

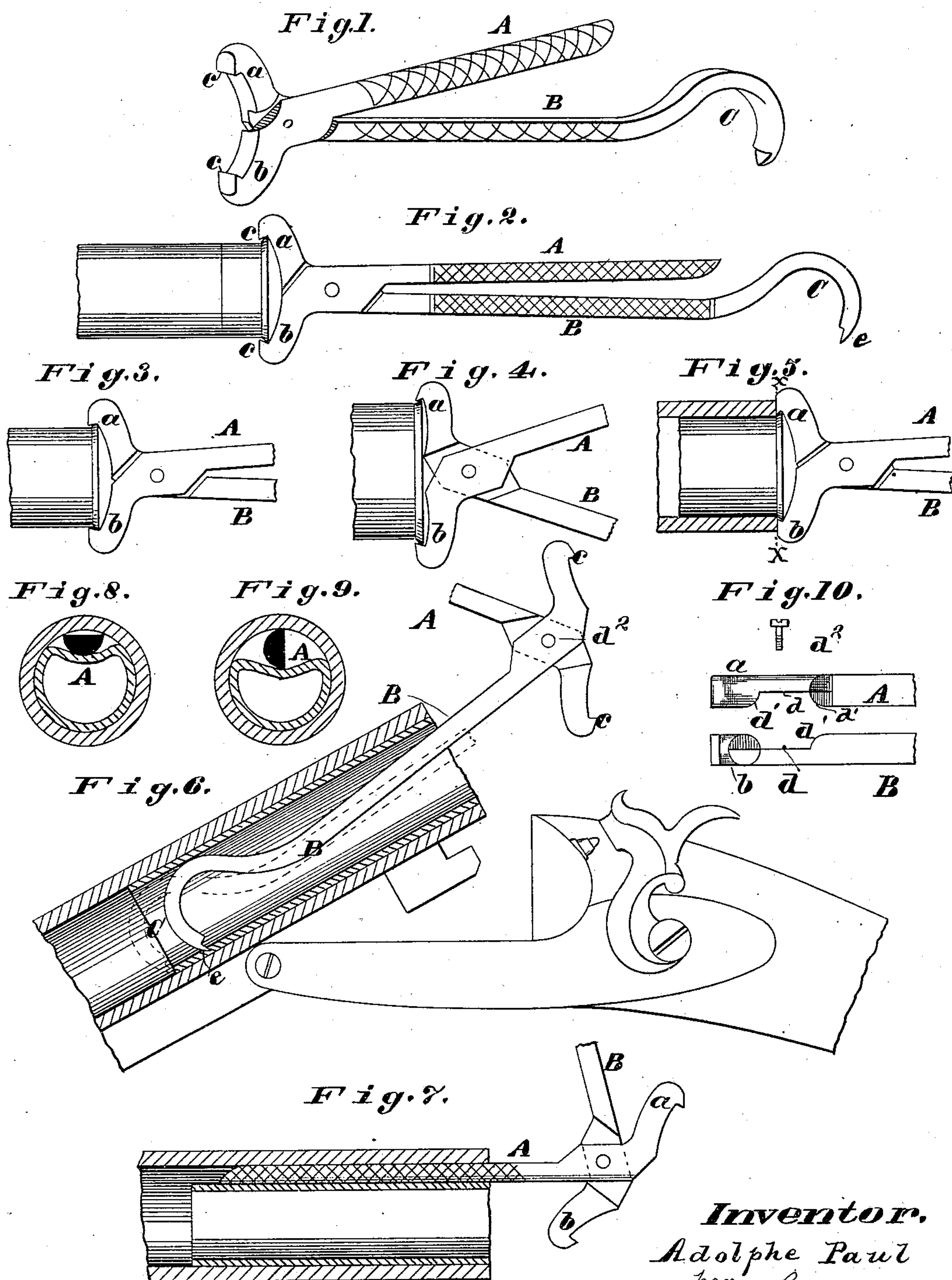
(No Model.)

A. PAUL.

Tool for Extracting Cartridge Shells.

No. 236,617.

Patented Jan. 11, 1881.



Attest.

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# UNITED STATES PATENT OFFICE.

ADOLPHE PAUL, OF ST. LOUIS, MISSOURI.

## TOOL FOR EXTRACTING CARTRIDGE-SHELLS.

SPECIFICATION forming part of Letters Patent No. 236,617, dated January 11, 1881.

Application filed November 22, 1880. (No model.)

*To all whom it may concern:*

Be it known that I, ADOLPHE PAUL, of St. Louis, Missouri, have invented a new and useful Improved Cartridge-Shell Extractor, of which the following is a specification.

My invention relates to improvements in cartridge-shell extractors for breech-loading fire-arms.

