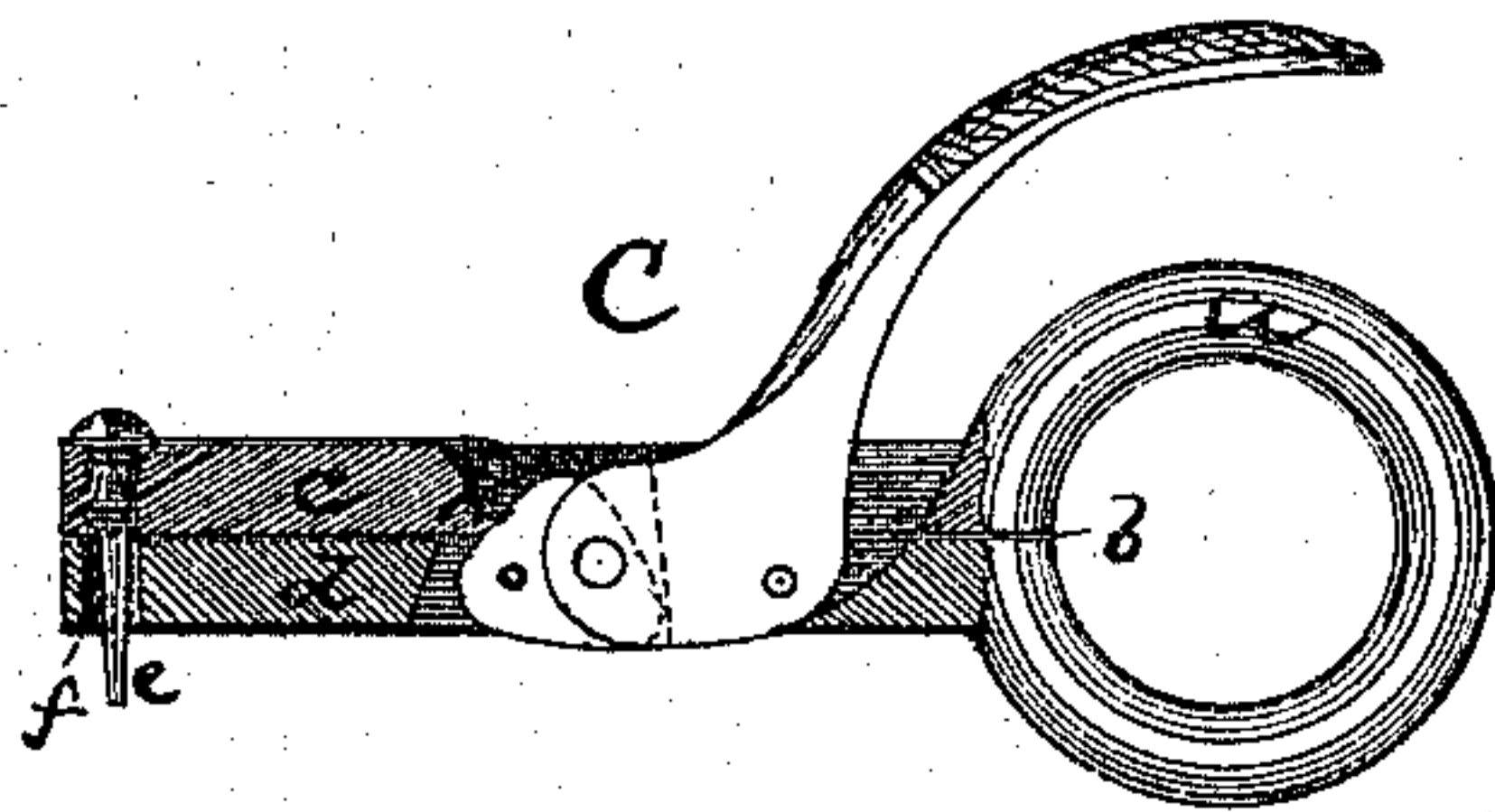
