at that part, providing a double bearing and adapting the arms to a like strain. B B represent the end curves of said arms arranged to meet each other at or about the center of the space between the arms, thus dividing said space, which I term the "loop," into the two compartments C and D, as shown.

S S represent the wire ends, which are bent back and span curves B B, respectively, bringing the said wire ends in contact with other portions of wire, thus shielding them, and by thus shielding said ends all parts of the device are devoid of corners or angular parts liable to injure a person or beast.

The dotted lines in the drawings represent a ring. In Fig. 2 it is in the act of entering between the arms; in Fig. 4, in the act of passing from the inner to the outer loop-compartment, and in Fig. 5, by a side turn, it is brought to bear against reverse sides of the arms to press them apart, so that the ring may be passed out between them.

In Fig. 3 the terminal curves R R of the arms are represented as bent from each other, thus forming a greater angle between them, as shown at *v*, which is an advantage in the smaller sizes of hooks, adapting the arms to be more readily separated when engaging a ring.

The object in dividing the retaining-loop into the two compartments is to render the device positively safe against accidentally releasing the ring, as when the ring is released it is necessary when leaving the outer compartment to first enter the inner compartment by overcoming the resiliency of the arms, and, lastly, the arms must be separated to permit the ring to pass out, as described, and it is quite obvious that such combined action will not accidentally occur.

Having thus described my invention, what I claim as new and useful, and desire to secure by Letters Patent, is as follows:

The herein-described snap-hook, consisting of a single piece of wire bent to form the eye *a*, the arms P P, spirally twisted one-fourth way around adjacent to said eye and oppositely curved, as at R, to inclose the body-hook, and provided with the opposite curved sections B B, meeting at a point within, and dividing the body-loop into two separate parts, wherein said curved sections B B form inclined ways from the arms P P to and from either compartment, substantially as and for the purpose specified.

ELIJAH P. FORD.

Witnesses:
R. B. BAKER,
WM. J. HUTCHINS.