

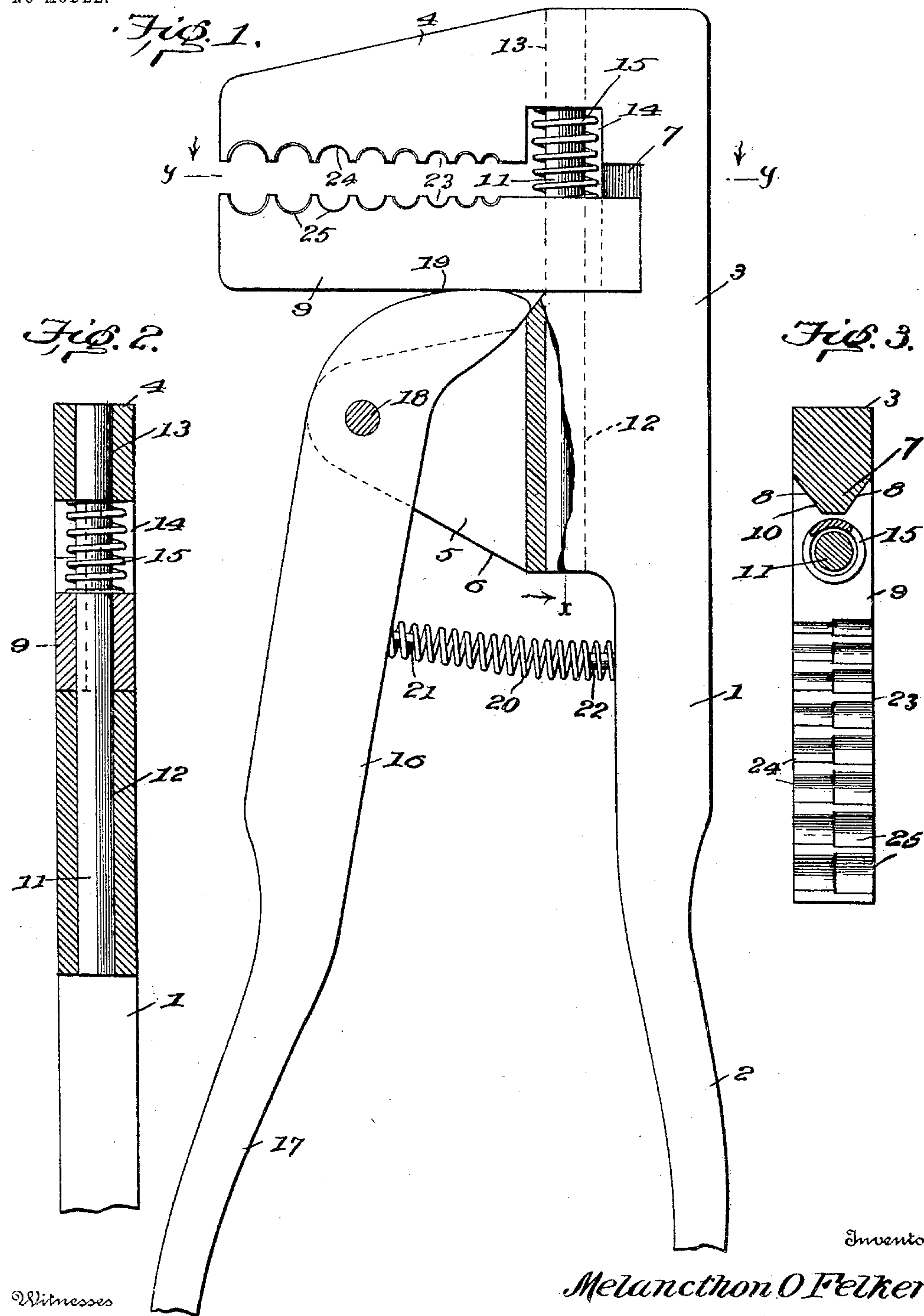
No. 765,827.

PATENTED JULY 26, 1904.

M. O. FELKER.
SWAGING TOOL.

APPLICATION FILED OCT. 3, 1903.

NO MODEL.



Inventor

Melanchthon O Felker,

By *H. A. Coulman*,
Attorney

Witnesses

G. Howard Walmsley,
Irvine Miller

UNITED STATES PATENT OFFICE.

MELANCTHON O. FELKER, OF CHICORA, PENNSYLVANIA.

SWAGING-TOOL.

SPECIFICATION forming part of Letters Patent No. 765,827, dated July 26, 1904.

Application filed October 3, 1903. Serial No. 175,551. (No model.)

