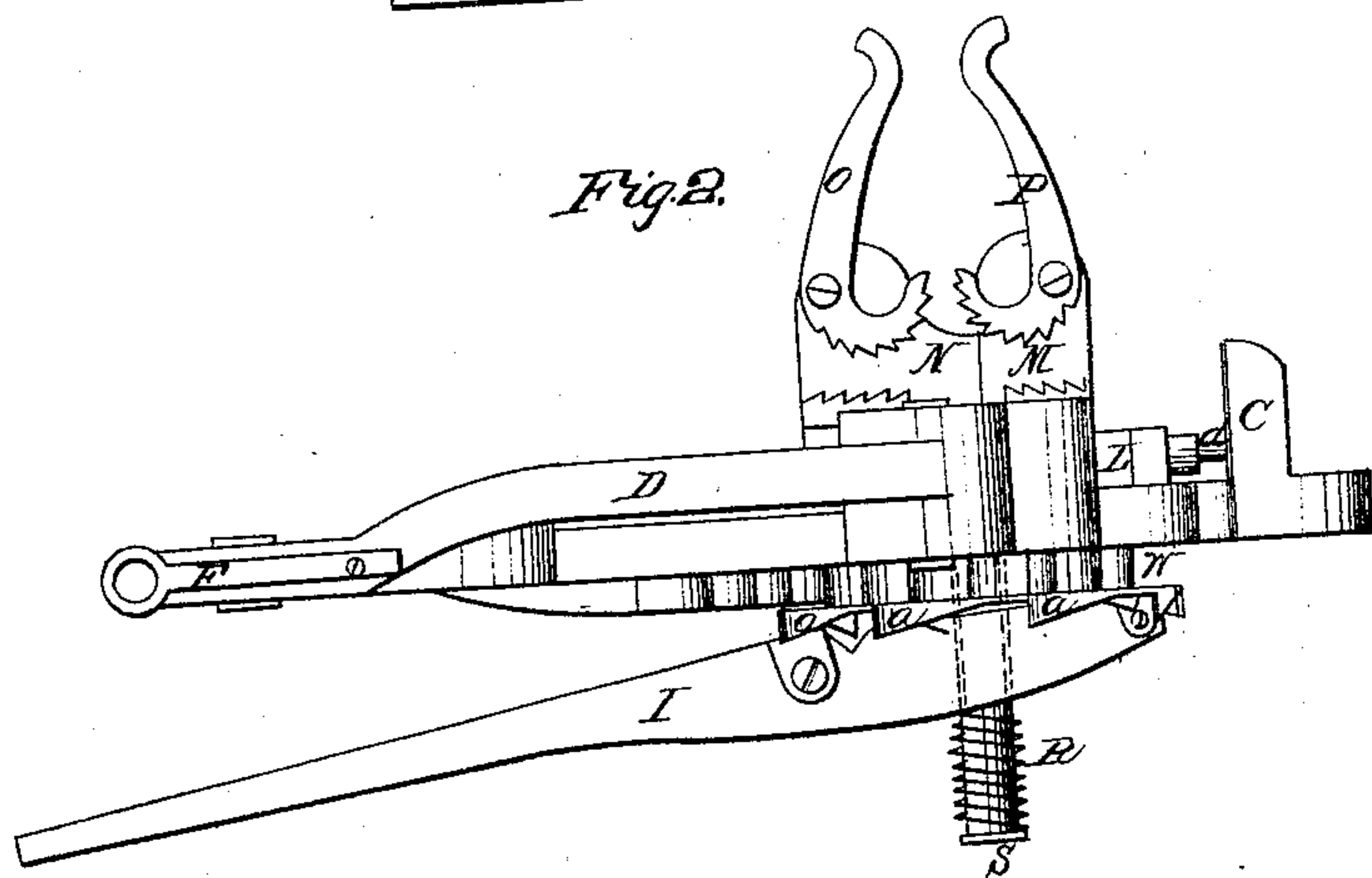
