E. KEMPSHALL & W. NASH.

SNAP-HOOK.

No. 184,873. Patented Nov. 28, 1876.

Fig. 1.

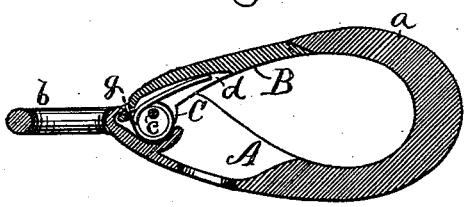

Fig. 2.

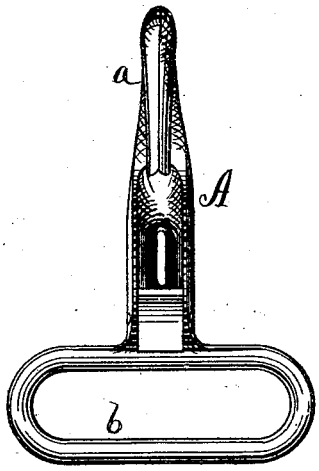

Fig. 3.

Fig. 4.

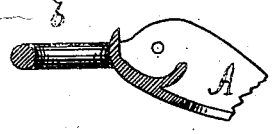

Fig. 5.

Fig. 6.

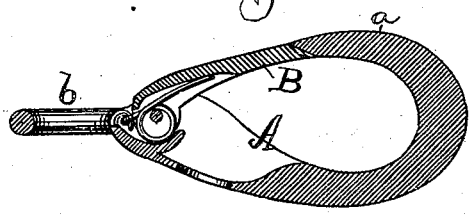

Fig. 7.

Witnesses.
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UNITED STATES PATENT OFFICE.

ELEAZER KEMPSHALL AND WILLIAM NASH, OF NEW BRITAIN, CONN.

IMPROVEMENT IN SNAP-HOOKS.

Specification forming part of Letters Patent No. **184,873**, dated November 28, 1876; application filed August 3, 1876.

To all whom it may concern:

Be it known that we, ELEAZER KEMPSHALL and WILLIAM NASH, both of the city of New Britain, county of Hartford, and State of Connecticut, have invented certain new and useful Improvements in Snap-Hooks, of which the following is a specification:

Our invention relates to an improved snap-hook, and has particular reference to the peculiar spring and the parts adjacent thereto, all as hereinafter fully described and claimed.

In the accompanying drawings, Figure 1 is a longitudinal section of a snap-hook which embodies our invention. Fig. 2 is a top view of the hook portion thereof. Fig. 3 is a plan view of the inside of the tongue for said hook. Fig. 4 is a detached section. Fig. 5 is a top view of the spring. Fig. 6 is a longitudinal section of a modification of our snap-hook, showing a double spring, and Fig. 7 is a top view of said spring.

The object of our invention is to remove as far as possible the great bulk of the spring from between the body of the hook and tongue, and at the same time to secure such an arrangement of the spring as to avoid setting, and produce a lively and durable spring.

A designates the body of the hook *a*, and *b* the usual ring or loop, as in ordinary snap-hooks. B designates the tongue, hung by means of a pin or rivet, *c*, to the body A. C designates the spring, which is a helix of wire, the ends of which form forward and rearward projecting arms, and the coils of which preferably surround the pin or rivet *c*.

The hook-body A is deeply recessed or chambered at a point about the pin or rivet hole, as clearly shown in Figs. 1 and 2, and we prefer to make the bottom of said chamber semicircular in form, in order to better fit and support the coils of the spring, as shown.

The forward arm *d* of the spring C rests under and bears upon the inside of the tongue, as clearly shown in Fig. 1, and the rearward arm *g* rests in a seat specially formed to receive it in the body A, and just back of the pin or rivet *c*. The seat under which the rearward arm *g* of the spring rests may be hooked forward, as shown in Fig. 1, or it may stand at right angles to the body of the hook, as may be desired. When thus hooked forward it is first cast with the edge of the metal projecting upward, as shown in the detached section, Fig. 4, of the drawings, and then afterward bent forward into the form shown in Fig. 1.

The end of the rearward arm of the spring is also represented as bent to one side, which, although it furnishes additional security against the spring being accidentally detached, is not essential, as the semicircular bottom of the chamber formed in the body A, and on which the spring rests, will prevent the spring working forward, although the rearward arm and its seat were both formed straight.

It will be seen that, by the above construction, only one arm of the spring is between the body of the hook and the tongue, thereby giving the tongue the greatest range, and also that, by securing the rearward arm to, or resting it upon, the body of the hook and back of the pin or rivet, the forward arm can extend forward any desired distance under the tongue, and thereby lift it at a point remote from its fulcrum, which will cause the tongue to act lively, and remove in a great measure the liability of the spring to set.

We may sometimes elect to use a double spring, made of smaller wire, and in form substantially as shown in Figs. 6 and 7, in which case the rearward arm of the spring is in the form of a loop, and when in place is hooked upon a catch formed in the body back of the pin or rivet, and the forward arm is double, consisting of both ends of the wire, which extend forward under the tongue, all as shown in said figures, or the rearward arm may simply rest upon the seat, as before described, for the spring made single.

We do not claim the use or employment, in a snap-hook, of a helical spring having two arms, as the same is old, an early example of which may be seen in Patent No. 9,252, granted September 7, 1852, to Edwin A. Palmer and Adolphus J. Simmons; but

What we claim as our invention is—

In a snap-hook, the helical spring, provided with the forward-projecting arm, resting under and bearing upon the inside of the tongue B forward of the pivot, and the rearward-projecting arm, bearing upon a seat formed in the body A, at the rear of the pin or rivet, all substantially as described, and for the purpose specified.

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