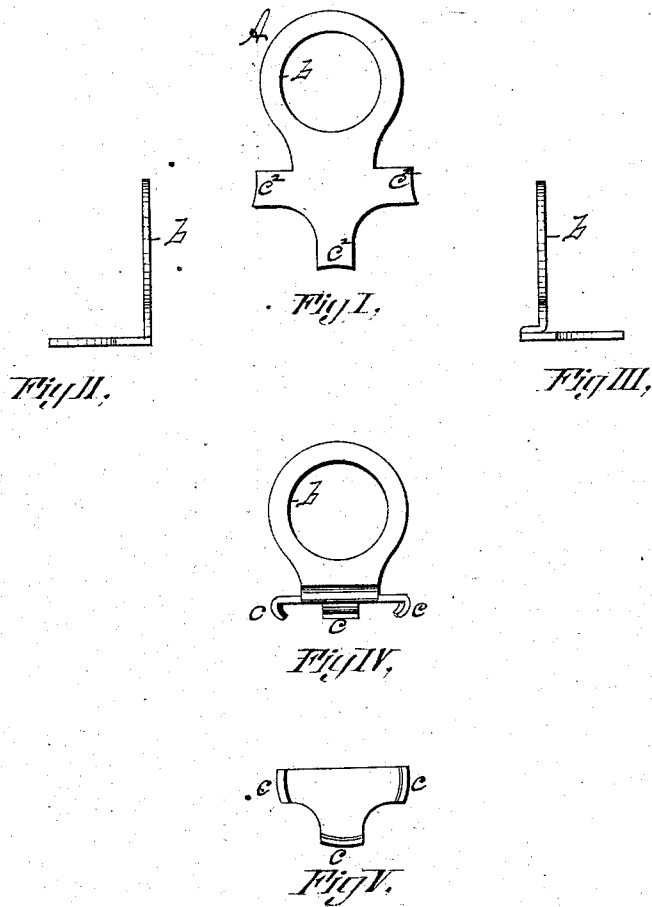


(No Model.)

C. S. LEET.  
CARTRIDGE SHELL EXTRACTOR.

No. 282,997.

Patented Aug. 14, 1883.



Witnesses,  
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# UNITED STATES PATENT OFFICE.

CHARLES S. LEET, OF BRIDGEPORT, CONNECTICUT.

## CARTRIDGE-SHELL EXTRACTOR.

SPECIFICATION forming part of Letters Patent No. 282,997, dated August 14, 1883.

Application filed November 24, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES S. LEET, a citizen of the United States, residing at Bridgeport, in the county of Fairfield and State of Connecticut, have invented new and useful Improvements in Cartridge-Shell Extractors, of which the following is a specification.

This invention relates to an improved method of making cartridge-shell extractors adapted to be used for extracting by hand the empty shells of shotguns, the object being to reduce the cost of such extractors materially without impairing their practical efficiency.

In the drawings forming part of this specification, Figure IV illustrates a complete cartridge-extractor constructed according to my invention. Fig. I is a plan view of the metallic blank from which the extractor is formed. Fig. II illustrates the blank, Fig. I, after being first bent, and Fig. III after being a second time bent; and Fig. V is a plan view of the face of the extractor.

In the drawings, A is the metallic blank. *b* indicates the finger-ring, and *c c c* the cartridge-rim hooks, and the parts of the blank which are adapted to be formed into said hooks are indicated by the letters *c' c' c'*.

Cartridge-shell extractors of this class have heretofore been made by first making a metal casting in suitable form, provided with a finger-ring, and with arms, which by suitable machinery to undercut them, were formed into rim-hooks for engaging with the cartridge-head.

Extractors made as just described require

to be filed and polished in addition to said machining to properly finish them, and the amount of metal contained in them is much greater than that required for my improved extractor, as hereinafter described.

In making my extractor I first prepare a sheet-metal blank, A, punched in one piece, as in Fig. I. Said blank A is provided with the finger-ring *b*, for grasping and holding the extractor, and with the branch parts *c' c' c'*. In making the extractor from said blank I first bend it to the form shown in Fig. II, and then to that shown in Fig. III, after which the branches *c'* are bent to form hooks *c*, as shown in Figs. IV and V, thus completing the extractor.

What I claim as my invention is—

1. The within-described improved method of making cartridge-shell extractors, which consists in first making a sheet-metal blank having integrally a finger-ring, a body-plate, and arms projecting from said body-plate, then bending said body-plate to form a hook-plane at right angles to said ring, and bending said arms to form hooks inclining over said plane, substantially as set forth.

2. As an improved article of manufacture, a cartridge-shell extractor formed from a single flat sheet-metal blank by bending the latter to form the requisite hook-plane and hooks thereon, substantially as set forth.

CHARLES S. LEET.

Witnesses:

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