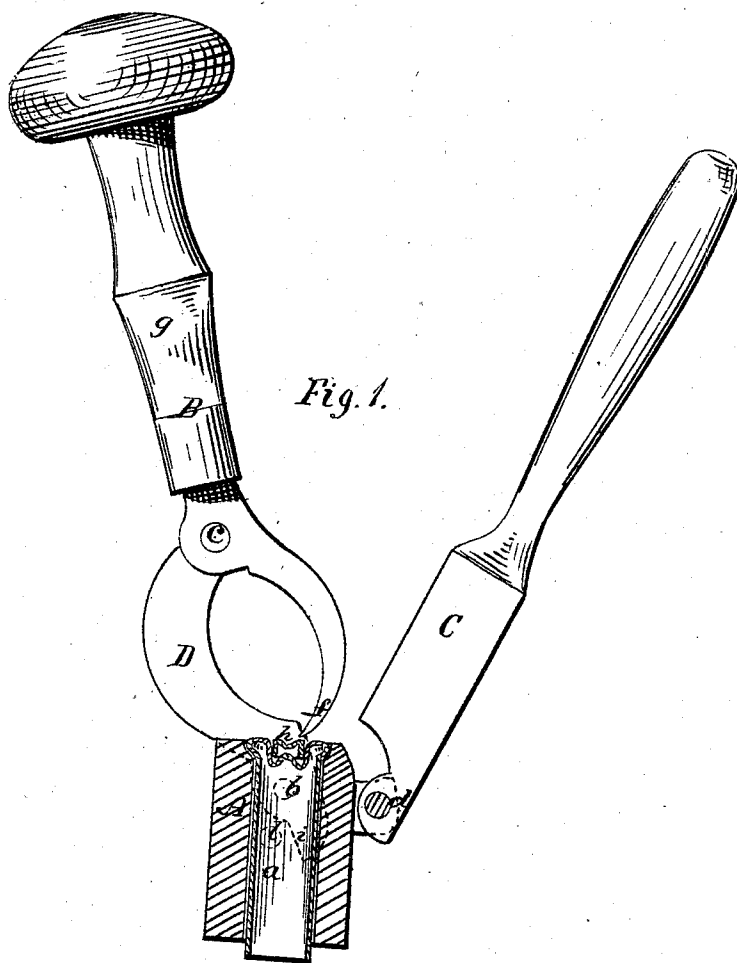


No. 119,506.

Patented Oct. 3, 1871.

William Clews,*Imp & Instrument for extracting Caps from Fixed Ammunition Cases.*

Witnesses,
D. J. Brown
W. H. Ruen

William Clews,
By his attorney,
J. S. Brown.

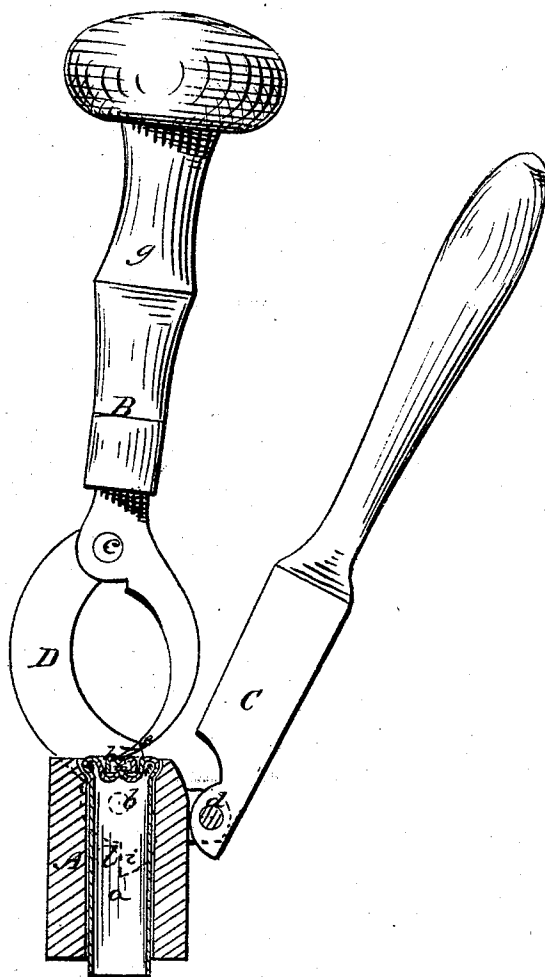
WILLIAM CLEWS.