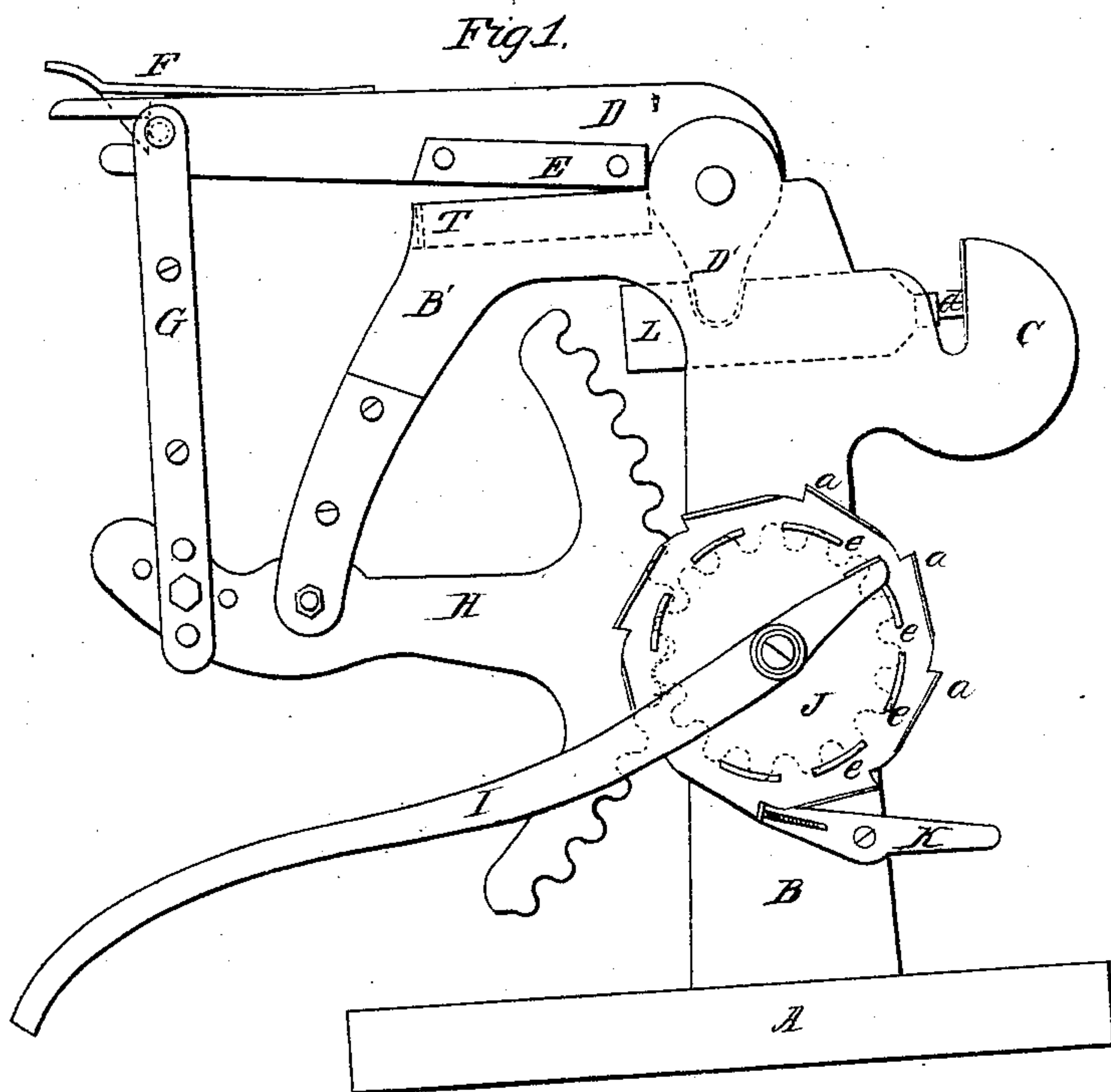