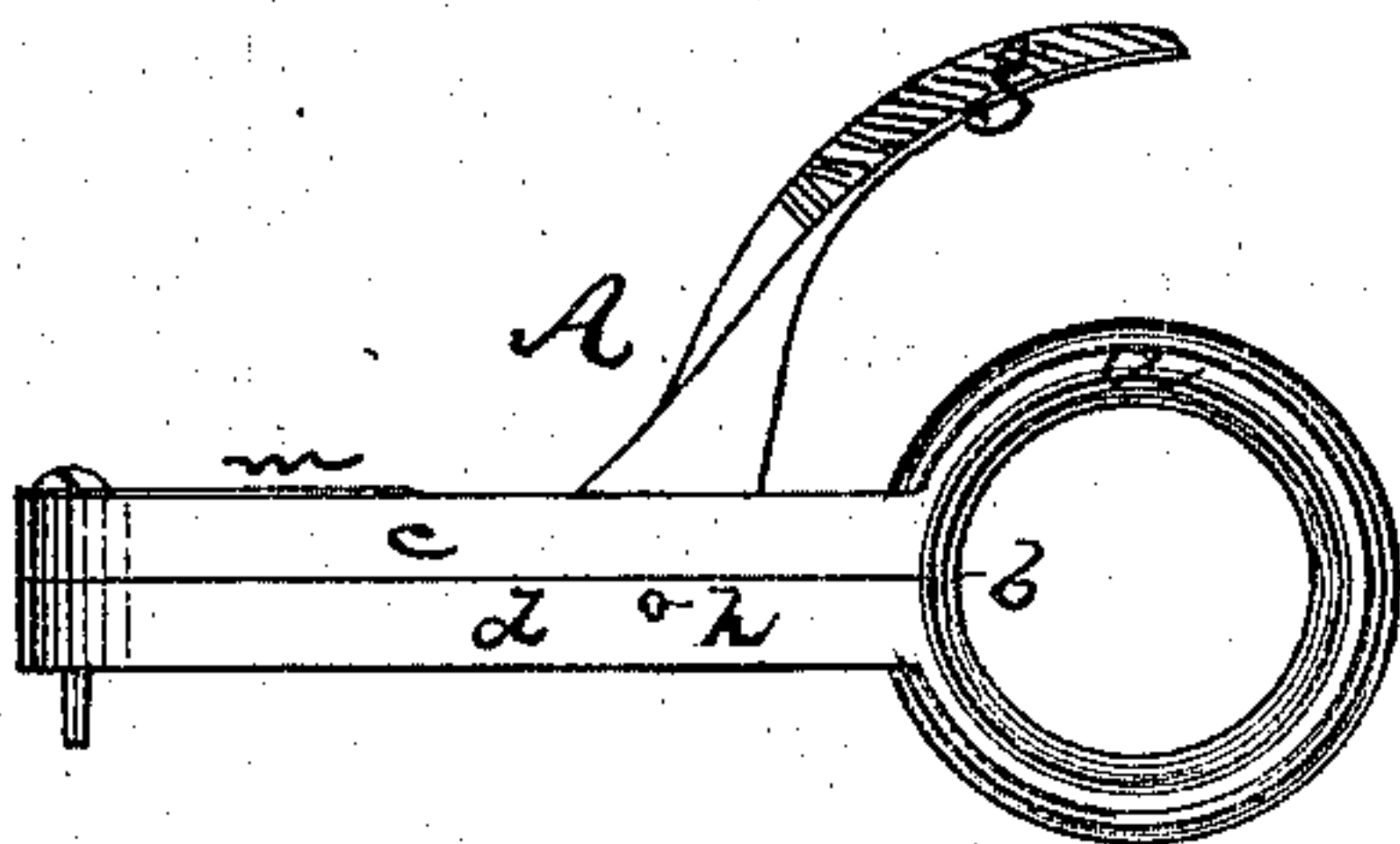
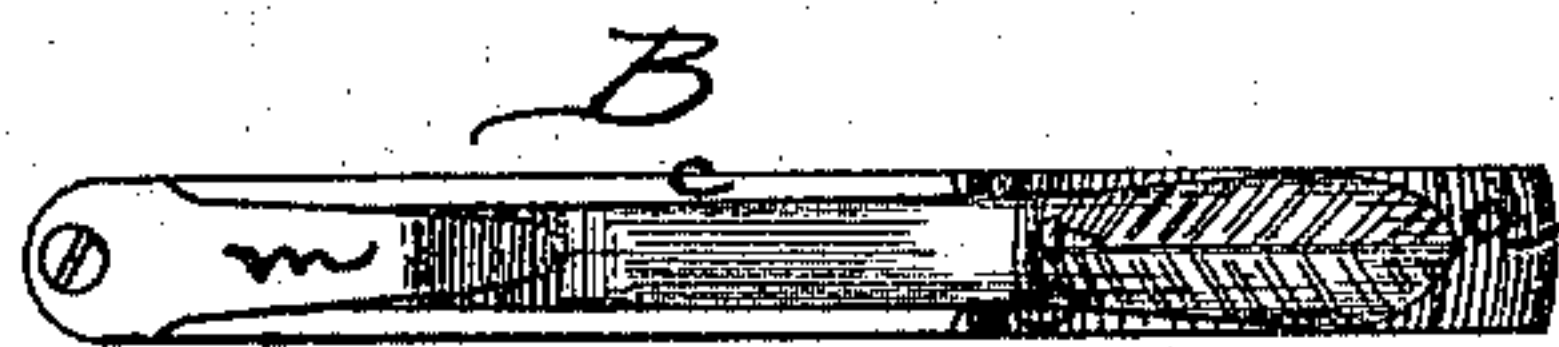