The objects of my improvements can be stated, first, to provide a cartridge-shell extractor adapted to be used for different sizes of cartridge-shells; secondly, to facilitate the extraction of said cartridge-shells from the chamber of the barrel; thirdly, to obviate and overcome the consequences, difficulties, and dangers arising from a "tight shell" in the barrel of the gun after firing and preparatory to reloading; lastly, as a new tool to be readily and cheaply constructed or manufactured, &c. I attain these objects by the cartridge-shell extractor illustrated in the accompanying drawings, of which—

Figure 1 is a perspective view of my improved cartridge-shell extractor. Figs. 2, 3, 4, 5 are each side views of my extractor, shown applied to different sizes of shells. Fig. 6 shows the breech open, with part of the barrel and its tight shell in section, the manner of applying the extractor being shown in full lines to extract a paper shell, in dotted lines to extract a metal shell. Fig. 7 is a longitudinal section of part of the barrel and its shell. Figs. 8 and 9 are cross-sections of Fig. 7, the said views showing the manner of applying the extractor by its straight handle or plier between the cylinder-surfaces of shell and the chamber of the barrel in order to break the adhesion of a tight paper shell. Fig. 10 represents detail views of the handle parts detached, showing more especially the recessed portions, rivet, and jaws.

Similar letters refer to similar parts throughout the several views.

A and B are the handles, the latter made with a hook at C. (See Figs. 1, 2, 6.) Each handle has the like branching jaws *a b*, terminating with a claw at *c c* and constructed as shown. Each handle, at *d*, has a portion recessed, with sides beveled, (see *d'* in Fig. 10,) so that the two parts composing the tool can be pivoted together by the rivet *d<sup>2</sup>*, as shown. When the two parts are pivoted together it

will be noted that the branching jaws always present the faces of the claws on a straight line, as indicated by the letters *x x*, Fig. 5, and this is the case whether the jaws be opened or spread apart or closed together. Thus the same instrument is adapted to grasp by its jaws different sizes of cartridge-shells, as clearly shown in Figs. 2, 3, 4, 5.

I prefer to make both handles long enough specially to be capable of reaching the full length of the cartridge-shell when applied as indicated in Fig. 6, also to obtain the benefit of purchase for the better handling of the extractor.

The handle A, as shown, is but a straight handle. As such it serves the purpose also of a plier to be easily entered between the shell and chamber of the barrel, as will hereinafter appear.

The handle B, with its hook C and sharp point *e*, is for the better gripping into the body of the shell and otherwise to take hold of same, as will hereinafter appear.

My cartridge-shell extractor thus constructed is applied and operated in manner following:

First, whether metallic or paper cartridge-shells be used, they can be extracted by clamping the flange of the shell with the claws *c c*, as shown in Figs. 2, 3, 4, 5, and by drawing the instrument and shell backward. The said figures of the drawings only differ in showing that for larger sizes of shells the implement is spread farther apart to properly grasp the head or flange of the shell preparatory to retracting same by a backward pull.

Secondly, if upon throwing the barrels open the head of the paper shell should be broken or be burned or unfit for the action of the branch jaws, then by inserting the handle having the hook C in the shell so that the sharp point *e* shall take fast hold of the body of the shell by an upward pressure of the handle, as indicated in Fig. 6; then with the lateral pull the tight shell can be extracted.

Thirdly, in case the cartridge-shell is metallic the head is cut off in order to use the handle of the instrument by causing its hook to take hold of the shell, as shown by the dotted lines in Fig. 6, and then pull the same out of the chamber.

Fourthly, in case the adhesion of the shell

is so great that it cannot be pulled out, cut off the head of the shell, (care being exercised to empty its contents if not exploded;) then insert the straight handle or plier between the shell and breech, as clearly shown in Figs. 5 7, 8. This done, give a half-turn to the plier, as shown in Fig. 9, which breaks the adhesion of the shell, and the latter can then be extracted with the hook, as shown in Fig. 6.

10 My cartridge-shell extractor is therefore a most effective one to extract both paper and metallic shells, the same instrument answering for purposes of retracting different sizes of shells; also, the instrument can be applied

15 to gripe the head of the shell or its inward extremity when in the barrel or the body portion of the shell.

In the manipulation of the extractor a deci-

sive backward pull is essential. This the operator can readily do, as the leverage is great 20 and the hand or knuckles are not liable to strike the breech, and therefore the extractor can be made to act with great efficiency.

What I claim is—

A cartridge-shell extractor consisting of two 25 parts or handles pivoted together, the handle A, made straight to also act as a plier, the handle B, made with a hook C, both said handles further having the like branch jaws and claws, substantially as and for the pur- 30 poses set forth.

ADOLPHE PAUL.

Witnesses:

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