Improved Instrument for Extracting Caps from Fixed Ammunition Cases.

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Fig. 2.



Witnesses,

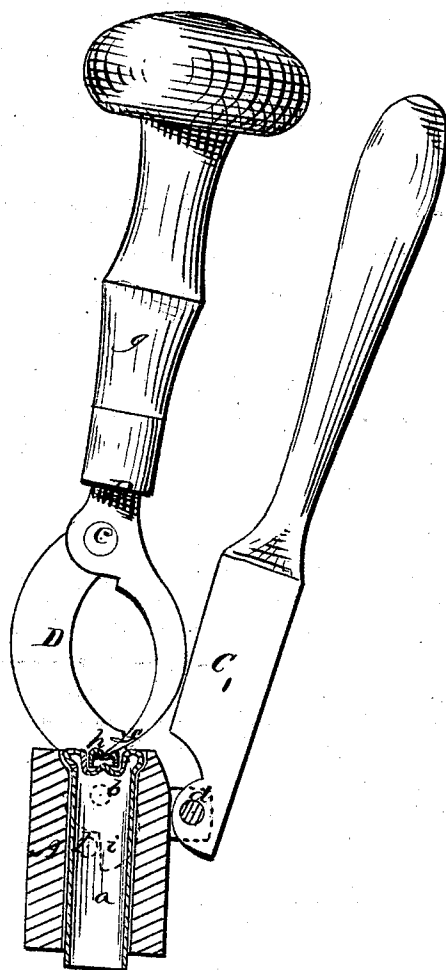
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Fig. 3.

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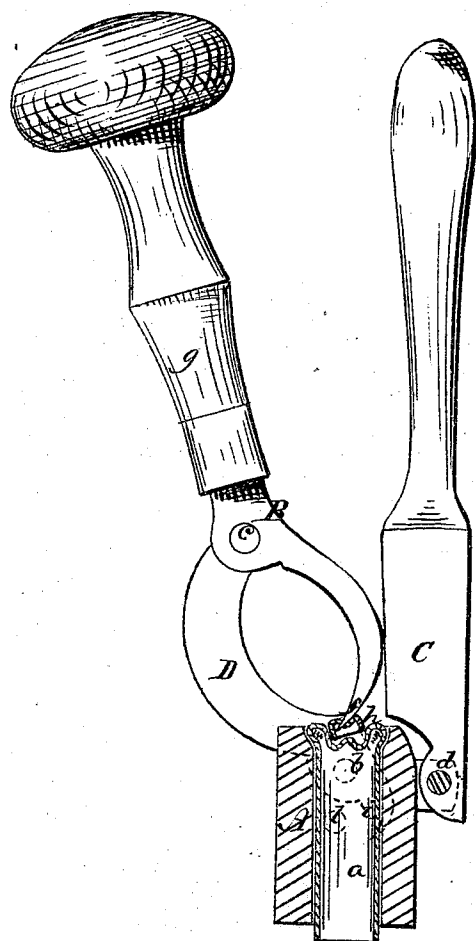
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Fig. 4.



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UNITED STATES PATENT OFFICE.

WILLIAM CLEWS, OF ILION, NEW YORK.

IMPROVEMENT IN INSTRUMENTS FOR EXTRACTING CAPS FROM CARTRIDGES.

Specification forming part of Letters Patent No. 119,506, dated October 3, 1871.

To all whom it may concern:

Be it known that I, WILLIAM CLEWS, of Ilion, in the county of Herkimer and State of New York, have invented an improved instrument for extracting the exploded fulminate caps from the cases of fixed ammunition; and I do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawing making part of this specification—

Figure 1 being a side view and partial section of the instrument, showing the first position of the parts in its operation; Fig. 2, a corresponding view thereof in the second position of its parts; Fig. 3, a corresponding view of the same in the third position of its parts; Fig. 4, a corresponding view of the instrument in the fourth position of its parts, completing the operation of extracting the caps.

Like letters designate corresponding parts in all of the figures.