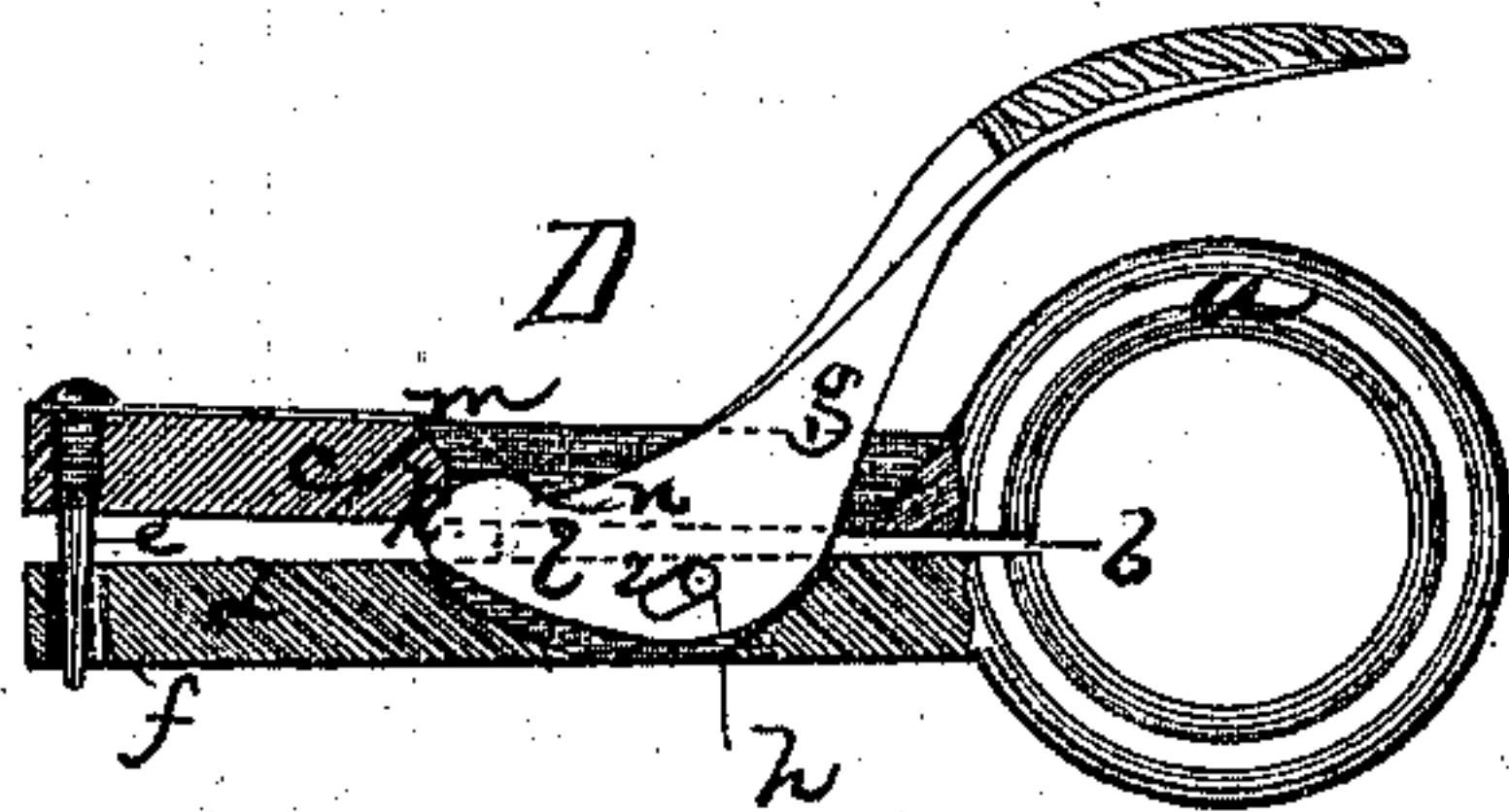


