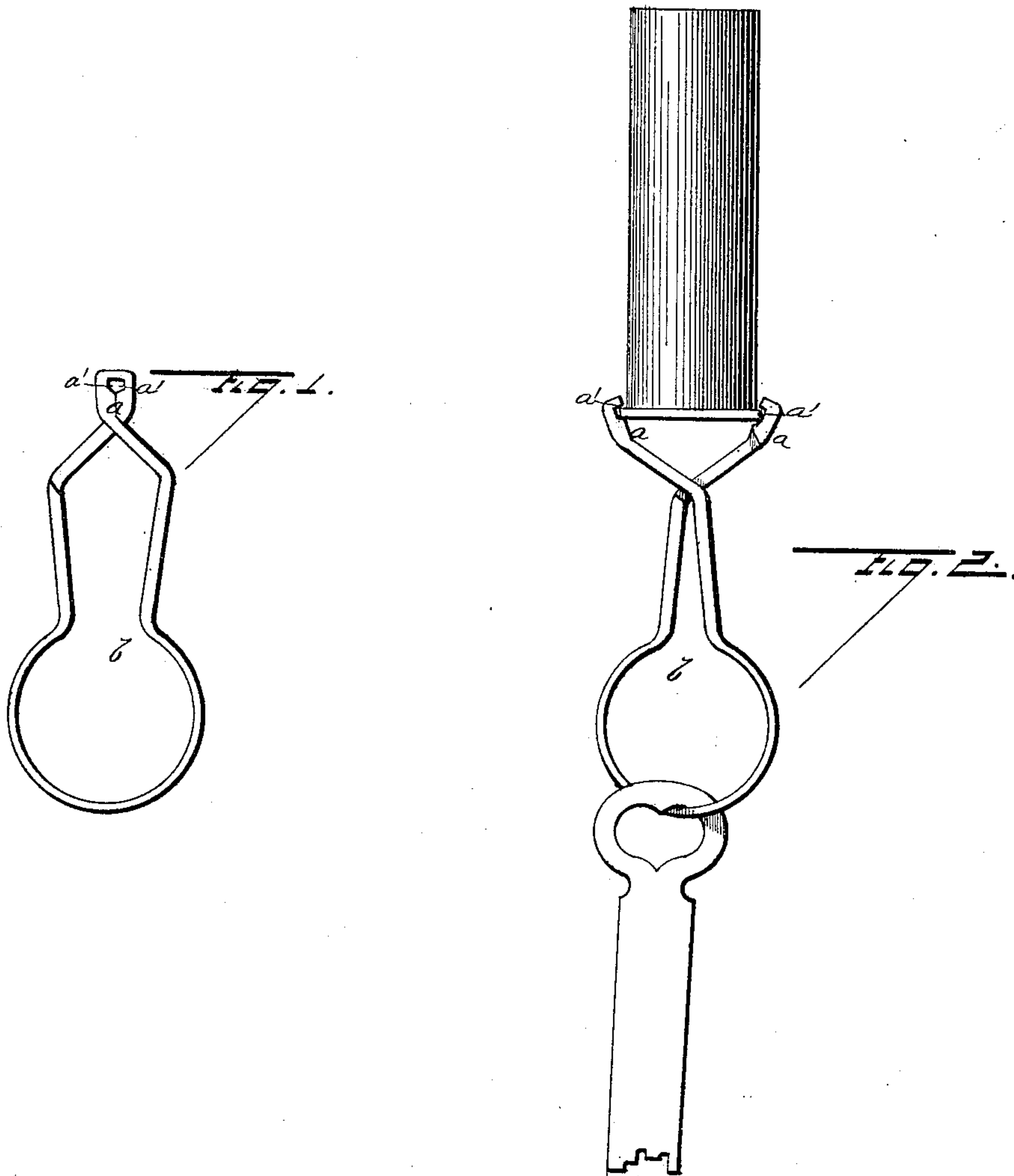


(No Model.)

J. R. MACMILLAN.  
CARTRIDGE EXTRACTOR.

No. 354,157.

Patented Dec. 14, 1886.



Witnesses:  
A. C. McArthur  
Chas. S. Arthur

Inventor:  
James R. Macmillan  
per  
H. H. Harris  
Attorney.

# UNITED STATES PATENT OFFICE.

JAMES R. MACMILLAN, OF CHICAGO, ILLINOIS.

## CARTRIDGE-EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 354,157, dated December 14, 1836.

Application filed April 5, 1886. Serial No. 197,881. (No model.)

*To all whom it may concern.*

Be it known that I, JAMES R. MACMILLAN, a subject of the Queen of Great Britain, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Cartridge-Extractors, of which the following is a specification, to wit:

This invention relates to an improvement in cartridge-extractors; and it consists in certain peculiarities of the construction and arrangement of the same, substantially as and for the purpose hereinafter set forth.

In order to enable others skilled in the art to which my invention pertains to make and use the same, I will now proceed to describe its construction and operation, referring to the accompanying drawings, in which—

Figure 1 is a side view of my device, and Fig. 2 is a similar view of the extractor in application to a cartridge-shell.

*a* represents a pair of jaws, which are on their adjacent faces formed with notches *a'*, for engaging the flanged rim on the cartridge-head. These heads or jaws are formed on the ends of a spring shank or handle, *b*, which is bent into a loop for convenience and to give it sufficient spring to hold the jaws normally together. For convenience, the shanks of the jaws are crossed, as shown, in order that they may be opened to receive the cartridge by compressing the spring loop or handle. This may be done with one hand, and is much more

convenient than pulling the jaws apart, as would be necessary if the shanks were not crossed, though this may be done, if deemed desirable.

By reference to Fig. 2 it will be seen that the device is well adapted for use as a key-ring, and is therefore an article readily carried where it is most conveniently accessible for use. The operation of the device is so plain as to need no special description at this point.

The spring-jaws may be forced apart to any desired extent to fit any gage of shell, as will be at once understood. The jaws may, if desired, be formed separate from the spring-handle; but I do not regard this as so good a construction.

Having thus fully described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A cartridge-extractor formed of a single piece of spring metal, bent or looped as shown, and having its ends crossed and notched on their adjacent faces, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

JAMES R. MACMILLAN.

Witnesses:

W. C. McARTHUR,  
W. S. McARTHUR.