To all whom it may concern:

Be it known that I, MELANCTHON O. FELKER, a citizen of the United States, residing at Chicora, in the county of Butler and State of Pennsylvania, have invented certain new and useful Improvements in Swaging-Tools, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention relates to swaging-tools, and has for its object to provide a simple and efficient hand-tool by which the swaging or upsetting operation may be readily performed upon tubular sleeves or ferrules—such, for instance, as those employed for uniting the cracker to the tip of a whip, as set forth in an application filed by me December 13, 1902, Serial No. 135,043.

To these ends the invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claim.

In the accompanying drawings, Figure 1 is an elevation, partly in section, of a structure embodying my invention in one form. Fig. 2 is a sectional view of the same, taken on the line *x x* of Fig. 1 and looking in the direction of the arrows; and Fig. 3 is a plan sectional view taken on the line *y y* of Fig. 1 and looking in the direction of the arrows.

In the said drawings, 1 indicates the body of the tool, which comprises a handle portion 2 at one end and a head portion 3 at the other end, from which the fixed jaw 4 extends outward at right angles to the longitudinal axis of the body. Below the head 3 the body is provided with two parallel lugs or ears 5, extending from the body on the same side of the body as the fixed jaw 4 and having between them a space 6, in which the operating-lever is pivotally supported. The face of the body 1 is provided between the fixed jaw 4 and ears 5 with a guideway or bearing-surface 7. Said guideway is preferably of an approximately V shape in cross-section, having inclined sides 8, and it is arranged at right angles to the working face of the fixed jaw 4.

9 indicates the movable jaw, which has at its rear or inner edge a groove or recess 10 to fit the guideway 7, as shown more particu-

larly in Fig. 3 of the drawings. To the inner end of this movable jaw there is secured a guide rod or pin 11, which extends upward and downward therefrom at right angles to said jaw and parallel to the guideway 7. The head 3 is provided with an aperture 12, in which the lower end of the guide-rod 11 fits and moves, and with a similar aperture 13, in which the upper end of said guide-rod fits and moves. The head is recessed, as indicated at 14, to receive a spring 15, coiled around the upper end of the guide-rod 11 and bearing against the head and movable jaw in such a way as to tend to separate the jaws.

The operating-lever of the movable jaw is indicated as a whole by the reference-numeral 16 and is provided at one end with a handle portion 17, its other end being pivoted between the lugs 5 by means of a pivot 18. This end of the operating-lever 16 is provided with a cam projection 19, which bears against the under side of the movable jaw. By reason of this construction movement of the lever 16 will move the movable jaw of the tool toward or from the fixed jaw.

I prefer to keep the handles normally separated by means of a coiled spring 20, interposed between said handles and supported in position by pins 21 and 22, projecting from said parts into the ends of the spring.

The jaws of the tool constitute die-blocks, being each provided with a graduated series of semicylindrical recesses 23, arranged opposite each other in pairs. Any desired number of these pairs of recesses may be employed, and they are graduated in size, so as to adapt the tool to operate upon ferrules of different sizes or to reduce the ferrule to any desired final diameter, according to the diameter of the part or parts upon which it is to be swaged. I prefer to construct each of these half recesses in two parts, one, 24, of slightly less diameter than the other part, 25. By reason of this construction the ferrule is swaged down into the form known as "bottle-neck," as shown in my prior application hereinbefore referred to, this form being deemed preferable for certain purposes and the tool being thus adapted to produce this form at a single operation.

In order that the tool shall produce perfect work and not mar the ferrules, it is highly important that the jaws be maintained in parallelism with each other, so that the die-recesses shall register with absolute accuracy as they approach each other in the swaging operation. The tool is especially organized to accomplish this end, or the bearing-surface or guideway 7, upon which the rear end of the moving jaw travels, and the extended bearings of the guide-rod 11, both above and below the movable jaw, all contribute to insure the maintenance of the parallelism of the jaws and the accurate registering of the die-recesses when the tool is in operation.

The operation of the tool in practical use will be readily understood from the preceding description by those skilled in the art, and the tool constitutes a light, single, and efficient portable hand-tool by means of which the dealer or user may repair or apply a cracker to a whip by means of a swaged ferrule connection without the necessity of employing skilled labor to that end.

I do not wish to be understood as limiting myself strictly to the precise details of construction hereinbefore described, and shown

in the accompanying drawings, as the same may obviously be modified without departing from the principle of my invention.

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

A swaging-tool comprising a body having a fixed jaw at one end and a handle at the other end, said body having a bearing-surface or guideway on its front face and guiding-apertures above and below said guideway, in combination with a movable jaw fitted to bear at its rear end against said guideway, and having a guide-rod extending into the guiding-apertures above and below said movable jaw, and an operating-lever pivoted to the body and provided with a handle at one end, its other end bearing against the movable jaw, said jaws being provided with a graduated series of complementary die-recesses, substantially as described.

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

MELANCTHON O. FELKER.

Witnesses:

W. H. MILLER,

A. H. SIMPSON.