*A. A. Kent.*

*Cutting, Punching, and Upsetting Machine.*  
*Patented Nov. 19, 1867.*  
*N<sup>o</sup> 71,181.*



*Witnesses:*  
*A. A. Yeatman*  
*amman*

*Inventor:*  
*A. A. Kent*  
*per Alexander Mason*  
*Atty*

# United States Patent Office.

A. A. KENT, OF LYONS, IOWA.

Letters Patent No. 71,181, dated November 19, 1867.

## COMPOUND TOOL FOR CUTTING, PUNCHING, AND UPSETTING.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, A. A. KENT, of Lyons, in the county of Clinton, and State of Iowa, have invented certain new and useful Improvements in Machines for Cutting, Punching, and Upsetting Metals; and do hereby declare that the following is a full, clear, and exact description thereof, reference being had to the accompanying drawings and to the letters of reference marked thereon.

In the annexed drawings, making part of this specification, A represents the base of the machine, and B a metallic standard erected upon it. This standard is made in the irregular shape represented, its upper end, B', curving over and extending downward, as seen. To this upper end or arm B' is secured a steel knife, T, for cutting metal. D represents a lever, which is pivoted to the standard B at its upper end. The short end of this lever D' extends downward by the side of the standard, and fits in a recess in a sliding bar, L. This bar L rests and slides upon a way or ledge, formed on the side of the standard, and has connected to its side a jaw, N, and has formed upon its outer end a punch, d. The punch d works against a shoulder on that portion of the standard marked C. M represents a stationary jaw, forming a part of or firmly secured to the standard B. Both of the jaws M and N are provided with levers, which have serrated inner ends, as seen, for clamping metal which is to be upset. These levers are marked P and O. The metal is clamped between the serrated ends of the lever and serrated shoulders upon the jaws. When the lever D has its outer end raised, its inner end causes the bar L to move, drawing back the punch d, and separating the jaw N from jaw M, and when the outer end of this lever is dropped the punch approaches its shoulder at C, and the two jaws are brought together. H represents a lever, which has its outer end connected to the outer end of lever D, by means of a graduated connecting-bar, G. The bar G has its two ends slotted, so as to embrace the levers. The upper end of the bar has a pin crossing its slot, and this pin is caught in a slot in the end of lever D, and retained there by a spring, F. The inner end of lever H is in the form of the segment of a wheel, having cog-teeth cut upon its periphery. The cog-teeth of this lever work in the teeth of a cog-wheel, W, which is firmly secured to a sleeve on a shaft, S, which projects from the side of standard B. The lever H is pivoted to the lower end of arm B', as represented. J represents a plate made of metal, which is secured to the outer face of the cog-wheel W. Cast upon the outer face of the plate J, are two series of triangular teeth, a a and e e. The outer set, a a, taper in one direction, while the inner series, e e, are not quite so high, and taper in an opposite direction. I represents a lever, having a hole through it, and fitting loosely over the sleeve on shaft S. A spring, R, keeps this lever pressed toward the plate J. When the lever I has its outer end pressed toward the lever H, it catches in the teeth a, and then when lifted it causes the plate J to revolve, and with it the wheel W, thus operating lever H so as to cause lever D to descend with its knife T. When the outer end of lever I is pressed from lever H, the short end of said lever I catches in the teeth e e, and then when pressed downward it causes the plate J, and with it wheel W, to revolve in an opposite direction, causing lever H, through its connecting-bar G, to raise the lever D. K represents a stop for the plate J, to prevent its rotating in one direction. Metal is cut between the knives T and E, is upset by the jaws N and M and their connections, and is punched by the punch d, all at one operation by the movement of lever D if necessary.

Having thus fully described my invention, what I claim, is—

1. The lever H as constructed, in combination with the arm B', adjustable connecting-bar G, and lever D, substantially as and for the purpose set forth.
2. The combination of lever I, plate J, and wheel W, with the lever H, all constructed and arranged as and for the purpose specified.
3. The combination of the standard B with bar L, lever D, connecting-rod G, lever H, wheel W, plate J, and lever I, all constructed and arranged substantially as herein specified.

In testimony that I claim the foregoing I have hereunto set my hand this      day of June, 1867.

A. A. KENT.

Witnesses:

E. HENDRICK,

J. N. CROSS.