The object of this invention is to provide an instrument for extracting the exploded fulminate or percussion-caps situated in a cavity in the outer surface of the closed end or bottom of the metallic cases of central-fire fixed ammunition, in order that the said metallic cases may be used repeatedly and thereby save the greater part of the expense of such ammunition. The instrument is portable, so that sportsmen may recharge the cases at any place therewith.

This instrument has three principal parts: A socket, A, to receive the cartridge-cases and hold them in position for the operation; a pointed extractor, B, which is the instrument proper that withdraws the caps; and an auxiliary lever, C, which assists the lever-extractor in its operations. An important additional feature is a pivoted fulcrum-arm, D, which forms an intermediate connection between the lever-extractor and the socket, and controls the movements of the former. The socket A is preferably a short tube, with a hole through the same of proper size and shape to receive the cartridge-case *a* freely therein, as shown; and it may be a little shorter than the said cartridge-case, to facilitate the removal thereof. On this socket, also, the other parts are mounted. The fulcrum-arm D is pivoted to one side of the socket, near the upper end thereof, as at *b*, and the lever-extractor B is pivoted to the free or movable end of the fulcrum-arm, as at *c*.

The auxiliary lever C is pivoted to the socket, near the top thereof, in a position a quarter of a circle around the same from the pivot-pin *b* of the fulcrum-arm, as at *d*. The fulcrum-arm swings in a plane tangential to the socket. The lever-extractor swings on its inwardly-extended pivot-pin *c* in a plane parallel with the plane of the fulcrum-arm's motion, but nearly over the center of the socket and of the cartridge-cases when in position. The auxiliary lever C swings in a plane toward and from the center of the socket, so that it may strike the extractor when moved inward. The lever-extractor B has its lower end *f* pointed and hook-shaped or curved so as to properly perform its functions of piercing and drawing out the fulminate cap. Its upper end G has a handle for conveniently grasping it.

When a cartridge-case, *a*, has been placed in the socket A for the extraction of its fulminate-cap *h*, as indicated in the drawing, (the socket, cartridge-case, and fulminate-cap being shown in section,) the lever-extractor B is first brought up into a position as indicated in Fig. 1, so that its point *f* is directly over the little cavity formed in the cap *h*. When the upper end *g* of the lever-extractor is brought over into a position indicated in Fig. 2, its point *f* being still held in the cavity of the cap, the fulcrum-arm D moving to allow the motion until a projection, *i*, at its lower end strikes a stop, *l*, on the side of the socket, the further movement of the extractor in that direction is arrested. This movement of the extractor, guided by the fulcrum-arm D, brings the point of the extractor down into the bottom of the little cavity of the cap, as shown, and directed in such a position that in its subsequent motion to pierce the cap it will not strike the anvil *m* (Fig. 2) of the cartridge-case and injure it. The next movement is to bring up the auxiliary lever C (which ordinarily stands in the position indicated in Figs. 1 and 2) against the lower end of the extractor B, while the latter is firmly held in the same position as at the close of the second movement, the effect of which movement of the auxiliary lever is to cause the point *f* of the extractor to pierce the metal of the fulminate-cap, as indicated in Fig. 3, without injuring the cartridge-case. The final movement is to press both the lever-extractor B and the auxiliary lever C to the left, the latter being pressed only lightly against the former, as both are held together in

the hand until they are brought into a position indicated in Fig. 4. This movement causes the point *f* of the extractor to lift the cap *h* out of its cavity, as shown. Although these successive movements are described separately in order to illustrate the principles upon which the instrument acts, in practice the entire operation is nearly continuous and is accomplished in a few seconds.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The combination of the socket A and pointed lever-extractor B, operating together, substantially as and for the purpose herein specified.

2. The pivoted fulcrum-arm D with its stop *l*, in combination with the extractor B, substantially as and for the purpose herein set forth.

3. The auxiliary lever C, in combination with the extractor B, substantially as and for the purpose herein specified.

4. The curve-pointed lever-extractor B, when arranged in combination with the socket-holder A, auxiliary lever C, and fulcrum-arm D so as to operate on the cartridge-caps with the successive movements, substantially as herein specified.

Witnesses:

WILLIAM CLEWS.

J. S. BROWN,

D. J. BROWN.