J. ZIRBES.

Improvement in Vaccinators.

No. 131,729.

Patented Sep. 24, 1872.



Witnesses.
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L. H. Latimer.

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UNITED STATES PATENT OFFICE.

JOHN ZIRBES, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN VACCINATORS.

Specification forming part of Letters Patent No. 131,729, dated September 24, 1872.

To all whom it may concern:

Be it known that I, JOHN ZIRBES, of Boston, in the county of Suffolk and State of Massachusetts, have invented an Improvement in Lancets, Vaccinators, &c.; and I do hereby declare that the following, taken in connection with the drawing which accompanies and forms part of this specification, is a description of my invention sufficient to enable those skilled in the art to practice it.

My invention relates particularly to the construction of spring lancets, vaccinators, and similar instruments, or instruments operating in a similar manner, the driving or puncturing instrument being raised or drawn back and then automatically released by the action of a lever, and its blow being given upon its release by the action of a spring.

My invention has reference to simplification in construction of such an instrument, and in effecting this I make the stock of the instrument in one piece of metal, consisting of a spring-ring or annular thumb-piece, from which project two shanks, one of which is provided with the hammering or puncturing instrument, and the other with the socket or hole through which said puncturing-instrument works, there being combined therewith a trigger-lever pivoted to one shank and operating against the other, so that by pressure it first separates the shanks and then releases them, (the shanks being closed by the action of the annular spring or ring,) and a spring that carries the lever to normal position.

My invention consists in the instrument made with two shanks or jaws extending from a spring metal annulus or ring, and having a lever pivoted to one of the shanks and acting upon the other to open the shanks and then release them, the shanks closing by the spring of the ring.

The drawing represents an instrument embodying my invention.

A shows a side view of the instrument. B is a plan. C is a sectional elevation, the jaws being closed. D is a similar elevation, the jaws being open; the view C showing a modification of the construction seen at D.

a denotes a steel ring, divided at *b*, and having extending from it two long jaws or shanks, *c d*. In one end of the shank *c* is fixed the awl puncturer or driver *e*, which works through a hole or socket, *f*, in the other

shank *d*. The spring of the metal ring holds the jaws strongly together, and tends to force them hard together when they are separated. Pivoted to the jaw or shank *d* is a lever, *g*, (pivoted at *h*,) the handle of the lever extending through the jaw *c*, and up therefrom, as seen in the drawing. The pivot-pin extends through a slot, *i*, in the lever, and the front arm of the lever extends under a shoulder or incline, *k*, of the jaw *c*, as seen at D. When the handle of the lever is depressed, the arm *l*, acting on the incline, forces the jaw *c* and its awl punch or driver away from the jaw *d* until the lever *g*, in sliding back upon its pivot, slips from the incline, when the spring of the ring instantly closes the jaws, thereby effecting the blow of the point *e*. Upon release of the handle, a spring, *m*, carries it to normal position, ready to be again depressed by the thumb of the operator to again operate the instrument, the spring *m* first pressing the lever back on the pivot *h*, and the slot enabling its front arm to drop by the shoulder *k*, and the spring, by then acting against a shoulder, *n*, causing the lever to slide forward upon its pivot so that its front arm shall extend under the incline *k*.

In the modification shown at C, instead of forming the lever with a slot, *i*, a dog, *o*, is pivoted to the front arm of the lever, this dog forming a part of the lever to raise the jaw, but turning on its pivot to slip by the point *k*, when the spring returns the lever after the blow, no slipping movement of the lever being then necessary.

The instrument thus made is cheap, strong, and effective, of very few parts, and these so arranged and connected as not to be liable to breakage or displacement.

I claim—

1. In a surgical instrument, the ring or annular spring *a*, having extending from it the two shanks *c d*, the spring forcing the jaws together, and one of the jaws being provided with a driving or puncturing instrument, substantially as shown and described.

2. I also claim, in combination with the spring-ring *a* and jaws *c d*, the lever having the dog *o*, constructed and arranged to operate substantially as shown and described.

JOHN ZIRBES.

Witnesses:

FRANCIS GOULD,
S. B. KIDDER.