

(No Model.)

A. W. ENGEL.
KEY RING.

No. 510,247.

Patented Dec. 5, 1893.

Fig. 1.

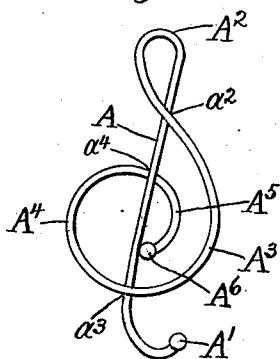


Fig. 2.

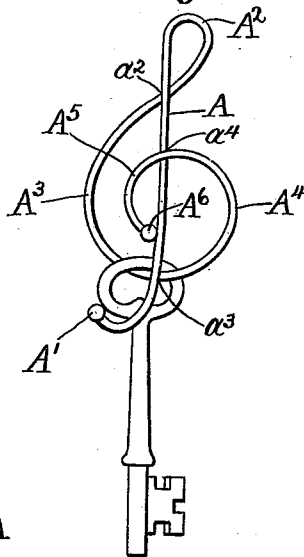


Fig. 5.

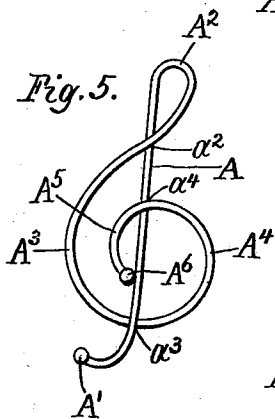


Fig. 3.

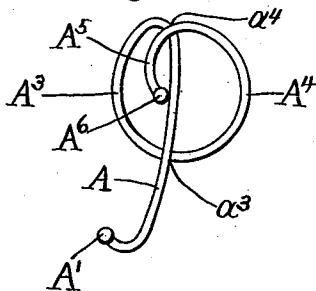
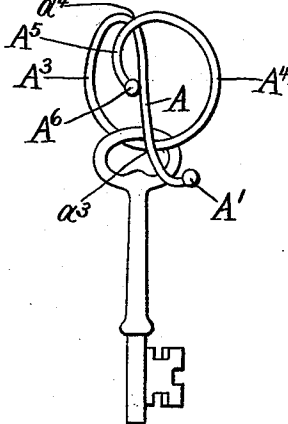


Fig. 4.



Witnesses.

E. T. Wray.
Jean Elliott.

Inventor:

Albert W. Engel
By Burton W. Burton
his atty

UNITED STATES PATENT OFFICE.

ALBERT W. ENGEL, OF CHICAGO, ILLINOIS.

KEY-RING.

SPECIFICATION forming part of Letters Patent No. 510,247, dated December 5, 1893.

Application filed April 17, 1893. Serial No. 470,788. (No model.)

To all whom it may concern:

Be it known that I, ALBERT W. ENGEL, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Key-Rings, which are fully set forth in the following specification, reference being had to the accompanying drawings, forming a part thereof.

In the drawings,—Figure 1 is a direct view, plan or elevation of one form of my improved key ring. Fig. 2 is a similar view of the opposite side. Fig. 3 is a similar view of the same with a slight modification of form. Fig. 4 is a similar view with another slight modification. Fig. 5 is a similar view of a form like that shown in Fig. 2, except that the wire is lapped on the opposite side of the stem in forming a loop at the upper end.

The purpose of this invention is to provide a device on which keys and like articles may be strung in the usual manner of securing such devices on a key ring, for which reason I have called it a "key ring," the device being formed of a wire coiled, looped, lapped and crossed in a manner particularly herein-after described, so that the spring of the material causes the coils or coiled stems and knobs to abut with considerable pressure upon each other at their several intersections, and so that there shall be several such intersections, all of which must be passed by the key after it has once been placed in security before it can escape from the device.

One specific purpose of the invention is to provide a structure which, without departure from the feature above referred to but with only modifications of the proportions of the several coils, loops and stems, may be made in the semblance of a variety of script letters, so that the ring may be gotten up in monogram so that each user may carry a ring having the initial form of his own name. The device is also adapted to simulate other characters.

Fig. 1 represents the device worked in the form of a capital letter "S." Fig. 2, which is the same device seen from the opposite side, conforms it will be seen to the music signature, commonly called the treble clef.

The mechanical features of the device may be understood from the descriptions of this

form, which comprises the stem A, formed into a loop A² at the upper end, the wire lapping the stem and extending in the spiral comprising the members A³ A⁴ and A⁵, said spiral crossing the stem at three points which are on alternate sides of the stem, counting along the stem itself. That is to say, the first crossing or intersection α^2 , and the next crossing along the line of the spiral α^3 , being at the same side of the stem, while the next crossing α^4 , along the line of the spiral falling on the stem intermediate the other two, is upon the opposite side. The spiral terminates in the knob A⁶, which abuts against the side of the stem intermediate the intersections α^3 and α^4 , the point of contact being about ninety degrees from each of the other intersections. The curve A³ constitutes the region of safety in the device, and the key reaches this region by being entered between the knob A⁶ and the stem, the latter being pressed aside by the finger pushing against the knob A⁶ to make easy entrance, the key then passing by the intersection α^4 around the curve A⁴, by the intersection α^3 , and reaching the region of safety, as stated, in the curve A³. To escape from the device, the key must pass from the region of safety, forcing its way past three binding points, viz: the two intersections α^4 and α^3 , and the contact of the knob A⁶ with the stem.

I have applied the same letters of reference to corresponding portions of the spiral and stem of the form shown in Figs. 3 and 4, the only difference, mechanically considered, being the omission of the loop A², which may be considered as an appendage affording merely a convenience for detaching the device from a chain, and an additional length to the stem which contributes to its elasticity and the durability of the device under the action of frequently inserting and removing keys. The form shown in Figs. 1 and 2 is in this respect, therefore, the preferred form.

I claim—

1. A key ring made of a continuous piece of spring wire or rod comprising the stem, and a spiral from one end of the stem and coiled in the plane of the latter, the lapping or intersections of the spiral upon the stem being alternately upon opposite sides counting said intersections or lappings along the

length of the stem, such spiral terminating in an end abutting against the stem: substantially as set forth.

2. A key ring composed of wire or rod and
5 consisting of a stem, the wire being bent upon
itself to form a loop at the end of the stem
and thence shaped in a spiral substantially in
the plane of the stem, the crossings or inter-
sections of the spiral upon the stem being
10 alternately upon opposite sides of the latter,

and the spiral terminating in an end abutting against the stem: substantially as set forth.

In testimony whereof I have hereunto set my hand, at Chicago, Illinois, this 7th day of April, 1893, in the presence of two witnesses. 15

A. W. ENGEL.

Witnesses:

JEAN ELLIOTT,
CHAS. S. BURTON.